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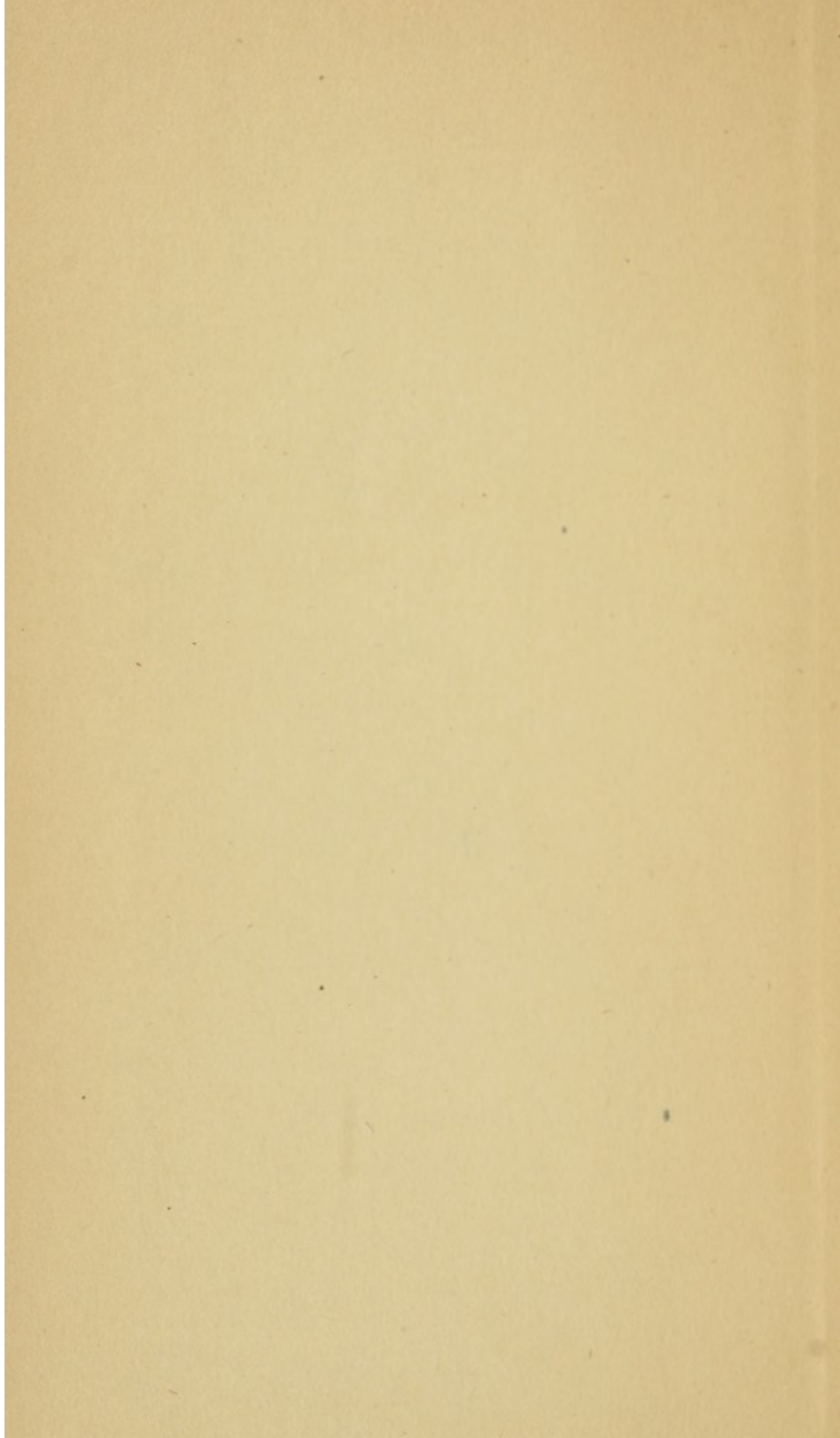
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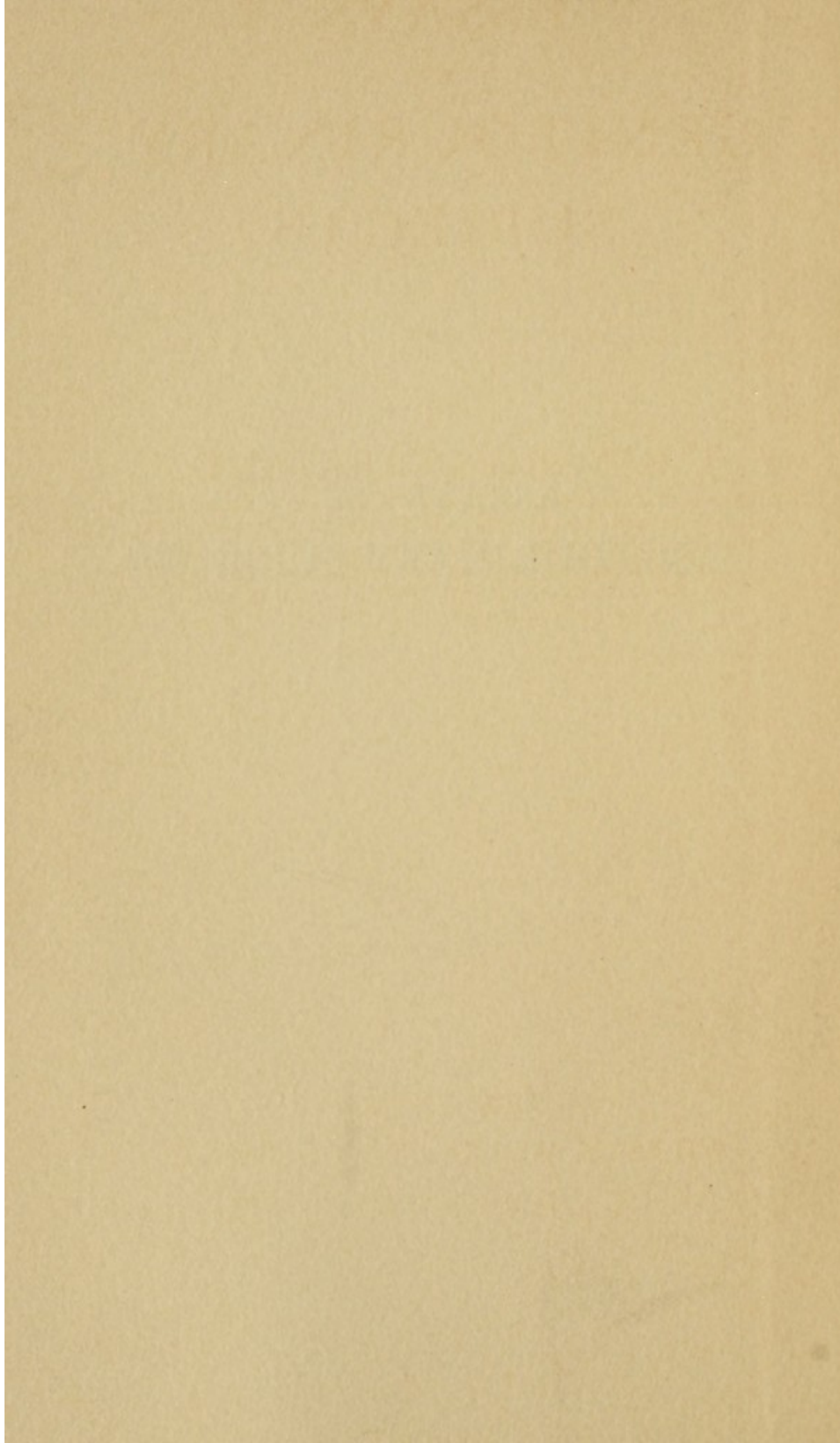
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ESSAYS ON
GENITOURINARY SUBJECTS



ESSAYS
ON
GENITOURINARY
SUBJECTS

BY

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Mr Tombo, Jr.
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PREFACE

THROUGH the kindly interest which has been shown in a number of these papers and the many requests for reprints which have exhausted my supply, I have been tempted to bring these essays together in the form of a small book.

An endeavor has been made to bring each topic up-to-date by appending a short description of such recent acquirements as have been added to the subject dealt with.

In the first chapter the description of cryoscopy has been allowed to remain although the method has been practically abandoned.

For the right to a new appearance of Chapters II, III, IV, V, and VI, I am indebted to the Medical Record, the New

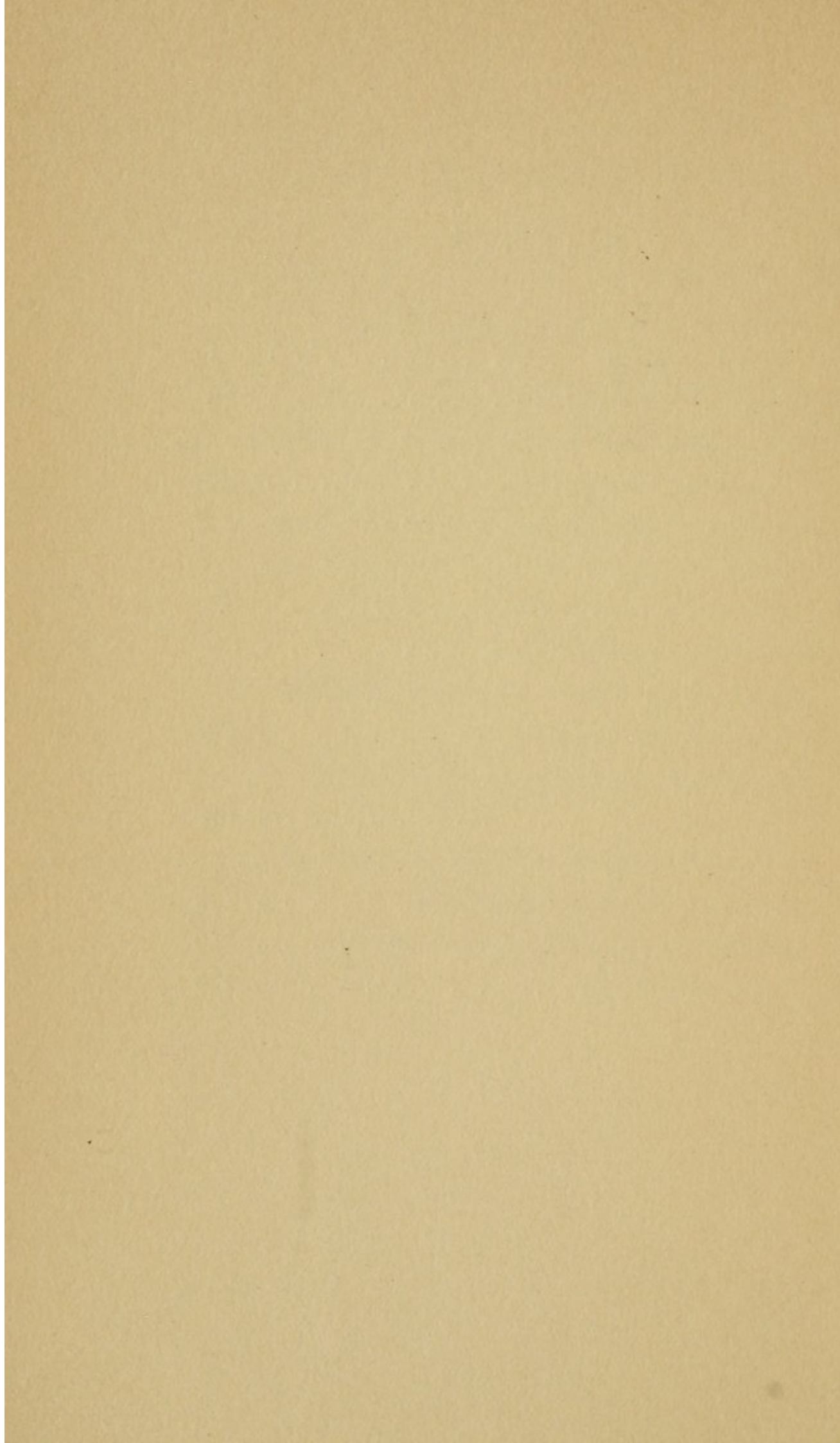
PREFACE

York Medical Journal, the Medical News and the Journal of the American Medical Association.

In the last three chapters which are newly written the writer has tried to fertilize the subjects considered, by a somewhat different angle of view than is usually given them.

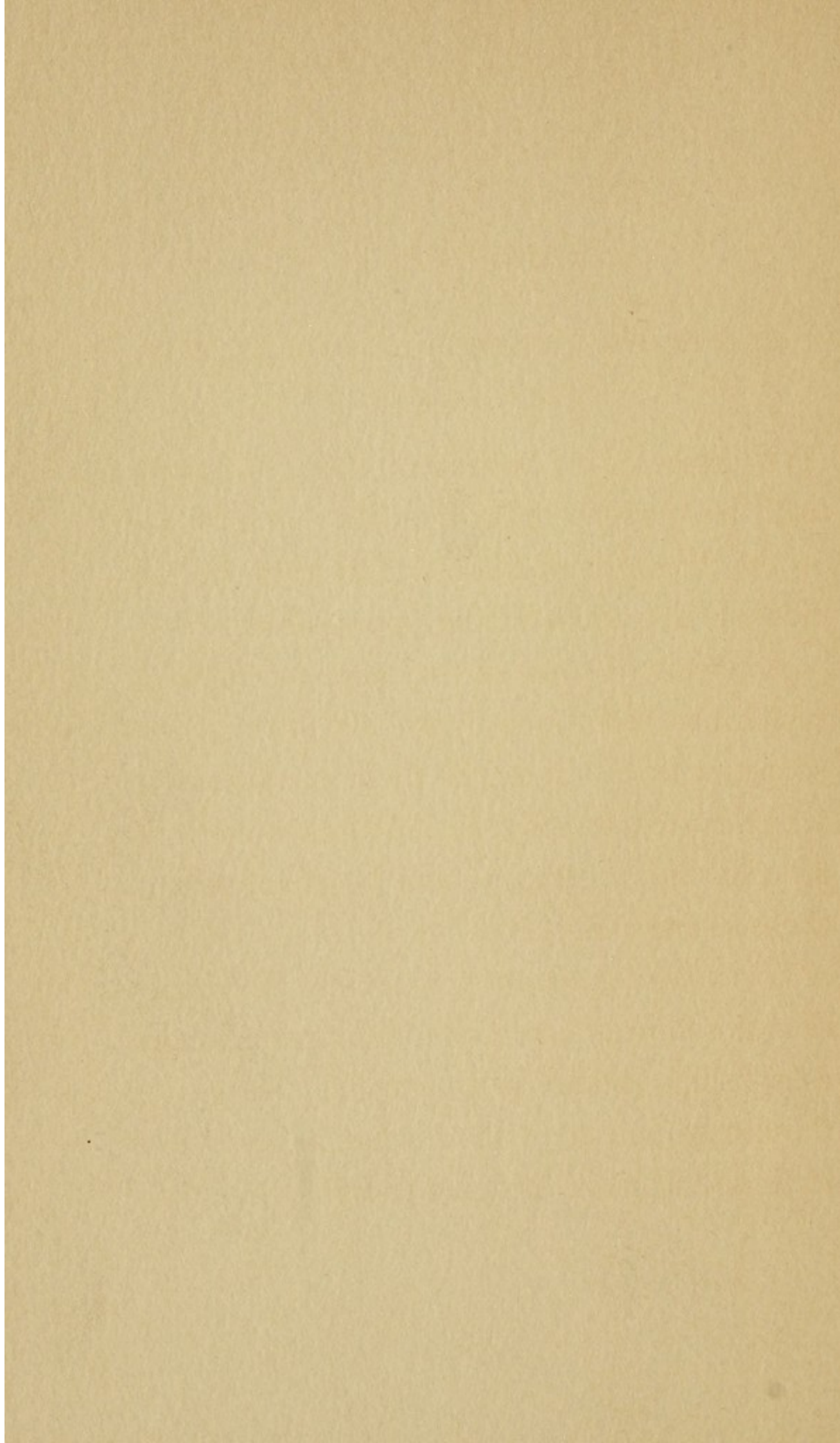
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I

CYSTOSCOPIC DIAGNOSIS IN VESICAL
AND RENAL SURGERY



CHAPTER I

CYSTOSCOPIC DIAGNOSIS IN VESICAL AND RENAL SURGERY

THE degree of importance that the cystoscope, with its modern improvements, has attained in the diagnosis of bladder and kidney affections, is not yet generally appreciated.

A review of some of the more recent work which has been done by the aid of the cystoscope, with a résumé of those conditions in which cystoscopy is especially indicated in its relationship to surgery, will be of interest to those seeing this class of cases.

It is not intended to demonstrate the virtues of cystoscopy as a method to replace the longer established means of diagnosing diseases of these organs, but to show what it has added to these means in bringing to light those con-

ditions of the urinary tract so difficult of diagnosis.

The Bladder is the seat of a number of well-known pathological conditions in the early and accurate diagnosis of which the cystoscope plays the most important rôle.

Tumors.—Of all vesical conditions there are none which depend so absolutely upon the cystoscope for diagnosis as neoplasms. The symptoms, subjective and objective, though suggestive, are never sufficient to leave upon the mind an image of the real condition. It is when the new growth is actually seen, and its site, its size, its form, its character in detail; whether one or two or more; if possible, whether sessile or by a pedicle attached, are noted, that we are in a position to suggest a diagnosis. There are but a few conditions that stand in the way of successful cystoscopy in these cases; *i.e.*, where the urethra cannot be made to receive a cystoscope, where the

bladder is entirely filled with new growth, where the transparency of the medium introduced cannot be kept momentarily clear and in advanced cases of malignant disease, which cause unusual irritability or contraction of the bladder. When the patient is seen early enough most of these difficulties are swept away.

Stones.—It is said that Guyon, of Paris, is able to determine the size, the character, and sometimes the number of calculi in the bladder by means of the metal searcher. The opportunities are certainly not given to surgeons of this part of the country to attain such skill, nor is it necessary, for the cystoscope can be used with as little risk and as little discomfort to the patient as the stone searcher, and with an infinitely more satisfactory result. The exact position of the stone is learned, and whether it be encysted or free; the number of stones, if not too many, is ascertained; and

what is more, the state of the bladder wall and existing complications are noted. After litholapaxy it is especially important to *see* whether all the particles of stone have been gotten rid of, for if a small fragment remains it will serve as a nucleus for new calculus formation.

Prostatic Hypertrophy.—There are a certain number of cases where the urethral distance or tortuosity, where the cystitis or the easily excited hemorrhage puts cystoscopy out of the question. In these cases a correct estimation of the extent and character of intravesical enlargement or vesical complications, as tumor, stone, etc., cannot be made, and, therefore, we cannot expect to institute such effective treatment nor give by surgical intervention such uniform results as in the other and fortunately larger class, where by the cystoscope we learn the vesical aspect of the prostate, the internal orifice, the *bas fond*, and the condition of the bladder, its mucous

VESICAL AND RENAL SURGERY

membrane, its musculature, its ureters and their doings; and with this knowledge proceed to treatment.

Foreign Bodies such as pins, pieces of catheter, silk sutures, etc., are met with at rare intervals in the bladder, and are generally very easily identified.

Other vesical conditions which are studied by the cystoscope, such as cystitis, vesical tuberculosis, ulcers, varicosities, diverticula, vesicles and bulbous edema, will not be considered in this paper, as they do not come under the head of those affections ordinarily requiring surgical intervention.

The Kidneys.—Through the agency of the cystoscope and ureteral catheterization it has become possible to make the diagnosis in cases where the most careful observation of all clinical signs leaves the real condition undetermined. But besides diagnosis, perhaps the most important realm of usefulness lies

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in the field upon which we are just entering, where a true estimate of the functional activity and ability of the separate kidneys is sought. And here is added a new responsibility for all those doing kidney work, and an obligation to every patient of this class; for to remove the kidney on one side without having previously attempted to determine the functioning power of the other gland, which is destined to perform the entire work of renal elimination for the body, is surgery which should be no more.

As to Diagnosis.—Before the day of the cystoscope the observation of the clinical picture, with its characteristic subjective symptoms, and the exact examination of the urine, with the objective knowledge gained through palpation and percussion, were the means we had at hand to solve the difficult diagnostic problems of the urinary system. The value of these means is not contended,

but in many cases they are insufficient. To show how misleading are subjective symptoms: There may be pain in the left kidney when the right is the seat of disease. That pain which is characteristic of the presence of bladder or kidney stone may be entirely absent. Great urgency of micturition is most often due to trouble about the vesical sphincter or prostatic urethra, yet pyelitis and renal calculus may cause this same frequency. With pain in the glans penis the trouble may be either in the bladder or the kidney. Pain may come in attacks, as is ordinary with kidney stone; yet pyelitis or temporary blocking of the ureter may give the same kind of attacks.

For objective symptoms we have the urine alone to rely upon, in very many instances, but its change from normal, its admixture with blood or pus or bacteria or whatever it may be, tell us but part of the story. It does not

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tell us from which kidney or ureter, or whether from the bladder or urethra, the abnormal elements arise. Here, then, is indication for the cystoscope and urethral catheter, with which positive information is gained in the following manner:

It is a good rule first to employ the simple cystoscope, which is smaller of caliber and gives a broader field of observation. A general survey of the bladder is made and vesical complications, if present, are noted. The attention is then centered about the ureters, and indications of disease higher up are here carefully looked for. The mucous membrane around one or the other ureter may, for example, show ulceration or small tubercles, suggestive of descending tubercular infection of the kidney and ureter of that side. The ureteral lips may be thickened, and the orifice patent and devoid of its normal function of opening and closing as

VESICAL AND RENAL SURGERY

the little jet of urine is emitted, which gives evidence of some hindrance to the passage of urine below this point, and the possibility of consequent upward infection. The lips of the ureter may be pouting or its mucous membrane more or less prolapsed, which condition occurs with blocking of the ureter, usually by calculus not far above its orifice. Finally, we note with especial care the tiny stream of urine itself, the action of the ureter-mouth, the amount of urine, the intervals between the issued jets or drops, and the character of the secretion as it appears, whether bloody or mixed with pus, or thickened as by mucus. The difference between the two sides is then observed. If one or both sides fail to functionate such fact is noted.

In this way, before attempting to collect by ureteral catheterization the separate urines, we have come into possession of much

valuable information, for we have ascertained that the trouble comes not from urethra or bladder, but from above these points. We have also gained evidence as to the side of the lesion and suggestions as to its nature. The ureteral catheter now gives us the means to determine more exactly the site of the lesion, and by analysis of the urine thus obtained, its nature. Without question the only accurate method of obtaining the separate urines without fear of admixture or contamination with the urine from the opposite side or from the bladder is by ureteral catheterization. This procedure is applicable and possible in the majority of cases. That it is accomplished with but little discomfort to the patient and little danger of infection stands to-day proved by ample experience.

Among those conditions of the kidneys brought within the scope of this means of diagnosis are: Renal tuberculosis, unilateral

nephritis, pyelitis, pyonephrosis, pyelonephritis, hydronephrosis, atrophic kidney, single kidney, and at times new growths. In addition must be mentioned those instances where the ureteral catheter is used as a sound to detect abnormal constrictions and blocking of the ureter by stricture, stones, new growths, etc. Kelly, of Baltimore, says that he has demonstrated the presence of stone by bringing a ureteral catheter tipped with impressionable wax in contact with it. Tilden Brown and others have introduced the catheter incasing a fine metal stylet as far as the kidney pelvis, and then by a radiograph have demonstrated a dislocation of the kidney or cleared up the differential diagnosis between abdominal tumor and kidney.

Before speaking of the determination of renal sufficiency the names of v. Koranyi, of Budapest; Casper and Richter, of Berlin; Kummell, of Hamburg, and Albarron, of

Paris, should be mentioned as those men who by patient work and painstaking experiments have done the most in perfecting those means we now have at hand to estimate the functional ability of the respective kidneys. No more than a brief sketch of this subject will be attempted, as the writer's object is simply to bring the main points to the attention of those whose interest will lead them further in this line of thought and work.

We have seen how by ureteral catheterization we can make anatomical diagnoses of kidney affections; so is it possible to turn this same means to account in making functional diagnoses of the kidneys, which, in other words, means a measure of the amount of work of these organs—not of their united power however, but the estimate of what each individual kidney can do. This is the important thing from a surgical standpoint.

We are confronted in every case of surgical

kidney disease by these questions: How much kidney parenchyma capable of work still exists? Is it sufficient to perform its function of ridding the body of the waste products of metabolism? How is this work divided and to what extent does each kidney participate? The importance of gaining this knowledge in every case of suspected kidney disorder of a surgical nature is emphasized when one sees in the literature what a number of cases have been reported, where only a single kidney is found, where the kidney of one side has in part or entirely degenerated, or where although the second kidney was present, it was so far diseased that on removal of the opposite organ it was incapable of performing sufficient work to maintain life. When to the cases which have been observed and reported are added those which have not come to autopsy, and therefore could not be reported, although they undoubtedly occurred, we see

that it is possible very considerably to lessen the mortality in surgical kidney disease, if we are able to determine this question of sufficient or insufficient renal function.

The methods to this end which have been used and proved of practical value will be mentioned, and those means which are not to-day found useful, though worthy of our respect for having paved the way for better things, will be omitted.

The Determination of the Freezing Point of the Blood and Urine (Cryoscopy.)—This method depends upon that physiological power possessed by the kidneys, which so regulates the osmotic pressure that it maintains in those fluids with which it has to do, namely the blood and urine, a constant measurable degree of molecular concentration which is determined by their freezing points. As the concentration of the fluid is increased, so is its freezing point lowered below that of

distilled water. It is to be understood when molecular concentration is mentioned that the concentration in an osmotic sense is meant, for a purely physical molecular concentration can exist without influence upon the point at which the fluid freezes, for example, the amount of albumin in the urine of kidney patients influences the specific gravity while it has no bearing on the lowering of the freezing point. A. v. Koranyi and others have shown that the blood of individuals with normal or sufficient kidney function freezes at -0.56 degrees C., that the urine in these cases freezes at from -1.0 degrees to -2.0 degrees C. Where the kidney function is insufficient, the molecular concentration of the blood is increased and the freezing point is lowered, and with this goes a higher freezing point for the urine.

When the normal freezing point of the blood tells us that there is enough healthy kidney

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parenchyma to free the body of its waste products, it does not show which kidney, or whether each kidney in part, is carrying on the work. For this information we rely on the freezing of the separate urines, along with the chemical and microscopical examination, the phloridzin test, etc.

Backmann's cryoscopic apparatus is the one ordinarily used. It consists of a cylindrical jar about 6 inches high by 4 inches or 5 inches in diameter. This is filled with a freezing mixture of ice and salt, in the center of which is placed a tube about $1\frac{1}{2}$ inches in diameter. In this latter is placed a somewhat smaller tube so that an air space between the two exists, insuring an even conduction of cold to the inner tube which contains the blood or urine to be tested. Fifteen to twenty cubic centimeters is the amount found most convenient, and in this is placed the thermometer with scale divided into hundredths of

degrees; alongside of the thermometer is a mixer made of platinum wire and bent at its lower extremity so as to encircle the lower end of the thermometer; a cork perforated for the thermometer and mixer closes the tube.

The freezing point of distilled water is first determined and afterward that of the urine; the difference between the two is the freezing point sought. This for the urine is designated after the plan of Koranyi by Δ and for the blood by 8. While freezing, the specimen is constantly stirred by the mixer and the column of mercury is closely watched. It moves first rather slowly, but with increasing velocity it sinks until it has reached a point some distance below the freezing point, when in consequence of the warmth set free by freezing it rises to the point at which it freezes and there remains for a short time, during which the reading is made.

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The usefulness of this method, as pointed out by Casper and Richter, is that it is a test of the renal activity as a whole, whereas the methylene blue or other similar tests show only the power of the kidney in one phase, and therefore give no idea of its natural functioning ability in eliminating the total of the solid molecules.

As mentioned before, it is the combination of ureteral catheterization and the freezing point determination of the separate urines which is of especial value in forming judgment as to the power of each organ; for it is the comparative values which we wish to obtain. The phloridzin test is an added proof of what each kidney is capable of, when used in conjunction with the freezing point determination. The action of this drug is chiefly on the kidneys and its result a so-called phloridzin-glycosuria. Small amounts (.005 grams), injected subcutaneously, are

best suited for the results and are in no way harmful. The effect lasts but about three hours, beginning fifteen to thirty minutes after injection. The test is based on the amount of sugar excreted, but a delay in the sugar elimination is also a factor. The phloridzin method is useful because expressible in figures and comparative results of the two sides indicate the amount of functioning parenchyma present.

The elimination of nitrogen or its chief representative urea, when taken as a measure of the work of both kidneys, is of unstable value, for patients with kidney disease have periods of good and bad N-elimination. Even healthy individuals may have periods of retained nitrogen. On the other hand, an estimation of the amount of nitrogen from each kidney gives, in a differential way, a valuable index of the renal ability, and considered with those methods already men-

tioned, forms an important link in that chain of evidence we seek.

Since the appearance of this paper a new phase has been added to our idea of measuring kidney ability. The brilliant work of Geraghty and Rowntree with phenolsulphonephthalein holds the promise of a simple and more accurate means, and a test of far broader application than those that have gone before; such as cryoscopy, electrical conductivity of the urine, the color and phloridzin tests.

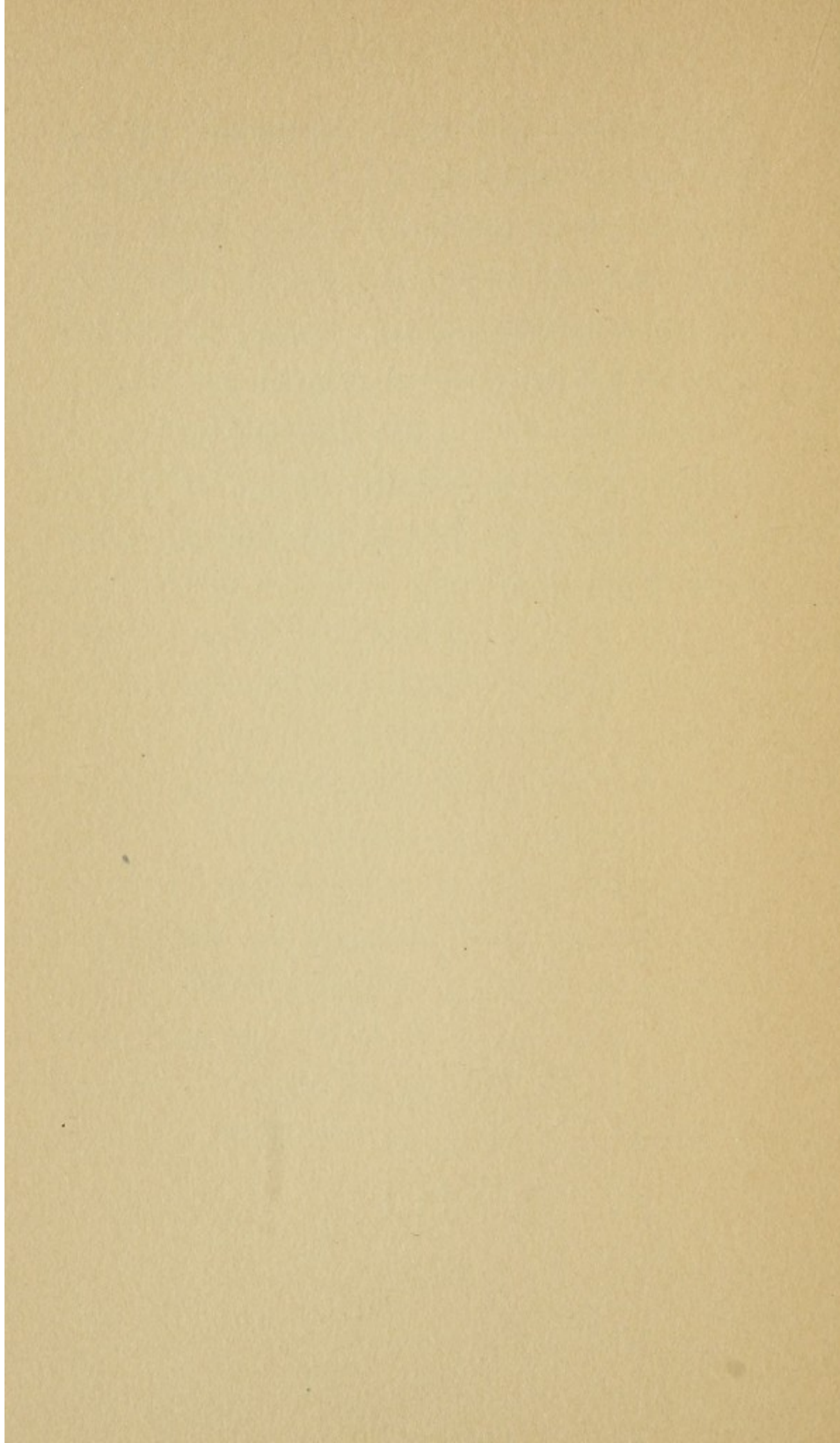
For a working knowledge of the phenolsulphonephthalein test for estimating renal function the reader is referred to the authors of this work. I will give here only an outline of this test in its technical application.

One cubic centimeter of the solution of the drug containing 6 mgm. is injected subcutaneously and the time is noted. The patient

empties his bladder and a catheter is aseptically introduced. The urine is allowed to drain into a test tube containing a drop of 25 per cent. sodium hydrate. On the appearance of the drug there is a marked pink color and the time is again noted. The catheter can then be withdrawn, or clamped if the case is one of urinary obstruction. At the end of one hour the urine is collected and again at the end of the second hour in a second receptacle. The specimens are made strongly alkaline with the 25 per cent. sodium hydrate solution which brings out the purple red color. They are then diluted to exactly one liter with distilled water. They are then compared with a standard solution containing a known amount of the drug to the liter. A Dubosc colorimeter is used for the color comparison or a set of test tubes filled with solutions of known strength is employed, and the reading made.

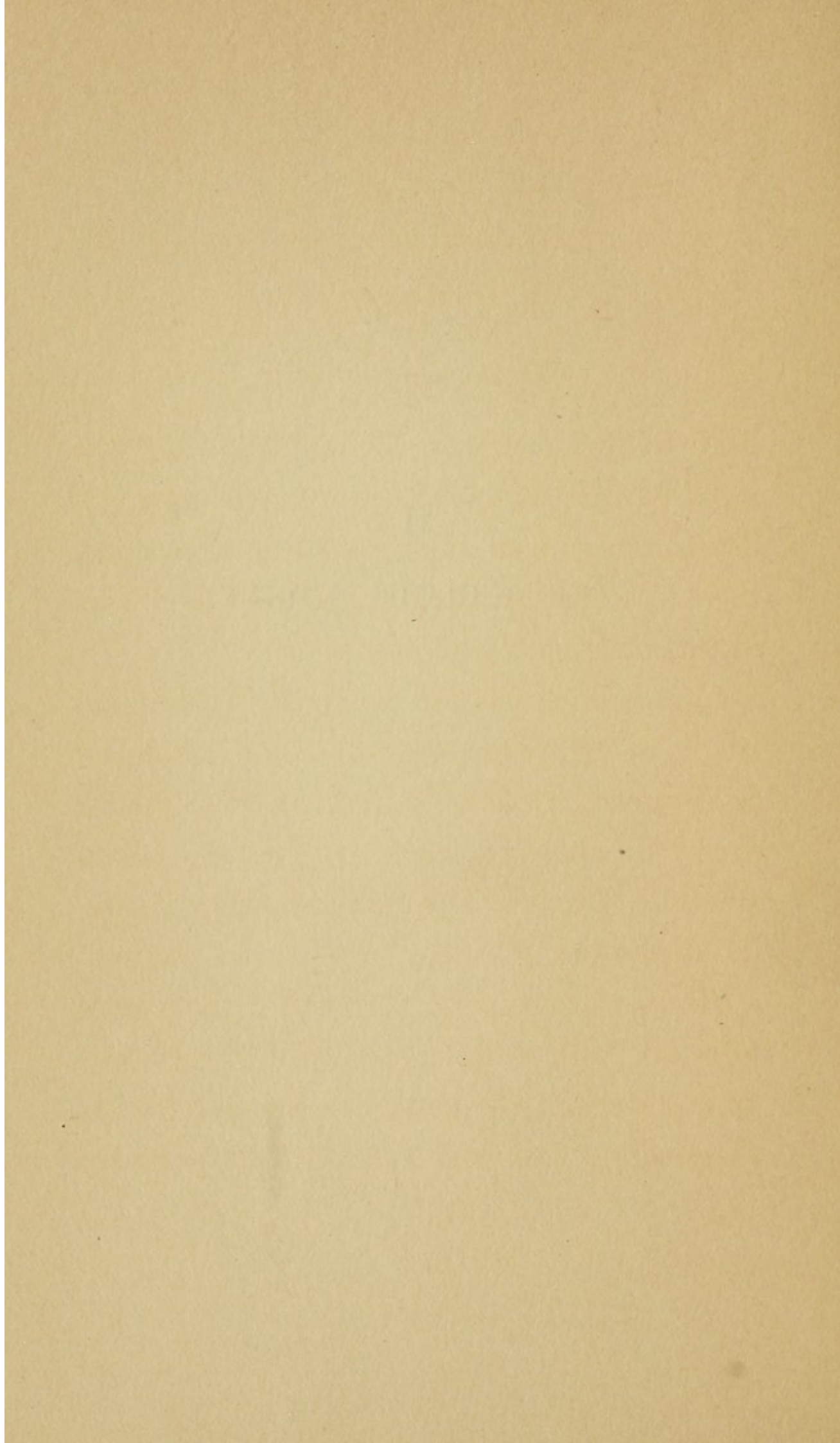
In a series of several hundred normal cases the originators of this method found that the drug appeared in the urine in from five to eleven minutes, 38 to 60 per cent. (average 50 per cent.) being excreted in the first hour after its appearance in the urine, and 60 to 85 per cent. for two hours. The elimination being practically completed in the two hours. In a second series of cases intra-muscular and intra-venous injections were used. With the intra-muscular injections the time of appearance is about the same but the output averages 5 to 10 per cent. more for the first hour. Following intra-venous injections the drug appeared in from three to five minutes and from 35 to 45 per cent. of the drug was eliminated in the first fifteen minutes, 50 to 65 per cent. in the first half hour and 63 to 80 per cent. during the first hour. The intra-muscular method for general use is recommended. With the normal cases as a stan-

dard patients with nephritis, uremia, cardiac and cardio-renal lesions, patients with urinary obstruction of the lower urinary tract, and unilateral and bi-lateral surgical diseases of the kidneys were studied. Delay in elimination of the drug and decreased percentages of elimination during the standard periods of collection, constituted the degree of failure of the kidneys studied in carrying out their normal function.



II

TUBERCULOUS KIDNEY



CHAPTER II

TUBERCULOUS KIDNEY

THE following case is reported because the steps toward diagnosis were interesting, as illustrating the usefulness of the cystoscope, the cryoscopic examination of the blood, and in this instance the radiograph.

Case.—B. McM., a young Irish woman, single, twenty-eight years old and employed as a domestic, was very kindly sent to me for diagnosis and treatment by Dr. F. Tilden Brown. She was admitted to Trinity Hospital November 27, 1904.

Her father died of pleurisy at the age of forty-one, otherwise her family history was unimportant. She came to this country six years ago. She had always been perfectly

TUBERCULOUS KIDNEY

healthy and able to work. Three years ago she commenced to suffer occasionally with a rather sharp pain in the lumbar region, which would last an hour or two, and which she thought was more on the right side than on the left. This continued for a little over a year, when she first noticed that she had to pass her urine more frequently than usual and that it was attended with some discomfort. The pains in the back at this time seemed to disappear and the frequency of micturition increased rapidly, until at the end of a month she was compelled to urinate every fifteen or twenty minutes during the day, and five or six times at night. The discomfort which had attended urination developed into a burning pain, most intense as the last few drops of urine were being voided.

She then consulted a physician, who examined her urine and told her she was suffering from catarrh of the bladder. Internal

TUBERCULOUS KIDNEY

remedies were prescribed, but the condition was not relieved. Five months dragged along in this way and she then entered a hospital, where she remained for six weeks, during that time she received as treatment irrigations of the bladder. When she left the hospital her urination was somewhat less frequent but more painful. She returned to work, and for a little over a year she attended to her duties, in the meantime receiving by way of treatment more bladder irrigations. At this time she noticed that she occasionally passed a little blood at the end of urination. She lost thirty pounds in weight, from 156 to 126 pounds, and had become too weak to attend to her work any longer.

Physical Examination.—The loss of weight was evident, but she was not emaciated. Somewhat anemic, cheeks flushed; heart and lungs were normal; abdomen, except for the following, was normal: the lower pole of right

TUBERCULOUS KIDNEY

kidney could be felt, but no more than in many healthy females; it did not appear to be enlarged; there was no tenderness. The only point of tenderness on pressure was over the urinary bladder. The external genitals were normal; bimanual examination revealed nothing abnormal further than tenderness of the bladder. The patient was put to bed on a light, nourishing diet, the only medication being five grains of salol three times a day, by way of preparation for a cystoscopic examination a few days later.

November 28.—First day after admission to hospital, the urine analysis of a catheterized specimen showed a cloudy pale amber urine, specific gravity 1.012, amphoteric reaction, a trace of albumin, no sugar, no bile, small amount of indican, urea .81 per cent, and chlorides 1.14 per cent. The microscope showed a small amount of mucus, a moderate amount of pus, no blood or casts, a few

bladder epithelia. No tubercle bacilli were found.

At the end of a week the following observations were made: An afternoon rise of temperature of 6/10 to 8/10 of a degree F., a pulse between 70 and 80, average amount of urine for twenty-four hours, 47 ounces, average number of times urine was passed in twenty-four hours, ten; average amount each time, between four and five ounces; urination a little less frequent during the night; patient sleeping well during intervals, and preserving a fair appetite.

Up to this time there was nothing upon which to build a diagnosis. The history was merely suggestive. The physical examination and the urinary analysis simply bore out the previous supposition of a bladder affection.

December 7.—Under cocaine anesthesia a thorough cystoscopic examination was made. The base of the bladder on the right side was

slightly hyperemic, especially the trigone. The right ureteric orifice was about three times larger than its fellow, elliptical in form, margin thickened and rigid, all muscular action had gone; it remained open and its cavity was highly inflamed, small jets of cloudy urine issued infrequently. Backward and to the right of this ureter-mouth for about 2 cm., a cord-like elevation of the mucous membrane could be seen; this I took to be the thickened intra-mural portion of the ureter. At about the upper extremity of this was an irregularly ulcerated area about one centimeter in diameter; leading from this upward to the fundus of the bladder was a narrow ulcerated path which terminated in another irregular ulceration, which was twice the size of the first; this was flecked with small grayish-white patches, and was surrounded with a blush of hyperemia. Except for a low grade of inflammation which gave the mucous membrane a slightly softer

TUBERCULOUS KIDNEY

appearance, the rest of the viscus was negative, including the left ureter mouth, which gave forth at frequent intervals, jets of clear urine.

This examination made, to my mind, tuberculosis of the right kidney extremely probable. Frequent examinations of the urine for tubercle bacilli were then instituted, and continued for about three weeks without avail. Guinea-pigs were then inoculated but died of sepsis within a week or ten days. Tubercle bacilli were found, however, on two occasions within this time in the urine. They were in very small numbers but characteristically grouped.

The next step in the process of diagnosis was to obtain the separate urines, with a view not only of learning more accurately the condition of the diseased organ, but of getting an estimate of the functioning capacity of its fellow.

On January 3, a catheterizing cystoscope

TUBERCULOUS KIDNEY

was introduced. It was found impossible to advance a catheter beyond the mouth of the right ureter, on account of obstruction undoubtedly due to its diseased condition at that point. The left ureter was easily catheterized and 16 c.c. of clear, light-colored urine obtained. This, on examination, was of neutral reaction, no sugar or albumin present, urea 1.5 per cent. The microscope showed a few red blood cells and epithelia, which commonly occur with the use of the ureteral catheter. No tubercle bacilli were found.

It will be seen that this urine was that of a healthy kidney and that the abnormal elements previously obtained came from the right kidney and ureter, with the bladder participating.

To make more sure of sufficient renal function, Dr. Alfred T. Osgood was good enough to determine the freezing point of the

TUBERCULOUS KIDNEY

blood, which was -0.55 degrees C., thus showing no undue molecular concentration.

I then took the patient to Dr. L. G. Cole, who took an excellent radiograph. The picture added much weight to the evidence already collected, for it showed a shadow of considerable density, the outline of which softened out almost too gradually to be mistaken for a stone. A growth of firm connective tissue replacing parenchyma seemed the most likely interpretation, and the correct one, as the specimen later showed.

The *diagnosis* was then as follows: Primary tuberculosis of the right kidney with extensive destruction of the organ and extension of the process to the bladder. The left kidney functionally capable of carrying on the work of elimination for the body.

On January 18, I removed the right kidney by the extraperitoneal route.

Pathological Examination of Kidney.—

TUBERCULOUS KIDNEY

Weight, 144 grams; length, 10.5 cm.; width, 4.5 cm.; thickness, 4.5 cm. Gross appearance: The surface retains the type of fetal lobulation. Through the capsule are seen many small foci about pinhead size, which resemble miliary tubercles. These are most numerous about the central zone of the organ. There is a marked engorgement of the vessels beneath the capsule and an extensive subcapsular hemorrhagic exudate, giving a dark red color to almost the entire extent of the surface. Section through the convexity of the organ in its longitudinal axis shows the following: Average length of pyramids, 2.8 cm.; average thickness of cortex, 0.6 cm. A thin hemorrhagic zone beneath the capsule. Cortex very light-gray color, markings obliterated, line of junction with medulla indistinct, in places indistinguishable. Occasional small gray bodies, pinhead in size, which resemble tubercles.

TUBERCULOUS KIDNEY

The medulla has almost lost its identity by being converted into a grayish fibrous tissue, in which there are abscess cavities, the largest measuring 2 cm. in diameter. The two largest of these cavities encroach on the cortex, and are lined by cheesy-looking material, and about one is a considerable hemorrhagic exudate.

The pelvic wall is thickened and contracted. Its mucosa has a rough, cheesy-looking appearance. At one point in the fibrous portion of the wall, is a hemorrhagic exudate 1.5 cm. in diameter.

The blood-vessels show some thickening.

Microscopic Examination.—Connective tissue system. The capsule is represented by a thin, ragged layer of fibrous tissue which is permeated by inflammatory exudate. Beneath the capsule there is a layer of vascular fibrous tissue of considerable thickness. The fibrous tissue passes into the medulla in

TUBERCULOUS KIDNEY

places as broad bands of connective tissue. The fibrous tissue is quite cellular and there are many areas of small, round-cell infiltrations. There are many miliary tubercles scattered through the newly formed tissue. They are mainly fibrous in the cortex, but in the medulla they are represented by large areas of coagulated necrosis surrounded by fibrous tissue. Many giant cells are associated with these tubercles. The newly formed tissue beneath the capsule is infiltrated by hemorrhagic exudate. The capsule of Bowman in many places is much thickened. The intertubular tissue is increased in strands and islands. A few places present the normal amount of stroma.

Parenchymatous System.—In the fibrous tissue zone beneath the capsule, the tubules have almost entirely disappeared. An occasional tubule can be seen much diminished in size with the epithelium desquamated or

TUBERCULOUS KIDNEYS

flattened. Some contain hyaline casts, others hemorrhagic exudate. There is extensive parenchymatous degeneration and disintegration of the renal epithelium generally. Some of the tubules are dilated, and their epithelium flattened, others have their lumen completely filled by their swollen epithelium. In some instances, the epithelium is entirely desquamated and the tubule empty. Some contain hemorrhagic exudate, others casts.

Vascular System.—The walls of the large vessels are slightly thickened, in some places the intima, in others the adventitia. The capillaries of the glomeruli are congested, and the spaces about some contain hemorrhagic exudate. Many of the glomeruli have undergone sclerotic changes, and are represented by islands of the firm fibrous tissue in which is some hyaline change.

The abscesses described in the gross have an inner layer of coagulated necrosis and an

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outer wall of firm fibrous tissue, in which are scattered a few giant cells. The fibrous tissue is surrounded by a zone of hemorrhagic exudate which infiltrates the chronic interstitial change involving the cortex. The hemorrhagic area in the wall of the pelvis shows miliary tubercles, round-cell infiltration, edema and hemorrhagic exudate.

The patient reacted well from the operation and her post-operative course was uneventful.

I was most forcibly struck by the immediate and almost complete cessation of her most distressing symptom, namely, the great urgency of micturition. After the first twenty-four hours, during which time she was catheterized, she was able to hold her urine five, six and sometimes seven hours. She enjoyed for the first time in two years, uninterrupted nights of sleep. The point of interest to be noted here, is that the irritating character of the material coming from the diseased kidney

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was the predominating causal factor of the frequent urination, and not the vesical ulceration. The pain which accompanied urination still exists, but is progressively decreasing.

March 6.—Cystoscopy: The general appearance of the bladder mucous membrane improved. The right ureteric orifice has contracted to one-half its former size, no signs of active inflammation. The ulcers are reduced to about two-thirds their former size, their edges are healthy and there is no surrounding hyperemia. The left ureter-mouth and surrounding area is, as before, normal, clear urine issues from its mouth. The urine analysis gives no evidence of kidney involvement. The patient is passing 45 to 55 ounces of urine daily, at almost normal intervals and in normal amounts. The wound has healed but for a small sinus, which is progressing favorably.

The patient is gaining weight and strength.

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She has gone to country to complete her convalescence.

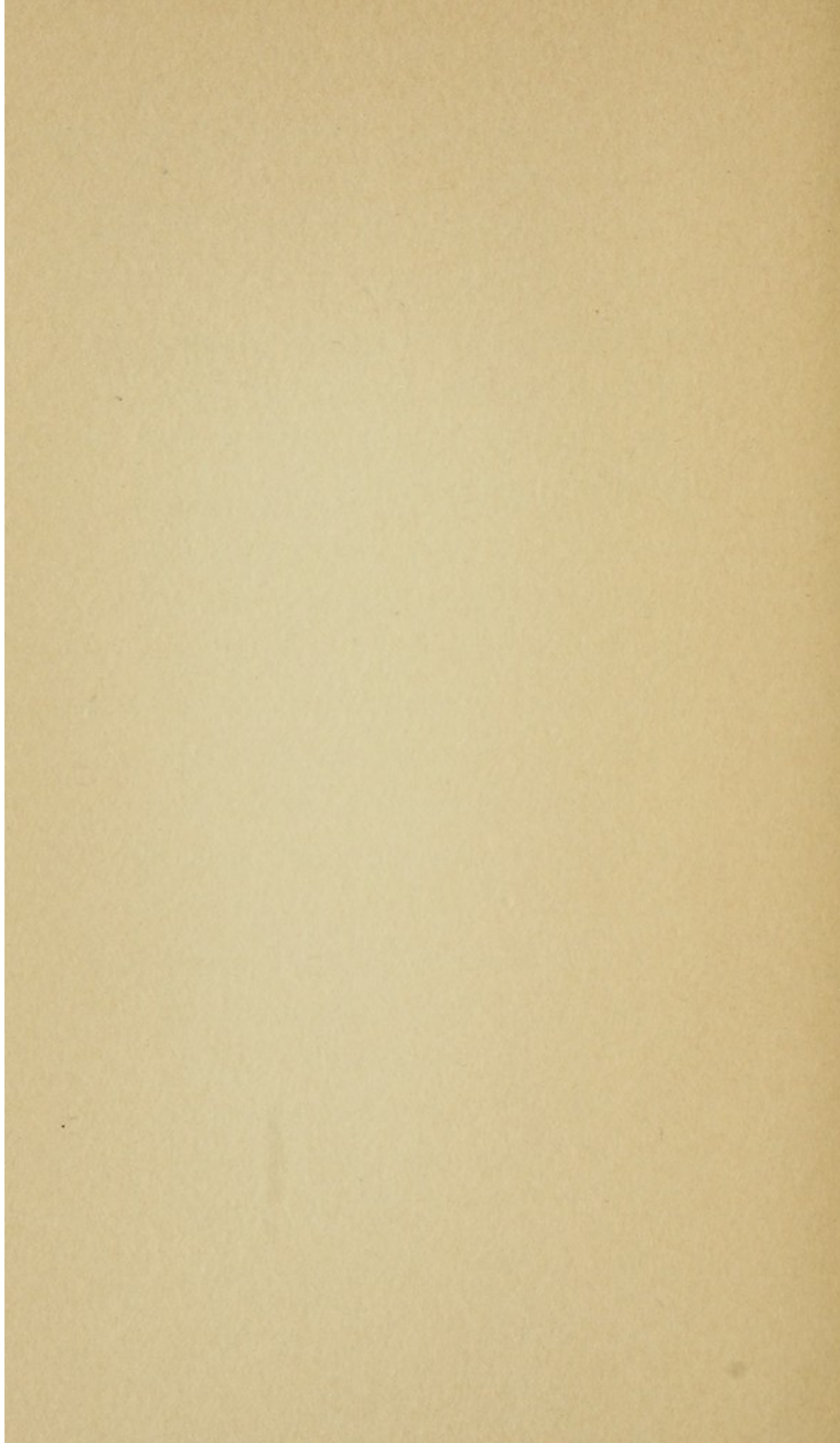
It may be of interest to add to this report of tuberculous kidney that over seven years have elapsed and the patient continues in good health. A few other cases of kidney tuberculosis have fallen to my lot in the meantime and like the first the symptoms have been baffling and elusive and more suggestive of a bladder lesion than a kidney involvement. For want of an accurate diagnosis these poor sufferers had lost much valuable time and received much valueless treatment.

In the limited number of these cases which I have been fortunate enough to see there has been a striking resemblance. The difficulties in diagnosis have been somewhat lessened by improvements in the cystoscopic apparatus

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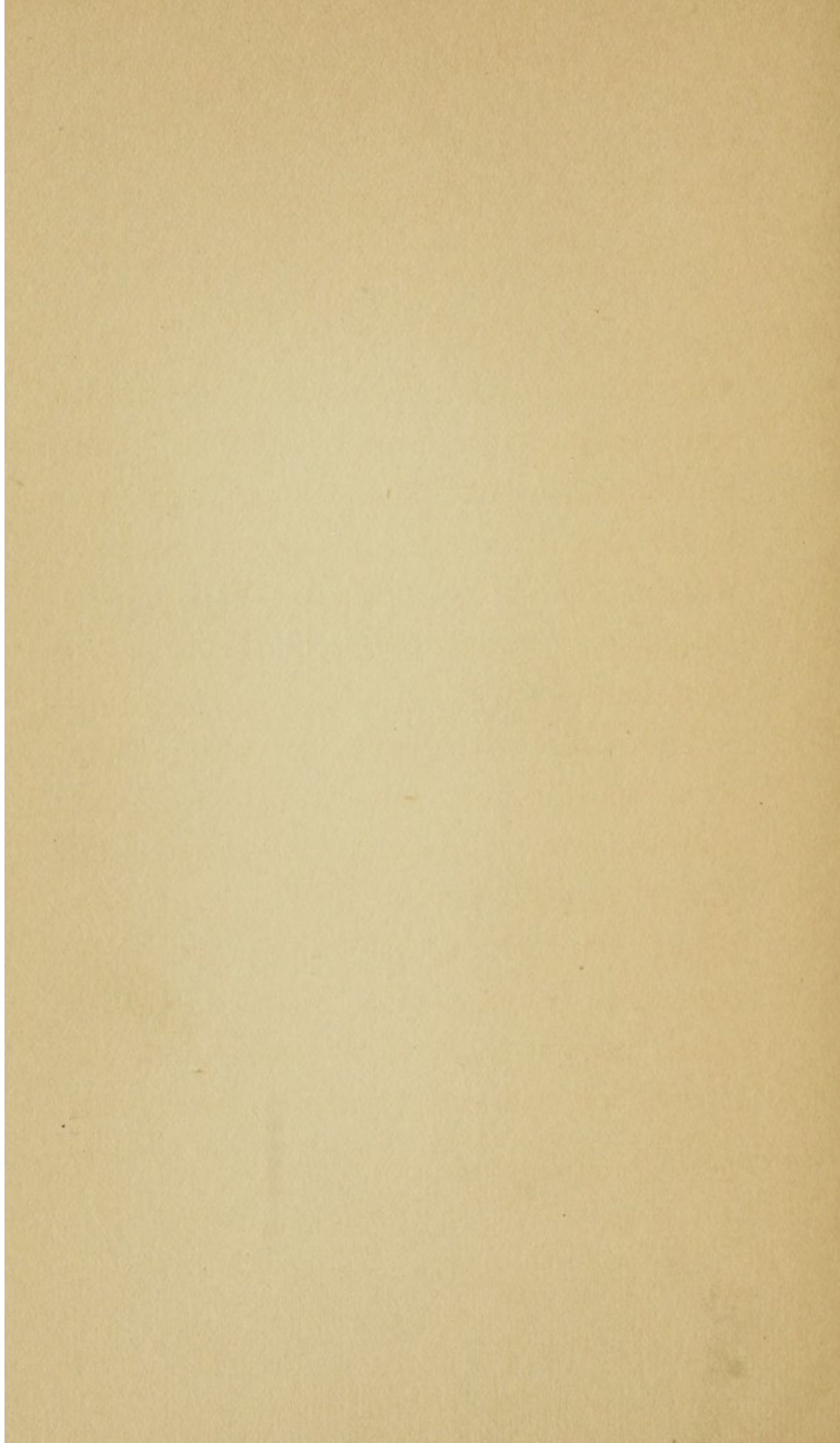
and the methods of collecting and studying the renal output.

After nephrectomy all of the cases which I have been able to keep track of, except one, have gone on to a satisfactory recovery. The excepted one had ureter and bladder so deeply involved in the process that only mitigation of her suffering was secured.



III

GONOCOCCIC INFECTIONS, AND THE PHYSICIAN'S RESPONSIBILITY



CHAPTER III

GONOCOCCIC INFECTIONS, AND THE PHYSICIAN'S RESPONSIBILITY¹

THIS paper is offered chiefly as a statistical study of the more important lesions caused by the gonococcus, in the hope of giving a better idea of the extent of the disease, and without attempting to teach anything of its pathology, symptomatology, diagnosis, or treatment.

The belief that gonorrhea and syphilis were but different expressions of a single disease held sway from our earliest knowledge of the existence of these diseases, 2,000 years before Christ, until the latter part of the eighteenth century, when Benjamin Bell, in 1782, brought forward his experiments and reasons for separating them. Again, in 1812,

¹Read before the Westchester County Medical Society, at Yonkers, November 21, 1905.

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Hernandez, by his experiments, tried to demonstrate their nonidentity. The opinion, however, held by these men was not accepted as final until, in 1837-8, or within the memory of many now living, the result of 667 inoculation experiments proved conclusively the nonrelationship of these two diseases.

It remained for Neisser, forty-one years later, in the year 1879, to announce that he had found the specific organism of gonorrhea. In the two decades and a half which have elapsed since then our knowledge of the far reaching character of this disease has made remarkable strides.

It was not many years ago that gonorrhea was looked upon as a local inflammation which ran in the majority of cases a mild course, ending in complete cure. To-day we recognize in gonorrhea a formidable infection which has invaded practically every tissue of the human body, and from which no

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class of society is immune. Gonorrhea is said to be the most widespread and universal disease affecting the adult male population. It is estimated that 75 per cent. or more are infected.

But for rare exceptions the original site of gonorrheal infection in the male is the urethra, and from this situation we may follow its processes of extension and complication. It remains for a short period in the anterior urethra, and in a few instances is cured without further extension. The limitation of the process to this location (in the absence of complications) offers the one bright hope of a definite cure and of relief from the uncertainty of indefinite infectiousness to others.

Anterior urethritis may be complicated by balanitis, cavernitis, cowperitis, or periurethral infiltration and abscess, or it may go on to stricture formation. Of 164 cases of

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stricture, Sir Henry Thompson gives the period of development as follows: Ten cases occurred during the acute gonorrhea; seventy-one cases developed in one year; forty-one cases developed in three to four years; twenty-two cases developed in seven to eight years; twenty cases developed in twenty to twenty-five years.

Consequent upon stricture there may occur extravasation of urine, dilatation of the bladder, abscess of the prostate, cystitis, pyelitis, and pyelonephritis. With the latter complications the mortality is by no means low. By continuity of mucous membrane anterior urethritis extends backward beyond the confines of the compressor muscle to become posterior urethritis.

In what proportion of cases does gonorrhea invade the posterior urethra? Wossidlo, of Berlin, quotes the following authors: Letzel gives it as 92.5 per cent.; Philipppson, 86.6

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per cent.; Rona, 90 per cent.; and Jadassohn, 88.7 per cent. This means that almost nine out of every ten cases go on to the occurrence of posterior urethritis. The gravity of the disease in this situation is marked, not by its danger to the life of the individual, or by the discomfort and pain which it occasions, but by the danger of rendering him indefinitely infectious and perhaps by rendering him sterile.

When one considers the anatomy of the posterior urethra, its floor divided into two longitudinal furrows by the *caput gallinaginis*, on each side of which an ejaculatory duct and, in all, from twelve to twenty prostatic ducts open, it is not difficult to understand how easily and with what frequency the gonococcus invades the prostate, seminal vesicles, and epididymides. It is equally easy to appreciate, when one thinks of the endurance and long life of these organisms, how it is possible

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for them to remain for indefinite periods in these deeper structures.

Many authorities, notably Finger and Frank, at present believe the prostate to be affected to a greater or less degree in practically every case of posterior urethritis, while Guyon and Furbringer do not think it occurs so often. According to Wossidlo, Montagnon and Erand found the prostate involved in 70 per cent. of cases of posterior urethritis; Colombini, in 36 per cent. of acute, 28 per cent. of subacute, and 40 per cent. of chronic gonorrhea. Pezzoli gives 80 per cent. as his figures. Rosenberg, Posner, and Goldberg join in this estimate of its great frequency. The varieties of prostatitis we have not space to consider here.

That it is a most serious complication we must take passing note of. It is one of the chief phases of gonorrhea which accounts for chronicity, resistance to treatment, pro-

longed infectiveness, sexual neurasthenia, sexual inability, and certain occurrences that take place later in life.

As to the frequency of spermatocystitis, authors differ. Wossidlo, quoting Guyon, Neisser, Thompson, Taylor, Fuller, and others, says it occurs often. Fournier and others maintain its rarity. Lucus out of 285 cases of epididymitis found 111 cases with the seminal vesicles congested. Colombini gave the frequency in cases of epididymitis as 62.5 per cent., Chute found, in 540 patients with affections of the genitourinary organs, that sixty had an inflammation of the seminal vesicles. The importance of epididymitis is marked by its tendency to cause sterility. Finger, of Vienna, gives the following statistics of posterior urethritis complicated with epididymitis:

Rollet (1862), 2,425 cases, 27.9 per cent.

Jullien (1886), 2,500 cases, 15.2 per cent.

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Tarnowsky (1872), 5,203 cases, 12.2 per cent.

Finger, 1,844 hospital cases, 29.9 per cent.

Berg (1882), private practice, 7.5 per cent.

Finger, 1,000 clinic cases, 12.5 per cent.

Gilbert (1893), 650 cases, 7 per cent.

Benzler (1898) published the following relationship between gonorrheal urethritis, epididymitis and sterility:

Those rendered entirely sterile:

After simple gonorrhea..... 10.5 per cent.

After one sided epididymitis.... 23.4 per cent.

After double epididymitis..... 42.7 per cent.

Those resulting in the "one child sterility":

After simple gonorrhea..... 17.3 per cent.

After one sided epididymitis.... 13.5 per cent.

After double epididymitis..... 20.8 per cent.

This study shows two features of interest. First, that there is a considerable proportion of sterility following urethritis without apparent complication, and, second, the high proportion of sterility which follows epididymitis, and of the frequency of epididymitis we have already spoken.

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Gonorrheal cystitis as a complication, although not rare, is not so frequent as it was supposed to be before the adoption of the newer methods of examination, by the employment of which inflammation of the bladder can be ascertained more exactly. Gonorrheal infection of the ureters, the kidneys, and their pelves is fortunately a rare occurrence, although in later life pyelitis and pyelonephritis may follow upon the obstruction to the urinary flow due to stricture of the urethra.

I have attempted in a superficial way, and omitting minor occurrences, to give some idea of the frequency with which gonorrhea occurs in the male and affects the different important organs of the male genitourinary tract. In order to appreciate the seriousness of this malady one must know something of its prevalence as well as of its morbid extension in the body.

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Our American text-books on genitourinary diseases give but meager statistical information regarding the frequency of this infection and the frequency with which individual organs are affected, so that it is little wonder that the student of medicine and the practising physician often fail to be impressed with the magnitude of this evil and the important racial and social problems connected with it. The insidious nature of the gonococcus and its long periods of symptomless quiescence protect this organism against discovery by those whose minds have not been trained to be ever on the alert for it, so that those who fail to appreciate its presence have no criterion upon which to build a theory that it lacks the prevalence that careful clinical experiences have demonstrated.

In concluding this chapter on the frequency of gonorrheal infection of the male genitourinary system a word must be added regard-

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ing the course the disease runs. For it is due to its insidious nature that so many evil consequences arise. An initial attack of anterior urethritis without complication may run its course in from four to six weeks. In many cases, however, it is much longer before the healing takes place and the patient is apparently cured. This occurrence is, unfortunately, far from the rule, for, as statistics show, the chances are nearly ten to one that it will become a posterior urethritis. With the present day treatment and intelligent cooperation of the patient, I believe we should very materially decrease the number of cases that go from anterior to posterior urethritis.

When the disease becomes posterior, and we have seen with what frequency this occurs, the situation is entirely altered. It assumes a gravity in its far reaching consequences to the patient himself as well as to the community

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that is hard to realize. It represents a situation of which the lay mind is deplorably ignorant. So deeply rooted is the traditional notion of the insignificance of gonorrhea, and so well supported is this belief by the absence of pain or annoying symptoms when the disease lapses into its "latent" character, that the individual oftentimes will not believe that the simple little "drop" which he perceives in the morning or the few innocent looking "shreds" which he can see in his urine, if passed into a glass, may mean that the wife whom he marries, perhaps years later, pays for his sins by receiving an infection that may cost her her life or render her a hopelessly chronic invalid.

But to return to our subject, the course run by posterior urethritis. It is marked by its chronicity, its resistance to treatment, its proneness to recur, and its uncertainty of definitive and permanent cure. To empha-

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size this, let me recall to mind the frequency with which the gonococcus invades the prostate gland, there to set up a mild and painless irritation or lie dormant for years, defying oftentimes the most patient, skillful and experienced treatment. M. von Zeissl sums up the situation when he says that every well informed physician will to-day agree with Ricord, that he well knows when and how the gonorrhea began, but concerning its course and its cure it is impossible to speak with certainty. As to its infectiveness, Morrow says: "Since no disease is more surely transmissible in the married relation than gonorrhea, the man who marries with an uncured gonorrhea will almost certainly communicate his disease to his wife."

I am aware that I have drawn a gloomy picture of gonorrhea in the male, but I have tried to draw a true one, taking for my material the figures and clinical experience of

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careful and conscientious observers. Do not draw the conclusion from what I have said that I believe that all men who have had a posterior urethritis to be permanently infectious or that all men will suffer in later life from their infections. There may be some who carry latent gonorrhea into their married lives without infecting their wives. This, however, must be very rare. On the other hand, it is not infrequent, long after an apparently complete cure, for a man to marry and infect his wife. The following case cited by Young is an illustration of a not uncommon occurrence:

A man was treated for three or four years by an excellent physician. He put off his marriage for two years more, and finally the physician, after examining carefully with culture and cover glass preparations, told him he could safely marry. Six weeks after the wedding his wife was brought in with

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acute tubal disease and peritonitis requiring laparotomy and salpingectomy.

Besides the mucous membrane of the urogenital tract that of the nose, the mouth, the rectum, and all too commonly the eye, furnish soil for the gonococcus to grow upon. Of gonorrhea as a constitutional disease in both sexes space does not permit me to do more than speak briefly. It is a comparatively infrequent sequel to the original mucous membrane infection. That the gonococcus or its toxins are conveyed from one region of the body to others by means of the blood or lymph channels has been demonstrated by finding the organism in the blood and in the metastases. That endothelial and connective tissue structures may harbor the gonococcus we have now ample proof. The most frequent example of general infection is found in gonorrheal rheumatism, arthritis gonorrhoeica.

An average of several observers reports it as

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occurring in slightly over 2 per cent. of the cases. The literature gives us examples of gonorrheal tenosynovitis, bursitis, myositis, periostitis, osteomyelitis, phlebitis, pleuritis, peritonitis, endocarditis, pericarditis and neuritis. Gonorrheal lesions of the skin have been noted and reported.

The local and systemic affections of children, were they considered in detail, would fill a long chapter. It is well known to-day how gonorrheal vulvovaginitis sweeps as an epidemic through the wards of infant asylums and hospitals. During the year 1902 there were 600 admissions to the public wards of the Babies' Hospital in New York, and among this number there occurred seventy cases of vulvovaginitis and ten cases of arthritis.

Stomatitis, as a mode of infection, has been reported in a few instances. Urethritis is by no means unusual. Pelvic complications involving the uterus, the annexa, or the per-

itoneum occur from time to time in children. Eight cases of gonorrheal pyemia without discoverable local lesion to account for the entrance of the organisms were reported by Kimball in 1903.

Out of 58,000 blind persons, the last census of the United States, Scott states that 15,000 children lost their sight from gonorrheal ophthalmia. It is said that from 20 to 30 per cent. of all the blindness in this country is caused by gonorrheal infection. A large proportion of this occurs as the result of purulent conjunctivitis in children infected at birth.

At the present day no one doubts that gonorrhea of the genitourinary tract in women is a disease of great frequency. Finger and others give the following records as against Nöggerath's opinion that 80 per cent. of all women are affected with latent gonorrhea: Oppenheimer (1884), in Kehrer's

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clinic in Heidelberg, examined 108 pregnant women and found the gonococcus in thirty, which is 27.7 per cent.; Lomer (1885), in thirty-two women during the puerperium found the gonococcus in nine, or 28 per cent.; Schwartz (1886) examined 617 women, 112 of whom were suspected of gonorrhea, and in seventy-seven cases the gonococcus was found, making 12.4 per cent.; Sanger (1889), in his series of 1,930 women, found 230 infected, which makes 12 per cent.; Dorn (1890), out of 1,000 cases, found 10.5 per cent. of the women infected; Sigmund, of Vienna, in his venereal clinic, found that of 758 public women, 63 per cent. were affected with gonorrhea.

The site of election of gonococcic infection in the female is as follows: Fabry (1888) found the situation of gonorrhea in thirty-eight women to be in the urethra and cervix in sixteen, in the urethra alone in twenty, and in the cervix alone in two; Welander (1888)

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found the gonococcus in the urethra in 89 per cent. of his cases, and in 43.7 per cent. in the cervical canal; Brünschke (1891) gave the frequency of the situation of gonorrhea as 90 per cent. in the urethra, 37.5 per cent. in the cervix, and 12.5 in Bartholin's glands. Luczny (1891) collected from Olshausen's clinic forty-seven cases. In this series the urethra was affected in forty, the vulva in twelve, Bartholin's gland in seventeen, and the vagina in nineteen cases.

This evidence points to the urethra as being the favorite site of the original infection. In just what proportion of these cases the infection ultimately finds its way to the cervix and from thence to the uterus, tubes, ovaries, and peritoneum, it is hard to say.

In what proportion of cases the gonococcus invades the bladder and upper urinary tract it is also impossible to say, but that it is relatively infrequent as compared with the involve-

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ment of the generative organs we to-day know.

Owing to the different anatomical arrangements and construction of the genital organs in the female and the difference in their physiological functions (menstruation and pregnancy), the disease varies considerably in its course, action, and seriousness from that in the male. The onset, the course, and the termination of female gonorrhea is so varied, the consequences to the individual and generation are so grave that I hesitate to enter upon a description that must fall so far short of being complete in a limited paper of this kind. The majority of women receive their infection from an individual who has passed from the active into the latent stage, and whose gonococci have decreased in number and to a greater or less extent lost their virulence by the attenuative influence of time on an impoverished soil.

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Let me illustrate by drawing two or three typical pictures. First, a more unusual form of the disease is that of a virulent infection with a sudden onset and acute course. Its beginning is marked by the appearance of acute vulvovaginitis and urethritis, with intertrigo from purulent secretion, and urgency and frequency of micturition set in. The picture may be complicated by an acute suppurative Bartholinitis. The mucous membrane of the vulva, vagina, and urethra are intensely red and bathed in pus. With the invasion of the uterus the symptoms of acute metritis appear, fever and severe pain in the pelvis and across the back, enlargement and exquisite tenderness of the uterus, with blood and pus pouring from its cavity. The exudate extends into the pelvis and around the tubes and ovaries. Pelvic peritonitis, it may be general peritonitis, follows. Salpingitis and pyosalpinx usually occur. The conclusion may be death or a

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capital operation or a lifetime of invalidism and sterility.

The second and more usual type is characterized by a slow onset with a chronic course, ready to become an active process through the influences of pelvic congestion due to excessive coitus, menstruation, or pregnancy. This form of gonorrhea we see most often in the young wife, married to a man who brings with him an uncured gonorrhea. It is more than likely that he is unaware of the evil he is doing; he may even have the word of his physician that he could safely marry. The young and healthy woman, who never knew what disturbed menstruation or pelvic discomfort was, begins soon after marriage to ail; menstruation may become somewhat irregular and attended by increased secretion from the genitals. As time goes on she notices that she becomes more easily fatigued, but she attributes these things to the natural

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changes that come in newly married life and puts them from her mind. At any time during a passing pelvic congestion, as at a menstrual period, the smouldering infection may light up and, extending from its temporary resting place, invade the uterus. Here it may pause or continue on its way until each pelvic organ of generation participates and they are all matted into one solid mass by the inflammatory exudate surrounding them. On the other hand this occurrence may not take place, but she may go on to pregnancy. This condition is not infrequently interrupted by abortion, or she may be delivered at term, and the gateways then open for an invasion more rapid and severe than that we have just alluded to.

Though the streptococcus threatens life and not infrequently causes death, it is, when life is spared, more merciful. The gonococcus holds for its victim a different fate.

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With the stormy period of the puerperium passed, the tedious convalescence is begun, holding in store perhaps a whole lifetime of suffering, intensified at each menstrual period. With the hope of maternity blighted, these poor women become nervous and hysterical wrecks. By the surgeon's knife they may get relief, but are left castrated women.

We have seen in these two types of disease a not unfamiliar picture, and one in which the diagnosis is usually plain. Not so obvious, however, are the great majority of cases of gonorrhea in women. The diagnosis, as in latent gonorrhea in men, is difficult, and without the microscope and culture tests is in most cases impossible. Neisser, in his examination of 574 public women, found 216 to have gonorrhea, and out of this number there were only twenty-two in whom it was possible to make the diagnosis microscopically.

The disease, starting insidiously, remains

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latent; its course is mild, chronic, and often without characteristic symptoms. The woman does not realize that she harbors a serious affection. The only symptom may be a leucorrhea, which disappears for a time only to reappear. There may be a purulent discharge preceding menstruation and following it. The menstrual function may be disordered.

The great danger in this, the commonest form of gonorrhea in women, lies in its being ever ready to extend, when a favorable opportunity offers, to the uterus and the annexa. The consequence of this we see in the obliteration of the oviduct, the deviations and adhesions, the suppurative processes, and peritonitis. As to the frequency of pelvic inflammation due to gonorrhea, statistics are not satisfactory. We can, however, arrive at some estimate of its prevalence.

Weiss says that salpingitis as a continuous

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infection occurs in from 23 to 70 per cent. of all gonorrheas in women. A percentage variously estimated at from forty to eighty of endometritis and perimetritis is of gonorrheal origin.

Eighty per cent. of all deaths from pelvic disease in women are due to gonorrhea, quoting Morrow. Price said that in over a thousand sections for pelvic inflammation 95 per cent. of the cases were attributable to gonorrhea, and that in 95 per cent. of these the history was reliable and clear.

As to gonorrhea as a cause of sterility, one author states that 50 per cent. of all involuntarily childless marriages are made so by gonorrhea of the female organs of generation, of which 45 per cent. are due to marital infection by men. On this point there seems to be but little difference of opinion. Nöggerath asserted that 50 per cent. of sterility in women was caused by gonorrhea.

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Lier-Ascher found, out of 227 women, 121 sterile because of gonorrhea. Neisser contends that gonorrhea is a more potent factor in the depopulation of countries even than syphilis. He regards gonorrheal infection as responsible for more than 45 per cent. of sterile marriages. In eighty sterile marriages Kehrler found forty-five caused by inflammatory and other changes, all of gonorrheal origin. This is upward of 50 per cent.

Janet, in 1902, while discussing Social Defense Against the Venereal Peril, declared that gonorrhea with tuberculosis, perhaps more than tuberculosis, was the great pest of our age. If we compare from a social point of view the importance of gonorrhea with that of syphilis, gonorrhea is to syphilis as 100 is to 1, not only from the standpoint of the number of persons attacked, but also from the standpoint of the gravity of the lesions and their perpetuity. Gonorrhea

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modifies in a manner often permanent the genital organs of patients, renders them infinitely dangerous for the women they approach, causes all metritides and annexial inflammations which to-day give to surgeons three-quarters of their work, and conduct finally both men and women to sterility.

It is regrettable that this important matter has received so little attention in American text-books of gynecology and genitourinary diseases, and that students of medicine should start on their career as physicians with such limited knowledge regarding the extent and consequences of this social menace.

I must unfortunately pass by that phase of the subject which has to do with prostitutes and prostitution with but a single remark, that it is probable that practically every woman of this class, before she has been long in the occupation, is gonorrheal and a source of danger. In this class are to be included

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many women working in stores, in factories, as servants, or in theatrical companies, etc., who expose themselves to this form of infection.

The Physician's Responsibility.—It may be said, the largest, and surely the saddest, part of this great public evil has its origin in the peoples', our neighbors', our friends', our patients' ignorance of the subject. The only key to the situation is the light of true knowledge, and the only source at present of this light is the medical profession, of which you and I are members.

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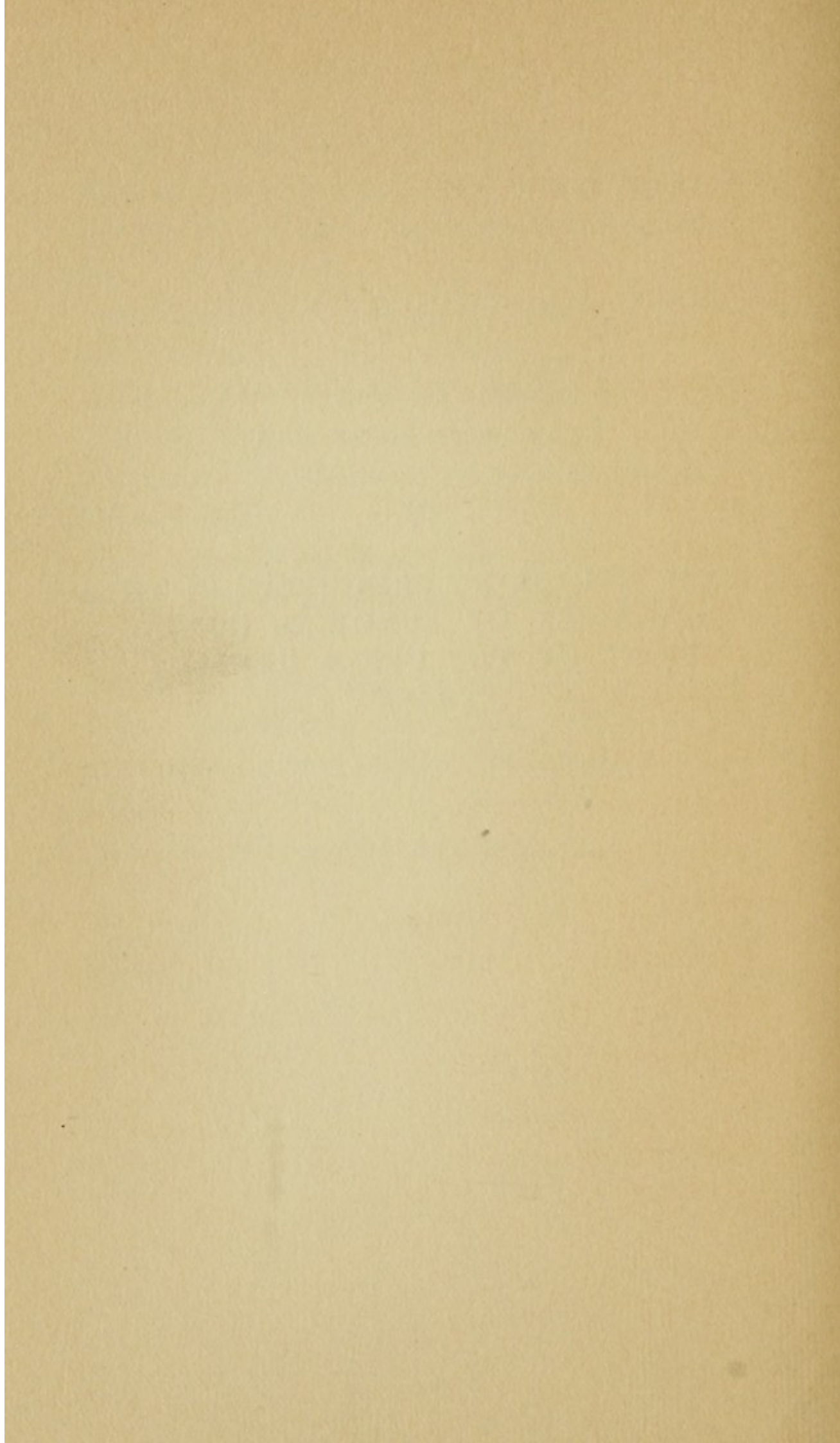
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IV

SOME NECESSARY PRINCIPLES IN THE DIAGNOSIS OF SURGICAL CONDI- TIONS OF THE UPPER URINARY TRACT



CHAPTER IV

SOME NECESSARY PRINCIPLES IN THE DIAG- NOSIS OF SURGICAL CONDITIONS OF THE UPPER URINARY TRACT¹

It seems appropriate just now to group in a useful sequence such methods, both old and new, as have proved themselves valuable in making diagnoses in affections of the upper urinary tract. For with the advent of newer appliances, such as the ureter catheterizing cystoscope, the various appliances for intravesical separation of the urine, and the improved x -ray apparatus, there is a tendency to accept too confidently the evidence that any one of these instruments alone may give, without giving due weight to those prelimi-

¹ Read before the Newark, N. J., Medical and Surgical Society, November 16, 1905.

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nary steps in the process of diagnosis which lead up to the point where these later date instruments are of real value.

Unfortunately the idea is becoming prevalent that urinary diagnosis has become by the aid of mechanical appliances a matter both simple of execution and rapid of completion. It is true that, by the added usefulness of the improved appliances which we now have, diagnoses are made possible which before were impossible; but it is out of the question to hope to arrive at satisfactory conclusions in difficult cases without expense of time and study, both clinically and in the laboratory. Therefore those who would look for good results in their endeavors to define the site and determine the character of pathological conditions of the urinary system should be prepared to spend both time and thought in the elucidation of these problems.

Before detailing an order of procedure in

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diagnosis, it would be in place to speak of the use of the cystoscope, or rather what has been a misuse of that instrument. Knowing a number of instances where the ureter catheterizing cystoscope of different makes and varieties was used as a universal instrument for the exploration of the bladder as well as an aid to diagnosis in ureter and kidney affections, I was led to further inquiry, and experienced the greatest surprise when I learned from the instrument makers how many more ureter catheterizing cystoscopes were sold here in America than those of the simple examining type.

A well-known firm in Berlin, who manufacture the Nitze instrument only, have sold in the United States 800 ureter catheterizing cystoscopes and 350 simple examining cystoscopes. A large importing and manufacturing concern of this city give as their comparative sales: "Three catheterizing cystoscopes

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to one of the plain examining." A New York house has, for some six or seven years, been manufacturing the Tilden Brown composite cystoscope, which consists of a common sheath with telescopic tubes for direct view catheterizing, and a prismatic telescope for observation. This cystoscope has not the unpleasant feature which the prismatic catheterizing instruments have of a shoulder directly behind the beak on the shaft. It is only within the past year that this company has perfected the Otis cystoscope, which is a simple examining instrument of the prismatic type.

This is certainly very suggestive evidence that a good many physicians are buying and using the more complicated instrument who have never learned to handle the simple one. The reason for this is perhaps not difficult to explain. The recommendation and description by the instrument dealers of how the

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ureter catheterizing cystoscope can serve the double purpose of exploring and catheterizing have led many whose knowledge of cystoscopy is mainly theoretical to buy a cystoscope of the catheterizing variety without giving the matter much serious thought.

The following reasons will make evident, I think, why the use of the ureter catheterizing instrument is never justified until indication for its employment has been elicited by the simple prismatic cystoscope.

First. From the standpoint of the patient's comfort, a very important consideration, I believe, there is no catheterizing instrument made that can be introduced with as little discomfort as any one of several simple examining cystoscopes of prismatic type, averaging 21 by the French scale, and with an even, rounded shaft, and a gently angulated beak. All the useful catheterizing cystoscopes are considerably larger of caliber, and

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in some varieties the shoulder near the beak for the egress of the catheter or catheters is an added source of discomfort.

Second, from the operator's standpoint. The simple cystoscope is more readily sterilized. It is more easily handled and introduced. In strictured or naturally small urethræ it is often the only cystoscope that can be introduced. In diseased urethræ, or where there is prostatic enlargement, the minimum of traumatism is important. The simple cystoscope gives a *clearer* and a *larger* field of vision. It is therefore possible to arrive at a much more accurate interpretation of the condition of the bladder, the state of the ureteral orifices, and the character of the fluid emitted.

The knowledge gained by the simple instrument may be sufficient for the diagnosis, and catheterism of the ureters or the use of the catheter cystoscope would then be distinctly

contraindicated. It is only in those cases where a ureteral catheter *has* to be employed that we are justified in the use of the instrument for that purpose. Dr. Max Nitze, of Berlin, makes it an unfailing rule (where the cystoscope is to be used) first to explore the bladder with the simple prismatic instrument. In the writings of Mr. Hurry Fenwick, of London, the simple prismatic cystoscope stands out with such importance in the diagnosis of kidney as well as bladder affections, that one cannot fail to appreciate the great value in his hands of this instrument as a diagnostic means, even to the practical exclusion of the ureter catheterizing cystoscope. If one intends to do cystoscopy and hopes for good results in this line of work, he will first possess himself of, and learn to use, the simple prismatic cystoscope.

A word concerning the use of intravesical urine segregators. There are undoubtedly

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cases where these instruments can be employed to advantage, but never with that accuracy which comes when the urine is collected directly from each ureter with a catheter. When these instruments are used, it is essential to precede their employment by cystoscopy in order to determine whether their use is worth while, as intravesical enlargement of the prostate and abnormally placed ureters render the instruments useless.

Concerning the detection of calculi in the ureter or kidney, the x -rays are probably our most reliable guide, but we must be guarded in our decisions about shadows lying in the path of the ureter. Such shadows have quite frequently of late been seen, and an operation been performed, no stone being found in the ureter. These shadows may be phleboliths, artifacts, or sesamoid bones. By introducing a stylet catheter into the ureter and then taking a radiograph, we can better determine

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the situation of shadows that are apparently those of stones in the ureter.

In setting down the following course of procedures necessary to a diagnosis, the description of instruments and laboratory appliances and of the technique used in their employment is purposely omitted, in order that this paper may not be too long.

Although it is unnecessary to enumerate here all the surgical diseases to which the kidney and ureter are liable, it is well to mention the affections which should always be kept clearly in mind. Renal tuberculosis, primary and unilateral, perhaps heads the list of those conditions which seem to evade a timely diagnosis. The lack of patient and repeated search for the tubercle bacilli and the lack of proper diagnostic measures must be held responsible for failures in diagnosis in the majority of cases. Pyelitis and pyelonephritis, the variety of which complicates and

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so often succeeds the infected bladder, the infection of which is due to urinary obstruction by prostatic enlargement or strictured urethra, must be looked upon as not uncommon. Pyonephrosis is but the terminal stage of the preceding conditions, plus a certain number of hydronephrosis in which infection follows. Other forms of pyelitis and pyelonephritis are those by infection upwards, not consequent upon an obstructed urinary flow, and those in which infection occurs by means of the lymph or blood current. The pyelitis of pregnancy should also be remembered.

The *Bacillus coli communis* is perhaps the commonest bacterial agent. Pyelitis due to the gonococcus may be looked upon as rare. It should be remembered that the renal pelves are made more liable to infection by the presence of calculi.

The diagnosis of kidney stone is perhaps

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less difficult than that of many of the other affections of these organs, but nevertheless many mistakes are made in a too hurried verdict on the supposed condition. Stones in the ureter are looked upon as much more common than they formerly were, and their diagnosis is certainly under better control. The foregoing may represent the conditions usually to be thought of first. Less common surgical diseases of the kidneys are new growths, cysts, actinomycosis, and injuries due to external violence.

Of the ureters, strictures, kinks, and closure of the lumen by the presence of tumors are conditions met with from time to time.

When a patient comes to us with one or more of the following complaints or signs, we naturally turn our attention to the urinary system: Pain along the course of the urinary tract; disturbances of the act of micturition; pathological conditions of the urine evinced

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by the presence of blood, pus, albumin, bacteria, etc.

The first step should be an explanation to the patient of the fact that in troubles of this nature an accurate knowledge of the condition is essential. In many instances it requires patience and time in order to collect the evidence necessary for a diagnosis. Preparing the patient's mind in this way at the outset is much better than promising an early diagnosis and losing the patient's confidence by a failure.

It is folly to give an opinion without having had sufficient opportunity for observation. For example, there are cases where the finding of the tubercle bacilli must determine the lesion, cases in which we must repeat our instrumental examination, cases where fever or pain masks the evidence we seek, and cases where the secretion of the kidneys change from day to day.

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The history, both general and urinary, cannot be too carefully taken and written down. The physical examination should be a general one, not focusing our attention too keenly upon the urinary tract until we have satisfied ourselves as to the patient's condition as a whole. Proceeding then to the genitourinary organs, if the patient is a male, the external urinary meatus is inspected, so that a smear or culture can be taken if it is deemed necessary. He is then requested to pass his urine into two or three glasses. Immediately after this, if the history is suggestive of the presence of residual urine, he is catheterized to determine its amount.

This time for getting the specimens of urine is carefully chosen before we proceed to palpation of the kidneys, ureters, bladder, seminal vesicles, and prostate, otherwise the evidence we seek from the urine, as it is usually passed, might be very considerably

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changed by elements artificially expressed during the palpation of these organs.

Having obtained these preliminary specimens of urine we continue the examination by inspection and palpation. We start with the kidneys, ureters, and bladder. Then the external genitalia are examined, and finally the rectal and bimanual examination of the prostate, seminal vesicles, and bladder is performed. If the patient is a female, the preliminary specimens of urine can be collected by the catheter, after which we can make the physical examination of the urinary organs.

The next step is determined by what we have already learned from the history and physical examination, plus what the physical, chemical, and microscopical examination of the urine shows. If it seems likely that one or the other kidney or ureter is involved, the patient's bladder is explored with the simple

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prismatic cystoscope of the plain irrigating type, as is indicated by the presence or absence of cloudiness in the urine.

When the patient is catheterized before we fill the bladder for the cystoscopy, this opportunity is taken to obtain by sterile means urine which can be subjected to bacteriological examination, if this is necessary.

By the cystoscopic examination we can pretty definitely determine whether the trouble lies in the bladder or above, and if the bladder is not the source of the trouble, we can still more definitely localize the disease by a careful study of the ureteral mouths and of the jets of urine emitted.

If, on the other hand, the bladder is the seat of the trouble, it will be unnecessary to collect the separate urines; and in such cases urinary separation and the use of the ureter catheterizing cystoscopes are contraindicated.

When we have gotten evidence that the

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lesion lies in the urinary tract, higher up than the bladder, and if we require for analysis the secretion of the individual kidneys, or wish to probe the ureters to determine their patency or advance a styletted catheter to get an x -ray picture, we then have the real indication for the cystoscope which has been especially designed for catheterizing the ureters. The use of this in the proper cases is crowned by the happiest results.

After the separate urines have been collected, the relative action of the kidneys noted, and the urines subjected to thorough analysis, chemical, microscopical, and bacteriological, we come to the point where good judgment and a knowledge of pathological anatomy are telling factors in the summing up of the evidence thus far obtained. In cases likely to come to operation, steps to determine the status of the kidneys should be taken before we further consider nephrectomy.

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It is only by such deliberate and methodical steps in history taking, in examination of the patient, physically and instrumentally, and in the complete analysis of the urine that we may hope to come to a satisfactory diagnosis.

In reading this article over in order to determine whether it shall be included in this publication or discarded because of that inevitable rust which permeates our methods and ideas of yesterday, I have decided that it shall cast its lot in with the others chosen, and for this reason: it presents a sequence in the steps taken toward a diagnosis which the experience of the six years since it made its appearance, has emphasized the importance of making a routine.

A few important items have been added to our equipment. The cysto-urethroscope which makes simultaneous inspection of bladder and posterior urethra possible; radio-

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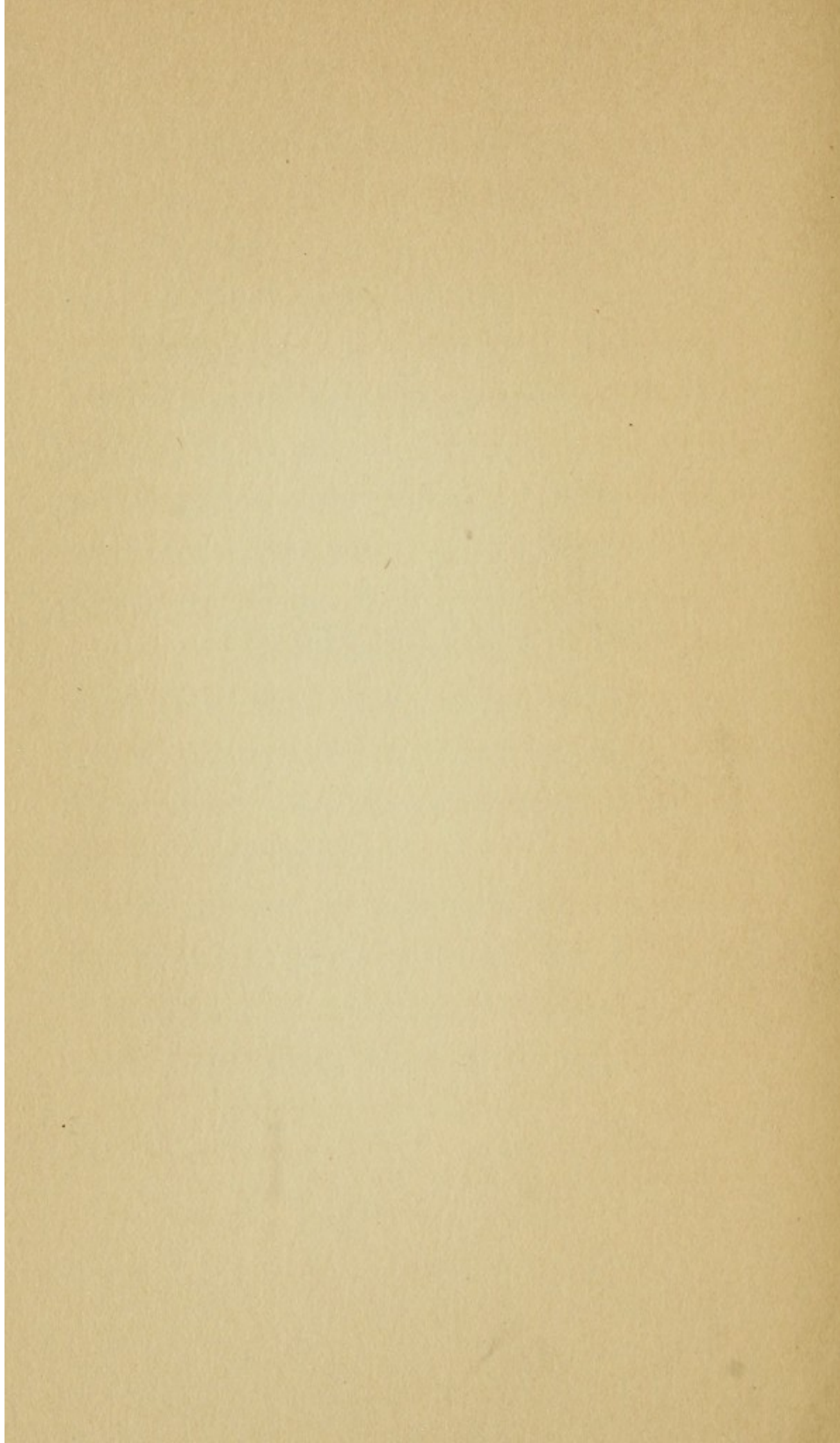
graphic shadows of the urinary tract distended with solutions of silver preparations such as collargol and argyrol; ureteral catheters in which a lead preparation is incorporated; also for the purpose of the x -ray shadow.

Of the phenolsulphonephthalein test mention has been made elsewhere. The older models of the catheterizing cystoscopes have been much improved so that to-day we have an instrument the shaft of which is uninterrupted by that depression near the concavity of the beak which was a source of discomfort and often traumatism. The irrigating system of the newer instruments is easier of control and more efficient.

When we add these items of recent acquisition to our previous store, we find ourselves in possession of considerable riches of diagnostic possibilities, when wisely employed.

V

GONORRHEAL PROSTATITIS



CHAPTER V

GONORRHEAL PROSTATITIS¹

THE constancy with which prostatitis occurs when gonorrhea invades the posterior urethra, and the persistent nature of that inflammation after the subjective symptoms, and the more evident of the objective symptoms, have subsided, give this condition the right to more consideration.

That a gonorrheal inflammation of the posterior urethra ever occurs without involving the prostatic ducts to a greater or less degree seems unlikely. Anatomically, there is little to invite a posterior urethritis to the exclusion of the prostate. The character of the epithelia, the scarcity of mucous glands, and the almost vertical direction of the canal, which is distended so much of the time with

¹ Read before the New York Academy of Medicine (Section on Genitourinary Diseases) November 21, 1906.

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urine and made one with the bladder cavity, are factors against a theory that the prostatic urethra can be affected with a gonorrheal infection without the prostate participating.

Acute gonorrheal prostatitis—the division of this affection into the catarrhal, the follicular, and the parenchymatous forms—may well be accepted as expressing the clinical varieties, providing the tendency of one form to merge into another is appreciated.

CATARRHAL PROSTATITIS

This form is by far the most frequent of the acute varieties. It is highly probable that with every posterior gonorrhea there is some involvement of the prostate and though it may extend but a short distance into the prostatic ducts and be relatively mild, it is obvious that its existence should be appreciated.

The symptoms of catarrhal prostatitis go hand in hand with the symptoms of posterior

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urethritis—the increased desire to urinate, the cloudiness of both portions of urine, and the characteristic small, round and comma-shaped shreds which so often appear. These filaments, when examined microscopically, are usually small plugs or casts made up of mucus, pus cells, cuboidal and cylindrical epithelia, and gonococci. The prostatic origin of these shreds is not difficult to prove. If after a portion of the urine is voided light digital pressure is made on the prostate, the shreds are squeezed into the urethra and carried out with the urine which is then passed.

The danger of manipulating the prostate during an acute inflammation of that organ is ever to be borne in mind on account of its tendency to produce not only an acute epididymitis but an extension of the prostatic involvement as well. The clearing up of the acute posterior urethritis is, I believe, seldom accompanied with a resolution of the catar-

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rhial prostatitis. Its tendency is to go on to a chronic condition.

The diagnosis must usually be made by the urine, as examination of the gland by the rectum frequently fails to show any change in size or consistence or give any areas of tenderness.

FOLLICULAR PROSTATITIS

This may be an extension of the catarrhal form or it may follow directly the onset of an acute urethritis posterior. The process of inflammation extends in a selective way along certain ducts toward the periphery of the gland, and usually in its upper part, there to establish, by purulent or cystic distension of the alveoli, the small nodules or tender areas detected by digital examination. The symptoms accompanying this phase of acute prostatitis are not unlike those of the previous variety—increased and usually painful urina-

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tion, the pain intensified at the close of the act; both urines cloudy; and the comma-shaped shreds, which are seldom absent.

Follicular prostatitis, like the catarrhal, tends to become chronic. The treatment during the acute stage consists in the treatment of the urethritis, by the avoidance of bodily exercise, by the avoidance of local manipulation of the prostate, and by the avoidance of constipation, and the institution of such measures as will tend to reduce the existing congestion and inflammation.

PARENCHYMATOUS PROSTATITIS

In its milder forms this is clinically identified by the hyperemia or congestion of the entire gland. By the rectum the prostate is felt to be evenly swollen and smooth, and its consistence is elastic or edematous, though, from time to time, only one of the lateral lobes is found thus affected.

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Although the organ is distinctly sensitive to pressure there is no sharp pain, but the patient experiences a sense of fullness in the perineum. Urination is made more difficult and painful and defecation is attended with pain and discomfort. There is no fever. The condition under appropriate treatment may subside in a few days and all subjective symptoms disappear or it may go on to chronic prostatitis or take on the progressive course which we recognize as the severer form of parenchymatous prostatitis, and which at times ends in abscess formation. Here we find a patient suffering with a painful sense of pressure and swelling in the perineum and rectum. Micturition usually becomes difficult and painful, though in some cases this is absent, while in other cases there is complete retention. Pain may radiate to the glans penis, to the thighs or across the back. Defecation may be very painful and erections and

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pollutions distressing. Fever may be present and accompanied by chills, though Casper had twenty-one cases which went on to prostatic abscess, and among them only four had a rise of temperature. On palpation the neighboring parts are found extremely sensitive, while the rectal examination of the prostate is exquisitely painful.

The gland is found swollen to twice or four times its normal size. It feels hot and is hard and tense, being sharply defined against the surrounding softer structures. Its surface is smooth, seldom irregular and one side only may be affected.

Notwithstanding the severity of the process, it may not go on to abscess formation, but, in from one to two weeks, the symptoms may subside and resolution take place. This, fortunately, occurs in the larger proportion of cases, which then go on to a chronic condition.

When suppuration does occur, the clinical

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picture usually becomes intensified. The pain on urination is increased, ischuria is common and the prostate becomes a pulsating and painful tumor. Rectal tenesmus is constant. The temperature rises, the tongue becomes dry, thirst is intense and the appetite gone; headache and backache ensue. Thrombosis of the periprostatic venous plexus, or in the prostatic veins themselves, may take place and go on to a typical occurrence of pyemia. It is usually not difficult to detect suppuration in the inflamed prostate.

Surgical interference is at this moment demanded. If it is delayed, the abscess usually empties itself, and most commonly into the urethra. The urine then becomes loaded with the products of suppuration, and the fever, the dysuria and the rectal tenesmus rapidly subside. It may be that the evacuation of pus is incomplete, and in this instance the disappearance of symptoms is delayed

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and the process may proceed to a chronic condition. Complications, such as infiltration of urine, gangrene, chronic septicemia, or fistula, at times ensue.

Next in frequency to the urethra as an exit for the pus, come the rectum and the perineum in the order given. In Segond's collection of 102 cases, perforation occurred sixty-four times into the urethra, forty-three times into the rectum, fifteen times into the perineum, eight times into the ischiorectal space, three times in the inguinal region, twice through the obturator foramen and once each through the navel, through the ischiatic foramen, at the border of a false rib, into the abdominal cavity and into the space of Retzius. The after-results of prostatic abscess may be chronic suppuration, neurasthenia, impotentia generandi, stricture of the rectum, etc. It is to be borne in mind that besides the complications which not infrequently attend suppurative

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prostatitis the mortality is considerable. In the 102 cases of Segond's referred to above, there was a 34 per cent. death rate. This is, however, considered very much too high according to other observers.

The treatment of these severer forms of parenchymatous prostatitis is both general and local. The patient should be put to bed, a light diet given and the lower bowel kept empty. Urinary antiseptics should be given and warm applications or sitz baths prescribed. Early in the process the direct application of cold to the prostate by means of one of the instruments designed for that purpose is often apparently of great benefit. The severer pain and dysuria must be controlled by opium or its alkaloids. A complete retention of urine demands catheterization. With the breaking down of the process into abscess formation comes the necessity for surgical relief.

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CHRONIC PROSTATITIS

This condition assumes a degree of importance which the acute varieties cannot approach. On the score of infectiousness acute prostatitis is little to be feared, as the active and painful nature of the condition renders the individual practically incapable of sexual intercourse. On the other hand, chronic prostatitis, which is so often wholly devoid of subjective symptoms, is probably a fertile source of the infection of women. In this connection it is to be especially noted that the great majority if not all of the acute inflammations of the prostate pass on to a chronic condition.

To divide chronic prostatitis, of which the chief etiologic factor is the gonococcus, into pathological and clinical varieties is of little moment. Clinically, the disease gives little evidence that can be put down as surely

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characteristic of one or another variety, and pathologically we usually find, in the same prostate, changes belonging to various forms of inflammation. At the same time the fact is not to be overlooked that chronic gonorrheal prostatitis varies much in degree and in resistance to treatment.

Symptoms. — The majority of cases of chronic prostatitis run a mild course without subjective symptoms, the patients voiding perfectly clear urine. In others the symptoms are so well masked by the persistence of a urethritis that a precise diagnosis is difficult. In the remaining class, however, some of the characteristic symptoms appear: Disturbance of urination, the changes in the sexual function, abnormal sensations, referred pains, neurasthenia, suffering from pains across the back, down the thighs or in the testicles, constipation, pain before and after defecation, headache and mental depression. With some

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patients frequency of micturition, which may be attended with pain, is the most prominent symptom and to this may be added the sense of not having completely emptied the bladder. With other patients the disturbances of the sexual function seems to stand out as the chief difficulty, such as absence of normal sensation at the moment of ejaculation, pain with the seminal discharge, distressing and persistent erections at night, premature ejaculations and decreasing sexual ability. It is in these individuals that we most frequently see the best marked types of sexual neurasthenia.

Some authors hold that prostatorrhea is one of the chief symptoms of chronic prostatitis. The writer's experience coincides with those who consider prostatorrhea as an unusual occurrence in this condition. The combination of chronic prostatitis and cystitis is by no means uncommon. In these cases the treatment of cystitis without recognition of the

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prostatitis, and attention to it, proves very disappointing.

All cases of persistent urethral discharge or a persistent morning drop or those cases with a chronic and constantly recurring discharge, should be suspected and examined for prostatitis.

Diagnosis.—Although the subjective symptoms give a valuable clue to the condition, an exact diagnosis cannot be made without digital exploration of the prostate by the rectum and what is more important, microscopic examination of the expressed prostatic secretion.

A knowledge of how the normal gland should feel in the different periods of life is essential to the appreciation of size, configuration, consistence and sensitiveness of the diseased organ. The changes in prostatitis noted by palpation are many. The gland is usually larger than normal, although this is by no means always the case, for in some

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instances it is found markedly atrophic. Frequently one lateral lobe only is affected, or the organ may be very irregular in outline and feel as though it were made up of many lobes. Nodulation may be abundant or there may be but one or two nodes and these may vary in size, consistence and location, but they are usually about the size of a pea, hard, and situated nearer the upper part of the gland. The general enlargement of the prostate which results from a parenchymatous prostatitis usually gives an edematous feel to the organ, having lost its normal firm and elastic consistence, it becomes, as some authors put it, flabby, this varying much in degree.

The condition following the follicular form is varied. The gland, as a rule, is not so large as in the post-parenchymatous condition, but is usually harder, while here and there distinctly soft spots may be felt and the nodules are few or many, localized or scattered, as

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the case may be. Where there has been supuration with escape of the pus, involving the whole gland, or one lateral lobe, or as in the follicular variety, small areas, the characteristic changes of contraction and firm cicatrices result and give that sense to the examining finger. In other cases there is no change in the prostate that can be appreciated by digital exploration, and no degree of sensitiveness; in these cases the diagnosis depends alone on the study of the prostatic fluid. Pain on palpation of the prostate is generally a sign of disease, but by no means always, and painful areas are not infrequently found in prostates otherwise negative to the digital touch.

The secretion which is collected at the external urinary meatus upon digital compression of the prostate, after the urethra has been cleansed by urination or irrigation, consists normally of a thin, milky fluid, at times slightly viscid. Its specific gravity is but

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little higher than that of water, it is usually faintly alkaline to the litmus test, and consists microscopically of lecithin globules, varying in size and usually present in great numbers, and epithelia which are partly cuboidal and partly columnar. A few leucocytes are normally present and occasionally some red corpuscles. Hyaline bodies of considerable diameter and the so-called *corpora amylacea* are not infrequently seen.

The changes from normal which most commonly take place in the prostatic fluid are in consistence and color. It becomes thicker, often flaky and yellowish or greenish-yellow from the addition of pus. Under the microscope there are added to the field of lecithin bodies pus corpuscles in varying numbers, scattered or in clumps, depending on the extent or kind of inflammation. In like manner epithelia from the ducts and alveoli are added, and these in different stages of degen-

eration. Fat globules may be seen free in the field or in the epithelia or pus cells.

The *corpora amylacea* seem to be much less frequently seen in gonorrheal prostatitis. It is to be especially remembered that as long as the presence of pus cells can be demonstrated a pathologic condition exists. Gonococci may be found in the pus cells and the fact that we cannot find them is not proof of their complete disappearance.

Prognosis.—When is the danger of infecting others past? When is a chronic gonorrheal prostatitis cured? To these questions no clean cut answer can be given.

When the urine contains no more shreds or other abnormal elements, and the prostatic fluid is free from pus cells, and repeated search for gonococci with the microscope and by culture test fails, certainly we have no grounds on which to maintain that the patient is still afflicted with an infectious disease. But on

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the other hand, we cannot positively say that such individuals have become noninfectious.

After a few months or a year we find, in a large number of the cases, the presence of gonococci impossible of proof. Unfortunately, the mixed infection, which almost always complicates these cases, renders the task of clearing the prostatic fluid of pus cells exceedingly difficult, if not impossible. Although it has been stated that so long as pus cells remain a pathologic condition exists, yet experience has taught that these cases are by no means always infectious.

From the observation of 120 cases, von Notthaft has come to the following conclusions:

1. In the second half year after the infection there was 73 per cent. of the cases in which the gonococci could be proved to be present in the prostatic secretion. In the third half year this percentage fell to 50, in the fourth half year to 18, in the third year to 6. From the

end of the third year no gonococci could be found in the prostatic secretion.

2. In the second half year there were other bacteria besides gonococci found in the prostatic secretion. In the fourth half year there were no cases in which a pure gonococcic infection could be demonstrated.

In a few patients from whom the writer made cultures the results were in accord with Notthaft's series so far as mixed infection was concerned, but in none of the writer's cases were gonococci found by either the microscope or culture, yet in five cases out of the eight, considerably over 50 per cent., the infection was less than eighteen months old. In seven out of the eight cases there was a growth of *Staphylococcus albus*, and in two of these there was added a growth of *Bacillus xerosis*. In one case there was no growth.

The conclusions to be drawn are that there is

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difficulty in proving the presence of gonococci in these older cases of chronic gonorrheal prostatitis, and that other organisms play an active part in the bacteriology of this affection.

Treatment.—Where a urethritis exists, either anterior or posterior, therapeutic measures designed for the cure of this condition must be instituted. For the treatment of the chronically diseased prostate, massage of that organ by the rectum, constitutes the most important element of the treatment. The bladder should be filled with some such mildly astringent antiseptic as protargol, $1/2$ of 1 per cent. solution. In very many cases dilatation of the prostatic urethra, either by sound or dilator, is helpful in the treatment by virtue of the internal massage and stretching it exerts, especially on the mouths of the prostatic ducts.

Digital massage, to be useful, must be done in a systematic and purposeful manner.

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Starting at the external upper part of the lateral lobe, the massaging finger-tip works its way toward the median line of the gland, again it is carried to the external border, immediately below the previous path of massage, and again worked toward the center. This is continued until each lateral lobe has been thoroughly gone over. Then the finger is swept over the lateral lobes downward and toward the center, emphasizing the pressure brought to bear on the median line, that the secretion may thus better be expressed into the urethra. The patient then voids the solution which has been left in the bladder, which thus washes out the urethra and comes in contact with the recently emptied prostatic ducts, which as some think, may take up some of the solution on the principle of a sponge which has been compressed and is allowed to expand while in contact with a fluid. This massage has two distinctly beneficial elements. It empties the

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alveoli and their ducts of the perverted secretions which have accumulated, and it stimulates a more active circulation throughout the entire gland.

Again a warning against the danger of extending the process in massaging a prostate in which there still exists any active inflammation.

The massage which is done very gently at first, should be repeated once, twice or sometimes three times a week, depending on the necessity of the case. A few weeks' period of treatment for the milder cases up to many months of treatment for the severer cases, is required. Besides massage, such measures as electricity or heat and cold applied to the prostate may in certain instances be helpful. Medicinal suppositories as ichthyol, have a useful place in the treatment of prostatitis.

The advancement of the patient's general condition cannot be neglected and freedom

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from worry or other untoward influences must be secured. Favorable progress of the prostatitis is appreciated partly by the changes in the gland felt by the rectum, but more especially by the study of the prostatic elements microscopically. Improvement in subjective symptoms is unreliable.

Although the treatment is usually long and trying, taxing the patience of the physician and his patient, yet with well directed and conscientious care on the part of the physician and earnest cooperation on the part of the patient, the latter will be freed, in the greater majority of cases, from the danger of infectiousness and other consequences of chronic gonorrheal prostatitis.

Since this paper was written my ideas as to the treatment of chronic gonorrheal prostatitis have undergone some changes, until to-day I find myself no longer believing in the continu-

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ous treatment by massage, etc., of these patients. Although the mode of such local treatment has not been improved upon, the manner of application has. At present I find it better to give these patients their treatment intermittently—three or four weeks' treatment, then three or four weeks' rest. The value of promoting a cheerful and hopeful frame of mind and the encouragement of agreeable outdoor recreation and the establishment of more normal ways of living generally, I try to impress upon my patients is probably of more value than the local treatment, or in other words, without this general improvement in one's ways of living the local treatment is oftentimes of little or no use.

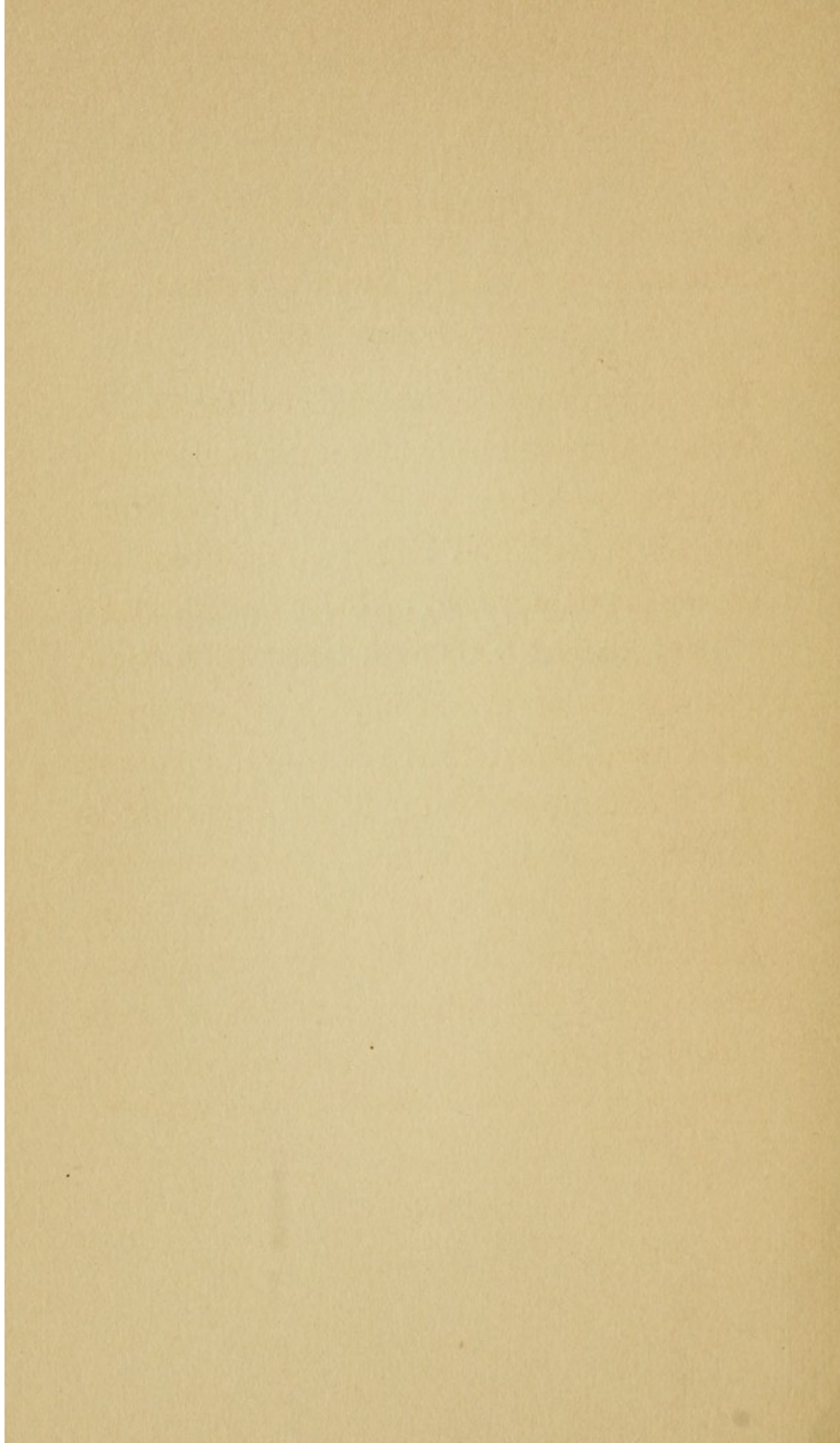
In many of the cases with long standing disease and no sign of improvement under the foregoing régime, nothing short of a complete change of living conditions is of any avail and these patients should be sent

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from the city and put under precisely the same influence of environment as is the tuberculous individual, if we hope to arrest the slow and insidious process of glandular destruction and look for a satisfactory improvement and perhaps cure.

VI

COMPARATIVE VALUE OF SOME URETHRAL AND OTHER GERMICIDES



CHAPTER VI

COMPARATIVE VALUE OF SOME URETHRAL AND OTHER GERMICIDES¹

THE experiments conducted by Dr. L. A. Wylie and myself which form the basis of this contribution were done under the kind direction of Dr. Charles Norris, director of the pathologic department of Bellevue Hospital.

The method employed was as follows: To 2 c.c. of the various dilutions of antiseptics to be tested, were added 2 c.c. of salt emulsion of the organisms used. It will immediately be seen that this procedure diluted to one-half the antiseptic solution. To equalize this, double the strength of the antiseptic solution was used. The silver preparations were bought in original bottles and prepared ac-

¹Read before the American Association of Genitourinary Surgeons, New York, June 1, 1911.

according to directions. The liquor cresolis compositus, under the commercial name of lysol, was from the hospital drug supply.

In the case of each organism but a single strain was employed. Controls for each organism were made and the average number of colonies, per plate, were noted. The tubes in which the bacteria were exposed to the different solutions of the different germicides, were left for a period of five, fifteen and thirty minutes, respectively. Then one loopful from each tube was mixed into a tube of acetic agar and poured into a sterile Petri dish. These were incubated at 37 c. and observed at the end of twenty-four and forty-eight hours. The accompanying results are tabulated after the manner of Post and Nicoll, whose tables appear in *The Journal of the American Medical Association*, lv, 1635.

In the case of argyrol, it is to be noted that our results are not in accord with those of

URETHRAL AND OTHER GERMICIDES

others whose results we have reviewed. We have no explanation for this difference.

It has already been demonstrated by a number of laboratory workers that the killing power *in vitro* of the several silver preparations is weak or nil as compared with the action of silver nitrate.

It would seem superfluous to add another protest to the list were it not for the deep root this idea has taken that the silver preparations hold some peculiar power not possessed by silver nitrate in its various degrees of dilution.

The majority of these silver preparations seem to hold a peculiar innocuousness which, along with their taking color in solution, play a part in urethral medication which fortunately interferes very little with Nature's efforts toward recovery. In fact, they have constituted a means of cleansing the surface, of dilating the urethral canal, and, in the case of the more irritating members of their

URETHRAL AND OTHER GERMICIDES

large family, of causing mild and transient hyperemia, which is a real augment to Nature's plan.

For the privilege of subscribing to their use the dues are about fifty times larger than when an equally efficient dilution of silver nitrate is chosen. This is a consideration when supplying a large hospital.

Bellevue and Allied Hospital spent last year:

For silver nitrate.....	\$ 108.00
For collargolum.....	25.00
For protargol.....	224.00
For argyrol.....	910.00
<hr/>	
Total.....	\$1,267.00

To determine the power of penetration, Wildbolz, of Bern, has done a series of experiments with silver nitrate and protargol on the living mucous membranes of the eye and urethra in dogs—a reduction of the silver being accomplished by exposure to a Finsen light. In the urethra he used 1:1000 to

URETHRAL AND OTHER GERMICIDES

1:100 silver nitrate and 1 per cent. to 3 per cent. protargol solutions. There was some penetration of the metal down to the subepithelial tissue. In penetrating power, the silver nitrate easily predominated.

NUMBER OF COLONIES IN ONE LOOPFUL TEST SOLUTION AFTER TWENTY-FOUR HOURS' INCUBATION

Solution			5	15	30
			Min.	Min.	Min.
Argyrol.....	30 per cent.	Strep.....	0	0	0
"	30 per cent.	Staph.....	0	0	0
"	30 per cent.	B. coli.....	0	0	0
"	30 per cent.	Gon.....	70	50	10
"	10 per cent.	Strep.....	4	0	0
"	10 per cent.	Staph.....	0	0	0
"	10 per cent.	B. coli.....	0	0	0
"	10 per cent.	Gon.....	90	70	50
"	1 per cent.	Strep.....	50	35	35
"	1 per cent.	Staph.....	100	75	100
"	1 per cent.	B. coli.....	1,500	500	100
"	1 per cent.	Gon.....	120	50	25
Protargol.....	10 per cent.	Strep.....	25	20	20
"	10 per cent.	Staph.....	100	1	75
"	10 per cent.	B. coli.....	0	0	0
"	10 per cent.	Gon.....	30	15	25
"	5 per cent.	Strep.....	49	31	26
"	5 per cent.	Staph.....	150	50	50
"	5 per cent.	B. coli.....	0	100	25

URETHRAL AND OTHER GERMICIDES

Solution		Organism	5 Min.	15 Min.	30 Min.
Protargol	5 per cent.	Gon.	90	50	35
"	1 per cent.	Strep.	48	44	39
"	1 per cent.	Staph.	∞	200	150
"	1 per cent.	B. coli.	1,000	700	200
"	1 per cent.	Gon.	100	35	25
Silver nitrate. . .	2 per cent.	Strep.	0	0	0
"	2 per cent.	Staph.	0	0	0
"	2 per cent.	B. coli.	0	0	0
"	2 per cent.	Gon.	0	0	0
"	1 per cent.	Strep.	6	5	0
"	1 per cent.	Staph.	0	0	0
"	1 per cent.	B. coli.	10	15	50
"	1 per cent.	Gon.	0	0	0
"	1/2 per cent.	Strep.	10	8	0
"	1/2 per cent.	Staph.	0	0	0
"	1/2 per cent.	B. coli.	100	36	10
"	1/2 per cent.	Gon.	0	0	0
"	1 to 1,000	Strep.	15	70	6
"	1 to 1,000	Staph.	7	14	5
"	1 to 1,000	B. coli.	600	500	300
"	1 to 1,000	Gon.	0	0	0
"	1 to 5,000	Strep.	23	40	15
"	1 to 5,000	Staph.	10	6	3
"	1 to 5,000	B. coli.	1,000	5,000	5,000
"	1 to 5,000	Gon.	0	0	0
"	1 to 10,000	Strep.	44	26	50
"	1 to 10,000	Staph.	22	5	3
"	1 to 10,000	B. coli.	∞	∞	∞
"	1 to 10,000	Gon.	525	40	20

URETHRAL AND OTHER GERMICIDES

Solution			5	15	30
Organism			Min.	Min.	Min.
Cresol Comp....	10 per cent.	Strep.....	0	0	0
"	10 per cent.	Staph.....	0	0	0
"	10 per cent.	B. coli.....	0	0	0
"	10 per cent.	Gon.....	0	0	0
"	5 per cent.	Strep.....	0	0	0
"	5 per cent.	Staph.....	0	0	0
"	5 per cent.	B. coli.....	0	0	0
"	5 per cent.	Gon.....	0	0	0
"	2.5 per cent.	Strep.....	0	0	0
"	2.5 per cent.	Staph.....	5	0	0
"	2.5 per cent.	B. coli.....	0	0	0
"	2.5 per cent.	Gon.....	0	0	0
"	1.2 per cent.	Strep.....	0	0	0
"	1.2 per cent.	Staph.....	4	0	0
"	1.2 per cent.	B. coli.....	200	0	0
"	1.2 per cent.	Gon.....	550	300	0
"	0.5 per cent.	Strep.....	3	0	0
"	0.5 per cent.	Staph.....	8	0	0
"	0.5 per cent.	B. coli.....	∞	40	16
"	0.5 per cent.	Gon.....	600	500	100
Collargolum...	2.5 per cent.	Strep.....	15	8	0
"	2.5 per cent.	Staph.....	15	1	0
"	2.5 per cent.	B. coli.....	0	0	0
"	2.5 per cent.	Gon.....	80	100	15
"	1.25 per cent.	Strep.....	25	12	10
"	1.25 per cent.	Staph.....	∞	100	100
"	1.25 per cent.	B. coli.....	0	100	100
"	1.25 per cent.	Gon.....	120	100	75
Cargentos....	20 per cent.	Strep.....	0	0	0
"	20 per cent.	Staph.....	7	0	0

URETHRAL AND OTHER GERMICIDES

Solution		Organism	5 Min.	15 Min.	30 Min.
Cargentos	20 per cent.	B. coli	0	0	0
"	20 per cent.	Gon	18	10	0
"	5 per cent.	Strep	28	20	15
"	5 per cent.	Staph	50	2	20
"	5 per cent.	B. coli	0	0	0
"	5 per cent.	Gon	75	0	50

∞ = Infinite number of colonies per plate.

As to the value of antiseptics penetrating below the surface: In order to check up the work of other experimenters, Derby, of Boston, made a series of observations as follows: He took samples of sterile hydrocele fluid and bovine serum; to 1 c.c. of the serum he mixed 1 c.c. of the silver preparation to be tested and to this he exposed the staphylococcus. The nitrate of silver, 2 per cent., showed a growth of the organisms after an exposure of from thirty to forty minutes; the protargol, 8 per cent., after sixty minutes; the argyrol, 50 per cent., gave an abundant growth after three and one-half hours. Other preparations showed the same results.

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This goes to show how completely the body fluids can destroy the bactericidal power of antiseptics when brought into contact with them, and how little advantage there can be in a drug having the power to penetrate below the surface.

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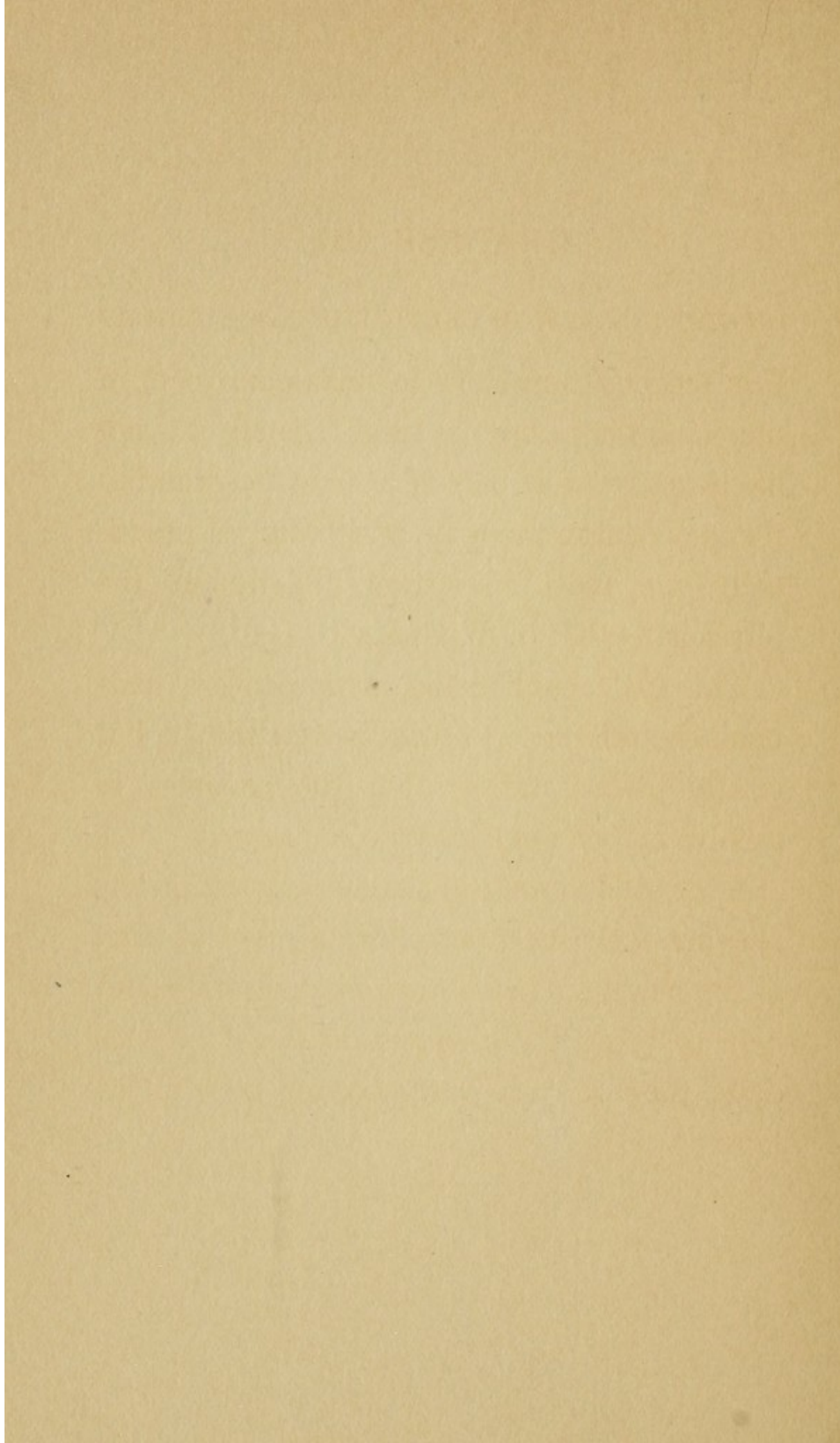
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VII

ON WHAT IS NEW IN GENITOURINARY
SURGERY



CHAPTER VII

ON WHAT IS NEW IN GENITOURINARY SURGERY

FOR recent attainments in this department of medicine the public, at large, though it is not likely to know it, has reason to be grateful, for they deal in the main with what is practically the most important function of the physician—that of diagnosis.

This little book being in no sense a textbook the reference to what is new will be but tersely given; merely that the progress in this branch of work may be remarked.

Appended to some of the essays mention has been made or short descriptions given of such of the newer methods or appliances as would help to bring the subjects dealt with up-to-date, they will on that account be omitted here.

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The intra-vesical treatment of papillomata by means of a high frequency current spark has arrested the attention of the genito-urinary surgeon—and wisely, for the results of the cutting operation for these growths has been far from satisfactory owing to the frequency of their recurrence and the alarming percentage of their malignancy. The application of the high frequency (Oudin) current spark to these tumors is a simple procedure carried out by passing the insulated wire through the catheter canal of a cystoscope and the growth thus cauterized. The operation causes little or no more discomfort than an ordinary cystoscopy for ureter catheterization and one to three or four applications of a few seconds to a few minutes has been sufficient in the majority of cases thus far reported to effect a complete disappearance of the tumor. Although the cases have been too few and the time too short to speak

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definitely as to the permanency of the cure two things are certain, a major operation under general anesthesia is avoided and there is no bladder scar to invite a recurrence.

It would seem unnecessary to add that the most promising results are to be expected from young growths not deeply rooted. In this connection it might be said to those who have an eye open for urinary ills, *verbum sat sapienti*. For this mode of treating bladder tumors we are indebted to Edwin Beer, of New York.

When the news of a complement-fixation test for the diagnosis of gonococcic infections made itself heard, there was reason for rejoicing, even before it was proved to be of any value there was reason for rejoicing, for here was evidence of serious thought and scientific interest being bestowed on this disdained and neglected diplococcus. It is hardly a year since Schwartz and McNeil

published their experiments applying the complement-fixation test to 324 human sera. The results of these experiments give promise of much needed aid in the diagnosis of certain chronic gonococcic infections, the very cases in which we are in most need of more definite data, in order to affirm or dispel the fear of the lingering infection.

The subject of the treatment of gonococcic infections with vaccines or bacterins is, as yet, not concluded. Painstaking work is still being pushed along this line, but at present, with the possible exception of the joint cases, there is little definite evidence to encourage the thought that a distinctly useful means of therapy has been found.

The last six or seven years' trial of tuberculin in genitourinary tuberculosis has lightened the burden of prognosis encouragingly.

In the shortness of this chapter no injustice to the subjects has been intended; they are too

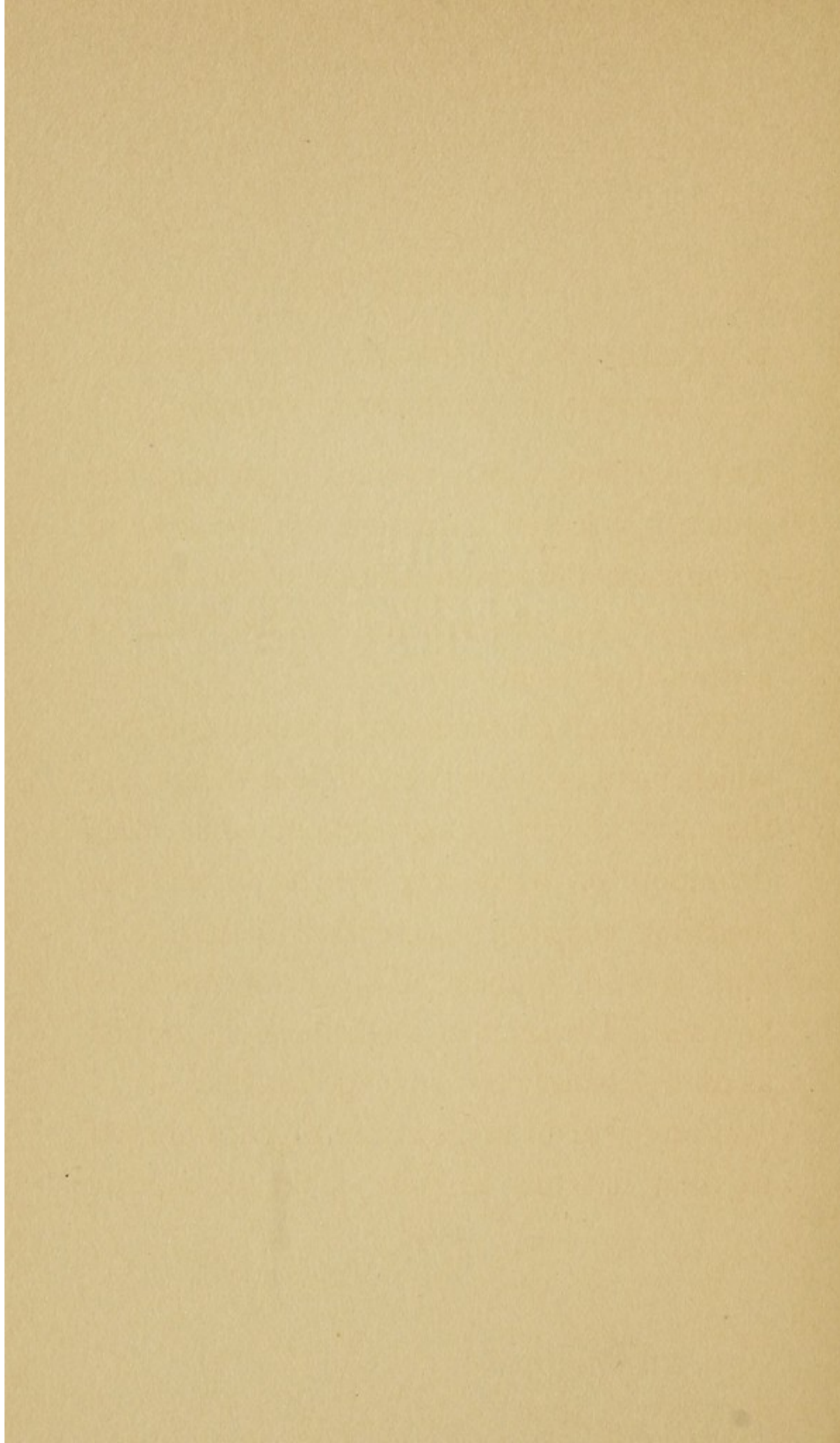
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important to be but partially described; to have dealt in detail with them would have carried this small volume beyond its design, therefore, they have been but mentioned.

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VIII

IS GENITOURINARY SURGERY JUSTIFIED
AS A SPECIAL BRANCH OF MEDICINE?



CHAPTER VIII

IS GENITOURINARY SURGERY JUSTIFIED AS A SPECIAL BRANCH OF MEDICINE?

THE extent to which medical knowledge has grown has forced a division, for the sake of progression and administration, of that knowledge; yet we still remain saddled with an awkward problem.

That which constitutes a specialty and that which justifies it are two different things; yet they are in very close relation. The clear definition of what any special branch of medicine consists is essential to the life of that special branch. The justification of any special branch of medicine is its results as an organized body in a special field.

If any general surgeon can prepare himself to treat flat feet as well as the orthopedic

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surgeon, it makes very little difference to the department of orthopedic surgery; but, if the department of general surgery prepares itself as a body to treat flat feet as well or better than the orthopedic surgeons can, the orthopedic surgeons are threatened with the loss of their flat feet—and justly.

This hints an analogy to the genitourinary surgeon if he would have his specialty justified as a distinct entity. If the genitourinary surgeons lack the opportunity of being equally skilled in the major operating pertaining to their special field with those in other fields who include portions of the genitourinary system with their own work, would not an extension of the genitourinary work into other fields of labor be advisable?

If it is going to be to the best advantage of patients to have their kidneys, ureters or bladder operated upon by the general surgeon or gynecologist then the question of whether

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genitourinary surgery is justified as a specialty can be promptly answered in the negative. One thing cannot be lost sight of: if scientific advancement is to be a consideration, the responsibility of such refinement of diagnosis as is obtainable to-day must fall upon whoever essays to bring these cases to their logical conclusion. There is one more thing which is of especial interest to the patient in this connection and which cannot be lost sight of—that is the many cutting operations which have been entirely obviated by the use of various cystoscopes, cautery, ureter catheters, functional kidney tests and other bladder and urethral instruments in the hands of those trained in this work.

The situation of the gynecologist here in this country has an interesting relationship to this problem. As a body they are without the diagnostic training in the urinary system to justify their including the urinary organs

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in their special field of work. In consequence of this the genitourinary surgeon finds he has much to do with the female urinary tract; and much of his operative work falls in this field. In consequence of these things would it be strange if genitourinary surgery came to include the genital as well as the urinary organs of both sexes? Would not this help in the general advancement of the cause as well as lend a broadening effect to the character of surgical work as a whole?

If the situation of American gynecology to-day holds an interesting relationship to genitourinary surgery, the position of general surgery in this relation is even more interesting; for here we have a large class of the medical profession, so many of whom are frankly including the surgical care of the genitourinary organs in their field of work; without apparently seeking to avoid the many costly errors which arise from the lack of training neces-

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sary to the accurate diagnosis of diseases of these organs; which they profess themselves capable of caring for to the best interests of their patients.

The foregoing but reflects a feeling and speaks a healthy discontent—looking to better things.

One thing seems certain, that conditions are breeding a larger type of man for genito-urinary surgery; and there is little doubt that, with the broader education of the medical profession to the rapid advance in genito-urinary surgery in the past ten or twelve years, the up-to-date hospitals in the larger cities will see to it that there is a department and a provision of beds for the proper study and care of these cases.

To gain a moment's detachment from that narrower viewpoint which is apparently but looking to the advance of but a part of the whole, will perhaps be helpful.

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It was not so very long ago that the practice of the art of medicine was but a one man's task. All that was useful of medical knowledge could be carried in one man's brain. All that was necessary for technical application could be mastered by one man's skill. This meant a coordination of the parts of that knowledge with a single administration centre. The result meant a minimum loss of energy and the strength of such a position can only be appreciated by comparing it with the state of affairs which exist in medicine to-day. Could we but possess an appreciable something which could be called a *unit of medical energy*, by such a measure we could draw a graphic picture of the loss that has been suffered by the splitting up of medical knowledge and the disappearance of an administrative head.

This brings us face to face with perhaps the most important problem of the medical

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profession of to-day. The splitting up of medical knowledge; the establishment of separate branches of that knowledge we know were inevitable steps in the evolution of this branch of learning; but, to have lost our head should not have been included in the process. The present transition stage of urban medicine might almost be likened to a river flowing backward; draining an ocean of knowledge and disappearing in rivulets, with the public bathing in the intermediate marshes of chicanery.

If the medical profession is to be useful to the public for whom it is designed; in proportion to the treasures of its present knowledge and skill; it will have to administer this knowledge by means of harmonious groups of its individual members, brought together so as to represent the sum of its attainment.

Until this time comes the justification of any special branch of medicine or surgery must

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be according to such good results as our present inadequate system of independent specialties is able to show.

IX

THE BY-WAYS OF PROSTATECTOMY

THE HISTORY OF THE

CHAPTER IX

THE BY-WAYS OF PROSTATECTOMY

PROSTATECTOMY is a live, up-to-date subject, even though it deals with the decadent end of human existence, and although our present age is sometimes called a commercial age, it has not in the slightest deterred the progress of the surgeons' art in this direction.

The argument as between "catheter life" and prostatectomy in the majority of cases has sunk to almost nothingness in favor of the latter. The worthiness of relieving these aged sufferers of their pelvic predicament by removal of the prostate seems pretty well proven, even after discounting the statistics compiled from carefully selected cases.

Whatever may be said against the method so much in vogue to-day of adopting for one's

BY-WAYS OF PROSTATECTOMY

own use some one of the several ways of prostatic removal to the exclusion of all other forms of the operation, there is this to be said most emphatically in its favor—that it tends to give the operator the faculty of reducing traumatism and time to the minimum. In hardly any other operation in surgery is the importance of this so distinct. It cuts to the narrowest limits for these aged patients the period of anesthesia, the amount of bleeding and the degree of surgical shock.

It is not difficult to conceive that most cases of subsequent incontinence take origin from the pre-operative state, therefore to prolong the operation by some trivial variation in technic in the hopes of forestalling this consequence—is a questionable hazard. To indulge in refinement of dissection, designed to preserve sexual potency, would seem hardly likely to capture the fancy of most of these aged invalids—considering the stake.

BY-WAYS OF PROSTATECTOMY

To dwell on the importance of a rapid operation is well enough, but to bring into view the possibilities of the pre-operative and post-operative attention is the only way to get a perspective of the brilliancy of the results obtainable in the surgical care of prostatic hypertrophy and obstruction of the aged.

Here the special training of the genito-urinary surgeon seems to be of some advantage. In considering the pre-operative period, *i.e.*, the care of the patients leading up to the operation—by way of illustration, the cases may be divided in two classes.

The first class may, in reality, be a first-class surgical risk, in good, general health without cardiac, arterial or renal impairment beyond the loss of resiliency to be looked for at that age; the patients in no way worn by a urinary infection or by undue frequency of micturition; these are the good statistic makers for whoever operates on them.

BY-WAYS OF PROSTATECTOMY

The second class present a different problem. In this class drop the cases which are *not* good surgical risks; aside from their cardio-vascular systems which may hold a warning, their renal integrity has not only suffered permanent changes, but is under the influence of a functional impairment due directly to the urinary obstruction and infection. Add this general systemic influence of faulty renal elimination to the influence of sleeplessness, dysuria, obstipation and septic absorption in a subject already feeble from advanced age and the picture from a surgical viewpoint looks unpromising; and yet, what may be accomplished for these patients by way of turning them into fairly good surgical risks is oftentimes surprising.

To gain the prize in these cases one must advance slowly and with caution. To put these patients in bed, unless already bedridden, is to invite the machinery to lay

BY-WAYS OF PROSTATECTOMY

down its burden. To shock the patients with sudden and violent catharsis is an error which is sometimes a fatal error. The bladder is to be drained with a catheter, urinary antiseptics are to be employed to the end that the back pressure on the kidneys is relieved that their congestion may subside, that their function of elimination may be slowly resumed, that septic absorption may cease. To burden these kidneys by giving excessively of water to drink is to force them without purpose; gentle diaphoresis, if indicated, is of more advantage. As to a preliminary general anesthesia and operation to open the bladder supra-pubically or perineally for the purpose of drainage or to shorten another operation, is, in the writer's humble opinion, without excuse; to inflict that added surgical shock on an aged, septic and feeble individual is to court a fatal issue as a final result. The drainage can be accomplished

BY-WAYS OF PROSTATECTOMY

with a catheter or a quick supra-pubic section under local anesthesia, if need be.

The preparation of the patient for the operation should not be left to attendants versed only in getting ready of younger adults, with good margin of vitality. Food of a liquid nature and drink should be given up to within a few hours of the anesthesia or just so the stomach will be empty; that the shock of fasting is not felt. The pre-operative catharsis should be led up to gently for a couple of days before operation and, finally, a rectal irrigation can be carefully given just before operating. An opiate an hour or two before the anesthesia smooths the way.

Of the operation itself we have made mention. The anesthesia is another chapter to be put in the hands of an expert on anesthesia.

The post-operative care of these patients begins the minute the operation is completed.

BY-WAYS OF PROSTATECTOMY

As gently as these patients are led to operation, as gently are they to be led away from it. The careless loss of body heat through exposure is to be avoided. A "good quality" of pulse is to be made sure of—if need be by intravenous administration of saline solution. The patient is allowed to come out of his light anesthesia without disturbance. Thirst is to be quenched by water and small quantities of liquid food given as soon as the stomach is ready for it. Restlessness is to be relieved by a further administration of morphine if this is worrying the patient; for the wear and tear of such restlessness is more costly than the effect of a little anodyne. In twenty-four hours, or as soon as possible, he should be sitting up, with a watch kept on the pulse and the patient for signs of undue fatigue.

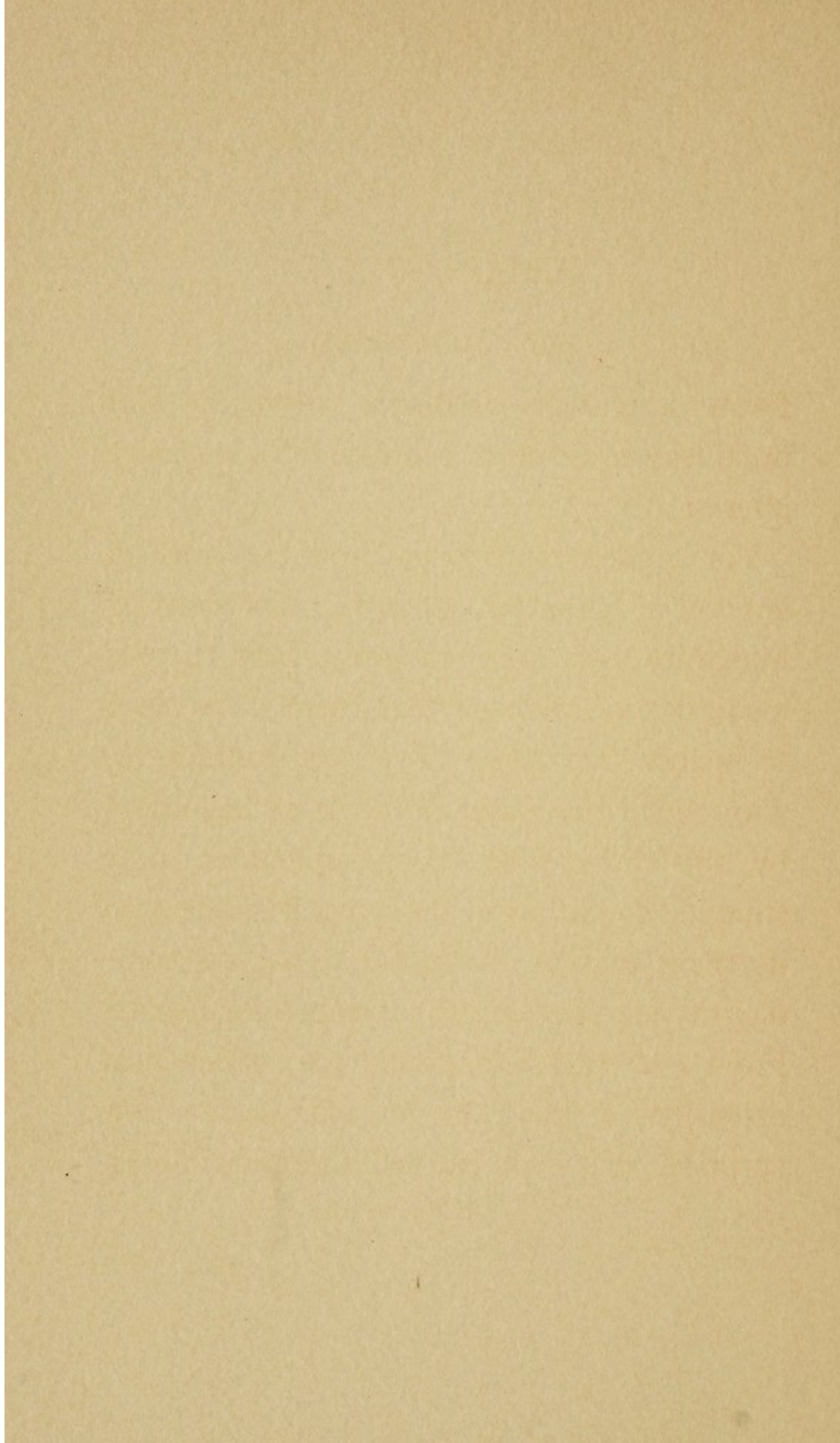
The bodily habit of activity in the aged is their sheet anchor and a return to such activity,

BY-WAYS OF PROSTATECTOMY

as each one is accustomed, is the goal toward which each must be directed with as little loss of time as possible.

X

THE GONOCOCCUS



CHAPTER X

THE GONOCOCCUS

FROM a purely academic viewpoint this organism presents a problem of persuasive interest.

For a good many years now the price of gonococcic infection paid by unsuspecting humanity has been an open book to the medical profession so that there is no need to include that here. The royal indifference with which the world of medicine has swept by this little king of depopulators, only stooping to gather in the coins it scatters on its silent tour of civilization, promises some day to make delectable substance for debate. From a scientific standpoint the pathological extensions of this infection offer so few new surprises, that relatively little scientific interest

THE GONOCOCCUS

can be expected. From the standpoint of our ethical obligation to society this infection is attended with an importance in exact proportion to society's danger from it.

When thinking people of to-day come to a knowledge of the "professional silence," for instance, which seals the lips of the physician and at the same time the doom of countless trusting women at the marriage altar, then may arise questions which at present it is not perfectly convenient to answer.

There are a certain number of blind people in the world to-day— statistics say about 25 per cent. of them— who owe their condition not so much to the virulence of this germ as indifference to and ignorance of it. Many of these people have learned the etiology of their blighted existence and are making it their life work to save others from the same fate.

The thoughtful reader will readily see that

THE GONOCOCCUS

we need only make relatively short excursions into the realm of the gonococcus to discover the riches of that germ as an object of discussion. That it has been found to be an unpleasant topic upon which to exchange views and thus increase the sum of human knowledge is the best excuse that can be offered by the medical profession as an explanation of the fact that false pride and prejudice have had the upper hand of reason.

The motives which prompt teachers and parents to foster the state of unconsciousness of sex in the young are worthy of the deepest respect, but the trained medical mind which carries this thought a step further and weighs the cost of what is now a traditional fancy against the cost of what may be an actual tragedy, knows the imperative necessity of anti-dating sexual function by sexual knowledge as it exists to-day. To expose the young to drowning, let us say, is kinder

THE GONOCOCCUS

than to expose them to the danger of sex death or indefinite and loathsome infectiousness. Once one generation of young are safe-guarded by timely training, succeeding generations without the silly confusion of self-consciousness will reflexly forewarn their progeny.

If human laws and regulations are worth anything, there should be one, until the infection is uprooted, which would make marriage, without a certificate of fitness to marry, a criminal offense. To be compelled to resort to such means is *abscheulich*, but to feed our young on false conceptions of the future by withholding the truth is to barter honor for dishonor.

Through many interesting phases the gonococcus has worked its way up from relative obscurity to a position of racial importance. All civilized countries are thoroughly impregnated with it and yet it would be hard to find

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any infection to which human flesh is heir, that is as easy to prevent as is gonococcic infection.

How this interesting problem can get by without more academic interest being shown it, even though the medical profession as a whole is so indifferent to it, passes understanding. The superficial reasoning which has surrounded the whole subject of prostitution and the continuous persecution of these condition-made creatures who are struggling on under the burden society imposes, but startles sane reflection and adds little or nothing toward the extermination of sex sustaining sickness.

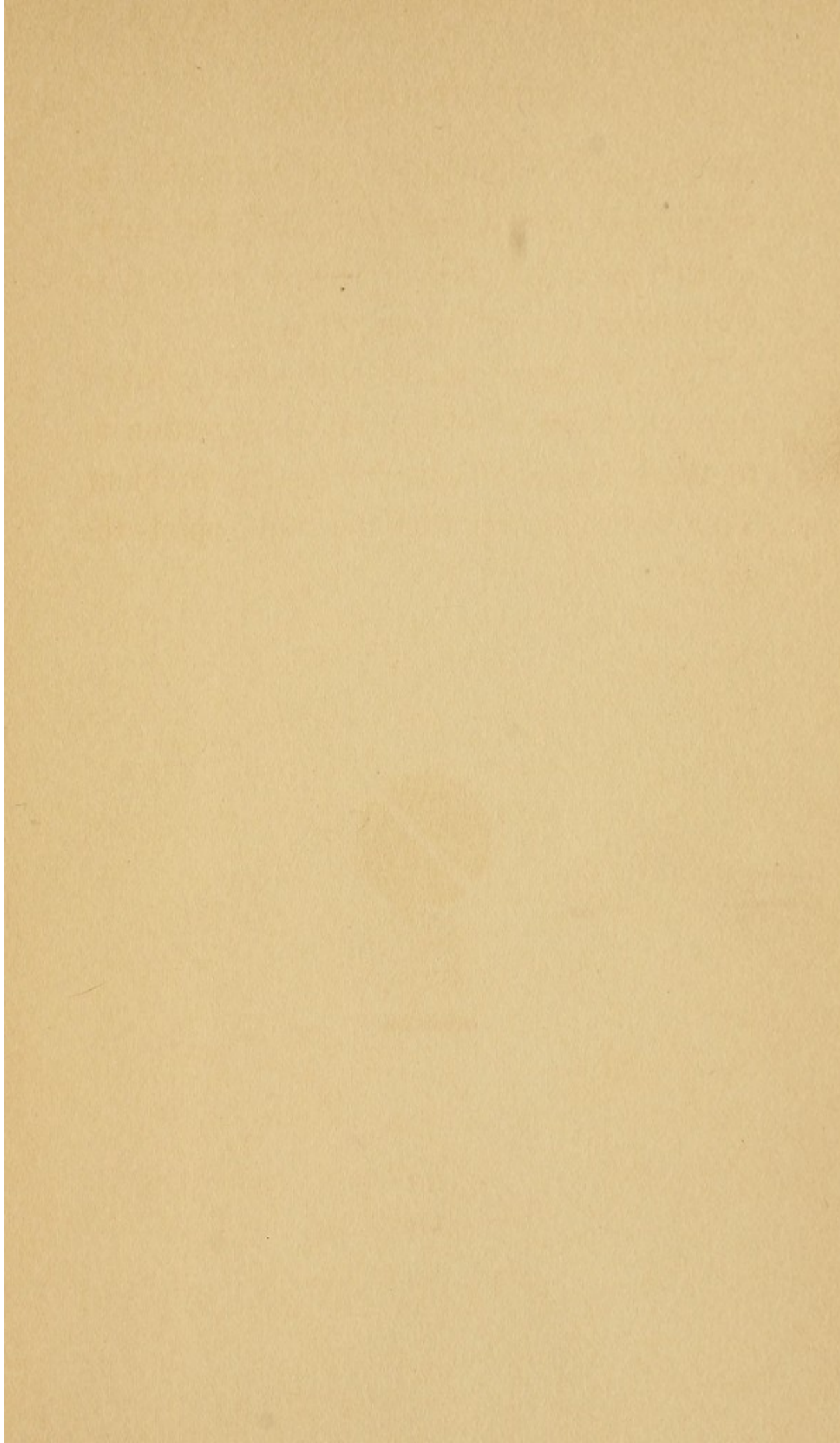
A good deal of effort has been expended in trying to teach young males how to suppress and arrest the development of the sexual instinct—a perfectly plausible procedure if one could be convinced of its morality. And so, here and there, by this means and that,

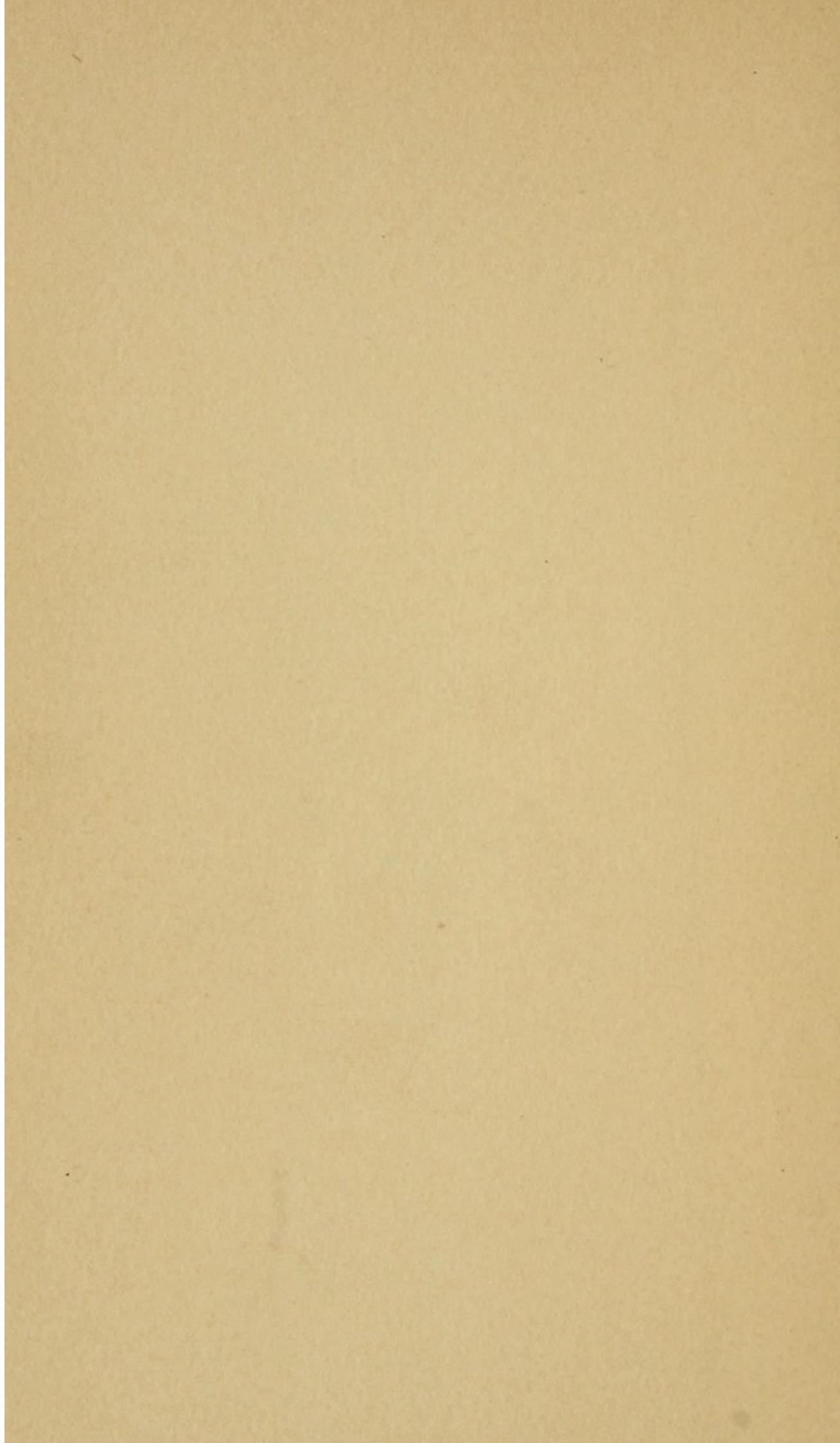
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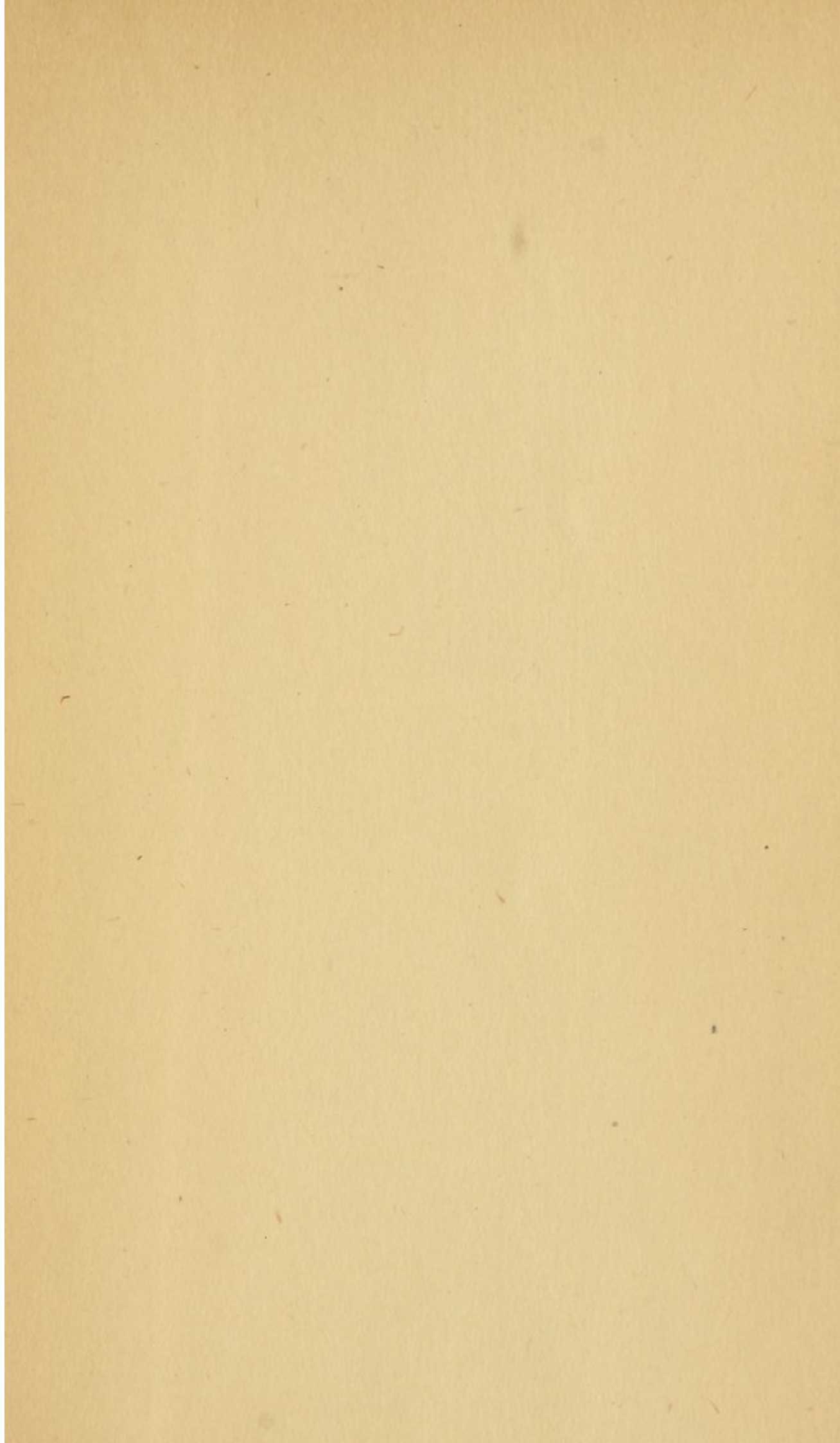
the isolated wellwishers of humanity go snipping away at the stalk and the leaves of the weed which has buried its roots so securely in the soil of our society.

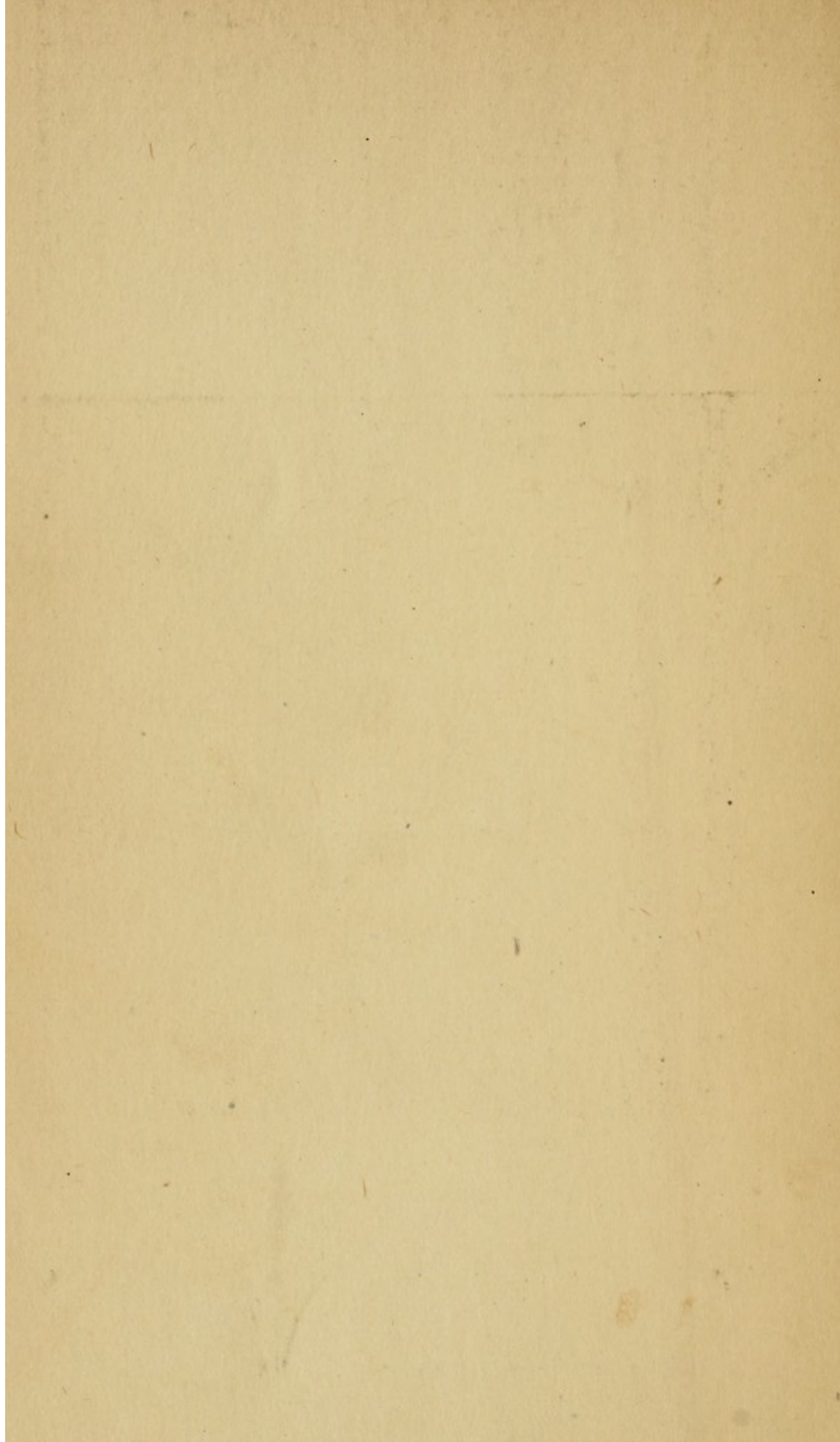
The intelligent reader will observe that I have carefully avoided even a suggestion as to the solution of this interesting problem. To give the answer with the riddle spoils the game.











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