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ESSENTIALS OF PELVIC DIAGNOSIS

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ESSENTIALS OF
PELVIC DIAGNOSIS

WITH

ILLUSTRATIVE CASES.

BY

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AND AN

APPENDIX ON EXAMINATION OF BLOOD ETC.,

BY

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PREFACE

THE art of diagnosis is at the root of all scientific practice. It is usually taught, and without doubt is best taught, at the bedside. There are so many changes in any case of disease during its course, that it is almost impossible to blend all the scenes it presents in any one characteristic picture. Experience and practice will alone enable the practitioner to recognize with certainty a given morbid state, and practical instruction by a teacher, who has already learnt in that school, can alone correct the mistakes of a tyro.

Such and so many objections are obvious to a book which professes to deal with this subject, that at first sight, any attempt appears doomed to failure; but two arguments may be brought forward on the opposite side, as to the value of which each one must judge for himself. They are, first, that it is a great assistance to any learner to have beforehand some idea of the plan upon which he will be taught, and some clear notion of the things he will be called upon to observe. A reminder afterwards of what he has learned is also useful.

The second argument has perhaps still more force. Diagnosis is already taught by all books on disease. It is usually, however, taught on the inductive principle. The disease is predicated *as already known*, and, that being taken for granted, the various symptoms are given, with, in some cases, the main points of difference which exist between it and those which, in the teacher's mind, appear most nearly to simulate it. In *the teacher's* mind, it is to be noted; not in that of the student. The teacher has some

store of experience and practice to draw upon; and differences between the condition spoken of, and others not closely allied, appear so obvious as to render remark superfluous and absurd. It is far otherwise with the learner. He has no such knowledge; no such experience. His sense of sight or of touch is not trained, and unless these differences are emphasized he fails to see them.

But especially it may be pointed out, that procedure on the *inductive* principle is the very reverse to that upon which all men in practice are called upon to act. In practice, the symptoms are known, the disease is not. It has to be *deduced;* and this little work is an attempt to make this mental process with regard to pelvic diseases more easy. Starting with readily observed symptoms or signs, the differences between various classes in which they are equally present are signalised; these classes are again divided into groups in the same way; the groups once more into sections; which in their turn are split up by definite variations in symptoms until the desired result is obtained.

A very successful treatise on Diseases of the Nasal Fossæ has been worked out on these lines by Mr. Walsham; and although the present work was begun, and indeed had neared completion, before his book came under my notice, the result of his treatment of that subject has encouraged me to hope that a somewhat similar treatise on Diseases of the Pelvis may be equally welcome. The great increase of knowledge of this region during the last few years, due to the advances made in abdominal surgery, has also emphasized the advisability of some attempt to present a rational and practical scheme of diagnosis in a useful form for the use of students and junior practitioners.

To carry out such objects as fully as possible, in this work the differentiation indicated above has been worked out in two somewhat different ways. The first is by a series of numbered paragraphs entitled *Lines of Diagnosis*,

in which the more broadly marked and more general dividing symptoms are given in italics, and the whole in considerable detail. The second form will be found in a series of *Diagnostic Tables*, in which a more comprehensive view may be taken of the entire class, group, or section of pathological conditions to which the case belongs. And, lastly, that no practical assistance should be lacking, there are added ten *Illustrative Cases*, taken from actual practice, in which not only are the above methods illustrated, but the relative value and meaning of the various symptoms occurring in each are explained and discussed.

An Appendix is added, in which the methods of examination of the blood, the examination of discharges for tubercular bacilli, and for gonococci, are given.

My thanks are due to Professor Stirling, Dean of the Medical Faculty, Victoria University of Manchester, for many valuable suggestions in the preparation of this work; to Dr. Le Page, of Manchester, for careful supervision and corrections; to Miss Louise Bradbury, for her clear and accurate drawings, both microscopical and other; to Dr. Kelynack for permission to reproduce his plate of blood cells from the *Medical Annual* for 1902; and to Messrs. Weiss & Sons, for the loan of blocks illustrating the instruments required. I have also to express my indebtedness to the publishers for great assistance in the arrangement of the *Tables*, for their skill in overcoming many difficulties in the presentment of this work, and for their constant and unfailing courtesy.

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Manchester.

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PELVIC DIAGNOSIS.

PART I.—METHODS OF DIAGNOSIS.

CHAPTER I.

INTRODUCTORY.

IN order to arrive at a correct diagnosis, it is necessary to make a careful accumulation of all the facts obtainable, and a no less careful comparison of them the one with the other. Facts are of different value, however, and require to be placed in their due relation in order to obtain a true result. Thus, the appearance of blood from the vagina in larger quantity or for a more prolonged period than normal, its appearance once more after the menopause has apparently been established, the presence of an offensive discharge, aching sensations over the sacrum, in the vagina, and down the thighs, more or less acute pain in the same regions, escape of urine or fæces through the vagina, the discovery of a readily bleeding mass covering the cervix, and hardened infiltration in the tissues around, are all facts to be noted in uterine cancer, but are of very different values.

Certain symptoms and signs can only be found in one condition; such are said to be *pathognomonic*, and, when observed, are of the very highest value. These, however, are not many, are not always present, and may not be found until the period of useful diagnosis is past.

Thus, the cheesy sensation on curetting with a sharp curette, as pointed out by Sinclair,* is pathognomonic of carcinoma uteri, whilst pain is rarely complained of to any great extent until all chance of a successful hysterectomy has disappeared; and the sensation of surrounding infiltration is one which should never appear, if we are to hope to radically cure the patient. The symptoms of intense pain and collapse, occurring in a perfectly healthy woman whose last period has been delayed or omitted, are very nearly pathognomonic signs of an ectopic pregnancy, but as they also mark and signalize the occurrence of rupture, their usefulness is not of primary value.

Many symptoms are common to a large number of pathological states; their grouping is therefore of more importance than their mere occurrence. Their presence or absence serve to narrow the field of enquiry, and to point in the direction to be followed; but they rarely point directly to the actual disease present. These have been utilized in the *Lines of Diagnosis*, where they will be found in *italics*, to mark the earlier and broader aspects of the case, and in the *Diagnostic Tables* to divide up the classes, groups, and sections; and they are of great importance, since without them the final differentiation loses all its value. It is perhaps necessary to emphasize the fact that the *absence* of a symptom or sign may be quite as important as its presence. It is of no use to mention the presence of a symptom in one disease, if the student has an uneasy suspicion that it may also be present in a dozen others, although its presence has not been emphasized.

The first duty of a diagnostician, then, is to collect his facts. These are to be obtained from the account given; from the family and personal history of the patient as far as it can be elicited; and also by the use of the practitioner's sight, touch, smell, and hearing. Touch, sight, and

* Prof. Sinclair, *Brit. Med. Jour.*, 1902, vol. ii, p. 327.

hearing may all be greatly aided by the use of certain instruments. Of all the instruments we can use, however, the most important are the hand, the eye, and the ear themselves, and these can hardly be trained too carefully or too constantly. The hand especially is so valuable in pelvic work, that a special chapter has been devoted to its consideration. In another chapter will be found figured the instruments—more properly so called—of which the clinician may avail himself.

Signs and symptoms are given together. No attempt has been made to distinguish between them. They are all of value in determining the condition; and the main object of the author in compiling this book has been rather to increase its practical usefulness to those who may consult these tables, than to evade, or consider any liability to, criticism on the part of those inclined to be pedantic. It is surely more important to be able to read a sign-post correctly, when on a journey to a given destination, than to discuss the material of which that sign-post is made.

The abdomen and pelvis form one great cavity. At first sight it would appear impossible to distinguish between conditions beginning in the pelvis, which sooner or later make their presence felt above the pelvic brim, from others having an abdominal origin; but so far as swellings of any kind are concerned, Jenner's* test is usually sufficient. The patient is placed in the supine, elevated pelvic, or still better in the Trendelenburg position; all covering being removed from the abdomen, so as to allow of the free movement of its walls, and those of the chest. She is then directed to count aloud as quickly and as long as possible without taking breath. The surgeon's warm hand, meanwhile is gently applied perfectly flat over the abdomen, on a level with or a little above the superior iliac spines.

* Sir W. Jenner, *Brit. Med. Jour.*, 1869, vol. i, p. 2.

When the patient has counted as long as possible she stops to take a full breath, and as the corresponding expiration begins, the recti muscles relax, and the examiner's hand sinks easily towards the posterior pelvic brim. If at the first deep breath the hand does not reach this, a repetition of the process will probably succeed, especially if the hand be gently moved in a rolling manner. The examiner should avoid losing any advantage he may have gained, if this is easily possible; but it is better to allow the hand to be lifted a little, than by any useless struggling with the recti to irritate them into more forcible contraction. Under no circumstances should the fingers be allowed to "dig in." If it is impossible to obtain certainty without, general anæsthesia must be used. If, either with or without this, the examiner can touch the sacral prominence, or feel the aortic or iliac arteries in this region, the swelling has an abdominal origin; if he cannot, after fair trial, the tumour is one which has its starting point in the pelvis.

Experience of this method has shown that it is often advisable to raise the foot of the bed to a considerable height, and to wait for some minutes. Omental and intestinal tumours, which previously appeared to be in close contact with, and even adherent to, pelvic organs, unless fixed by very intimate adhesions will become separate from them, and will take up a position much nearer to the diaphragm.

Having decided that the condition is a pelvic one, we may divide all such into five great classes, each of which contains a certain number of pathological states which have some common characteristic. It is unavoidable that there should be a certain amount of overlapping, and some conditions will therefore be found in more than one class; more especially is this the case in Class V, containing tumours which, beginning in the pelvis, later invade the abdomen, and tend more especially to occupy that cavity. In the

Table relating to this class reference is given to those which give the symptoms of earlier stages.

The five classes are, when necessary, divided into groups. These in their turn are occasionally sub-divided, for convenience, into sections. Each pathologic unit is numbered, and may be found, if desired, by reference to the index, in its respective section or table.

The division is as follows :—

CLASS I includes all swellings observed in the abdominal wall itself. These are differentiated by the following test : If the patient, lying upon the back, attempts to rise by the action of the abdominal muscles alone, the swelling becomes more prominent. All other swellings, contained within the cavity, tend on the contrary, to become less prominent, and more indistinct.

CLASS II deals with conditions affecting the perinæum, external genitals, inguinal region, and skin, discovered by direct inspection. It is divided into three groups, A, B, C.

Group A includes all those only seen in the male sex. It is divided into two sections.

Section 1. Those affecting the penis.
,, 2. Those affecting the scrotum and contents.

Group B includes conditions affecting both sexes. It is divided into two sections.

Section 1. Those seen in the inguinal region.
,, 2 Those affecting the anus and perinæum.

Group C includes those seen only in the female sex. It is divided into two sections.

Section 1. Those affecting the clitoris.
,, 2. Those affecting the labia.

CLASS III deals with conditions affecting the vagina, rectum, bladder, and prostate, discovered by examination with finger introduced into either canal, specula, cystoscope, or other instrumental aids. It is divided into three groups :

Group A. Those affecting the vagina.

Group B. Those affecting the rectum.

Group C. Those affecting the bladder and prostate.

CLASS IV deals with diseases in the pelvic cavity detectable by bi-manual examination. It is divided into two groups :—

Group A. Those in which the uterus is continuous with the condition.

Group B. Those in which the uterus is distinct from the condition.

CLASS V deals with swellings connected with pelvic organs, but which have developed upwards, so as to lie within the abdominal cavity.

If the observer has already come to the conclusion that he has to deal with one or other of certain diseases, he may find this by reference to the index ; and on consulting the numbered paragraphs or *Diagnostic Table* referred to, he will see at once the conditions most nearly resembling it, and their points of difference.

Many names to be found in works on these diseases represent only pathological varieties of a certain clinical unit ; have no definite symptoms apart from that unit, at all events as yet observed ; and signify very often only the appearances found on microscopical examination. Other names are merely synonyms for something appearing already in the table. Such names are usually given as alternatives, and are in smaller type.

Chapter II

ON THE USE OF THE HAND.

NOTHING is more necessary in abdominal or pelvic diagnosis than practice in the use of the hand. Every opportunity should be taken to develop the sense of touch, since, by its means alone, as in bi-manual examination especially, very many conditions can be detected. For this purpose both hands should be employed. The first thing is to see that the patient is in an easy position, and perfectly supported. If he or she has to balance himself or herself on an insecure support, or in an uncomfortable attitude, all the muscles of the abdominal walls will remain in a state of tension, opposing a barrier which feels like wood to the attempts of the observer to detect what lies below.

The patient should be placed first flat upon the back, with the shoulders somewhat raised and the abdominal wall exposed. In the young male patient, or female who has had no children, it will be gently convex, with firm but supple walls. In the male it is usually firm, convex, and, except in old men, unwrinkled. As age advances it becomes more flabby, or more bulky and convex. But in all, the condition of the abdominal wall depends chiefly upon the presence or loss of muscular tone and of fat. If the patient has suffered from any disease accompanied by rapid loss of flesh, the abdominal wall is likely to be relaxed and flabby. In the woman who has had children it will be either: (1) Flabbily lying upon its contents, with a tendency to bulge over at the loins, wrinkled trans-

versely; (2) Bulging prominently in some eccentric direction, whilst the rest of the wall lies flat; or (3) Ballooned out in all directions, with, except in the most extreme cases, a little flattening at the highest point.

The eccentric position of the swelling in the second condition, evidently not common to the entire wall, is characteristic of a tumour of some kind, and is seen in no other condition.

The examiner's hands are now laid flat upon the surface, the examiner sitting or kneeling at the side of the bed, so that the elbows are on the same level as the wrists. All movements of his hands and fingers are made from the carpal, metacarpal, and phalangeal joints alone, and are as gentle as possible. The muscular abdominal wall must be treated as though it were some half-trained animal, which would become unmanageable at the first display of force. Any rough or sudden movement will be followed even in the quietest patient by an automatic tightening up of the muscular wall; still more will this be the case if the patient is nervous or anxious, as most of them are.

With the hands applied in this way, the examiner rests absolutely still for a minute, and then imperceptibly begins to move them, pressing slightly to the ulnar and slowly back to the radial side—slowly pressing first one finger, then another against the skin. The abdominal wall at first feels as if it were made of elastic wood, then of thick felt, then of two or three folds of blanketing, then of two, then one fold, and, lastly, in some cases, as though only a sheet interposed between the searching fingers and the organs sought. In some cases the earlier sensations will seem to be omitted, being passed through quickly; in some the later; but they are all passed through in regular gradation and in the order given, if no sudden dig or too powerful pressure brings back one of the earlier states.

Gentle approximation of both hands on opposite sides of the abdomen will enable the examiner to gauge the actual thickness of the abdominal wall itself, the presence and size of any growth present in it, and the smoothness or otherwise of the peritoneum lining it.

For the lower or pelvic segment of the abdomen the "bi-manual" method is to be used. By its means the sexual organs in the female; the rectum, sigmoid flexure, cæcum and appendix, and the bladder in both sexes, besides the fold of peritoneum forming Douglas's pouch in the female, or the recto-vesical fold in the male, may be explored. One hand is used internally; the other externally over the front of the abdomen. Various directions are given by teachers for the proper use of this method. I have adopted the following, for the reasons given below:—

The patient is placed on her left side in the left lateral position across the bed or couch. The head is supported by a pillow, so that it lies in the mid plane of the body. The hips are brought to the edge of the bed, and the thighs flexed. The lower limbs lie immediately one above the other. The line of the body is at right angles to the length of the bed. This carries the hip well upwards towards the head of the bed, and places the vagina or rectum in the line most naturally taken by the examining finger, whilst the wrist is comfortably free to act. If the hip is at an obtuse angle with the bed, the wrist has to be held in a state of extension; it is then much more easily fatigued, and the sense of touch and appreciation of differences in weight and consistence of the parts examined becomes much less acute. The left forefinger or fore and middle fingers are always used internally. Passed in this position, their sensitive pulp faces the right hand, and faces also almost every structure to be explored. In the male the finger is passed into the rectum; when this canal is used, it must be remembered that its orifice and first half inch lies at an obtuse angle backwards with the main cavity.

In the female both rectum and vagina may be utilized. The right hand is passed between the thighs and laid, very lightly and gently, flat upon the abdomen, the tips of the fingers pointing upwards towards the umbilicus.

A pause is then made with the hands in position, until the sense of resistance, which is always present at first, has gone off. Any attempt to examine until this has occurred is futile, and tires the hand, so that its sensitiveness is diminished when the time of its possibility of action has arrived. Patience at first is the key to success. Even when the sense of resistance has gone, there must be no digging viciously with either hand. Slowly and always gently, with gradually increasing pressure, the fingers may be made to approximate each other, this usually taking place first in the region of the bladder, and then they should follow each other all round the pelvis. The beginner will generally find that his outer hand is too high, and that it requires to be brought down nearer the pubes. On no account should the hand be raised from the abdomen so as to place it in a new situation. It should creep, so to speak, from one spot to another, and when the fingers of both hands meet, they should keep company until the exploration is finished.

Some surgeons (*e.g.*, Baldy in his "Gynæcology") show this method, but with the *right* hand used internally. The objection to this is that it requires the patient to lie in the lithotomy position, which is repugnant to most people, whereas the lateral position does not require any unpleasant exposure. When so placed the right leg of the patient is also in the way of the operator's arm, and prevents the easy action so indispensable to a proper appreciation of what is felt.

Some examiners prefer that the patient should be upon the back, with the nearer leg drawn up; they claim that in this position the parts felt occupy their normal places, and that the abdominal muscles are more relaxed. If

this position is chosen, in order to use the left hand internally the patient must lie on the left edge of the bed, and the examiner must sit on the left side. If the patient, as is usual, lies on the right edge, the examiner must use his right hand internally. There is no absolute objection to this if it is preferred; but it is well for each man to choose once for all which hand he will use internally, and always use it in the same manner. The time expended in educating each hand so as to be ambidextrous is really wasted, since it might be better expended in educating one, to appreciate small differences in shape, size, and consistence of parts, and their relations to one another. These differences are so infinite, that many years of practice are required before they can be said to be absolutely mastered: and it may truly be said that it is impossible to develop what may be called the sense of sight in the fingers too highly. Ambi-dexterity in operating may be of essential service, but the necessity for it is not apparent in examination.

Bi-manual examination is required to detect conditions not recognizable visually, even when assisted by the use of a speculum. It is almost impossible in very fat people, except under anæsthesia. This should be used whenever certainty without it is not attainable.

In any of these positions a previous clearing of the rectum by enema is imperative; the bladder also should have been previously emptied.

In the left lateral position, Kelly* has introduced a very valuable preliminary manœuvre. The patient is first placed in the knee-chest position; a small speculum or canula is introduced into the anus. Air rushes into the rectum. In about a minute the intestines will be found to have left the pelvis, and the speculum is removed. The patient is then very slowly and cautiously lowered into

* *Operative Gynæcology:* Kelly, vol. i, p 99.

either the dorsal or lateral position, but the pelvis is not allowed to go down quite to the level of the rest of the abdomen, but is kept propped up by pillows or other appliances during the examination. The pelvic organs are thus more clearly defined, since the intestines no longer obscure their outlines.

Recto-abdominal examination is in all cases to be preferred to vagino-abdominal, (examination directed to discover the condition of the os, or vaginal wall, is not bi-manual) because in the rectum the examining finger penetrates further, and is not restricted by the fornices. Many conditions not discoverable *per vaginam*, or only vaguely, are clear and distinct *per rectum*, whilst all intra-pelvic swellings which can be discovered by the former are also equally or more thoroughly appreciated by the latter. In males it is of course the only method available. When the finger is passed into the rectum it will be found possible to introduce it further if the remaining fingers are allowed to lie upon the sacrum or glutei, and not doubled up, as is customary, beneath the perinæum.

With the hands in the bi-manual position, the relative position, the outline, size, consistence, temperature, mobility, smoothness, or otherwise, tenderness, and weight of the various organs are to be noted. In women the uterus is first sought for and identified; in males the prostate, as in each case the main internal landmark. All other structures, normal and neoplastic, have some definite relation to these two bodies.

Hegar has introduced a plan which is extremely useful in detecting the connexion or otherwise of a tumour with the uterus or broad ligament. The uterine os is seized with a pair of vulsellum forceps and drawn downwards; the forceps are then placed in an assistant's hand. The right hand of the surgeon is laid upon the abdomen just above the pubes; the left forefinger is passed into the rectum. The tumour being outlined is lifted by these two; if there is any organic

connection with the uterus the forceps will rise. Further, if the assistant pulls gently upon the forceps whilst the tumour is held between the two hands of the surgeon, any pedicle can usually be felt and outlined by the rectal finger. This test is referred to in Classes IV and V.

The secrets of success in bi-manual examination are, a warm hand, a gentle touch, and patience. Any hurry is fatal. It is well to distract the patient's attention if possible by questions, the answers to which require some thought; or by directing her to count aloud.

Chapter III.

ON THE POSITION OF PATIENTS FOR PURPOSES OF DIAGNOSIS.

THE position in which a patient is placed is of very great importance in many cases of obscure diagnosis. The positions in which a patient may be examined are eleven in number :—

1.—The dorsal or supine position.
2.—The left lateral position.
3.—Kelly's modification of the left lateral.
4.—The Sims' position.
5.—The sitting flexed position.
6.—The upright position.
7.—The knee-chest position.
8.—The Trendelenburg position.
9.—Pryor's position.
10.—The lithotomy position.
11.—The elevated pelvic position.

1.—**The Dorsal or Supine position** (*Fig.* 1) is the most commonly used, I find. It is the most natural to the patient, entails the least disturbance, and requires no exertion or trouble on the part of the examiner. I am bound to say, however, that it is, if anything, the one in which information of any value has most often to be checked by an examination in some other position. Even in this there is a little art required. The ordinary patient places herself in the centre of a big bed, with one or at the most two pillows under her head, and stretches herself out at full length. Very few



Fig. 1.—The Dorsal Position.

except the most obtrusive facts can be appreciated about her abdomen or pelvis in that position. The examiner has to stretch himself half over the bed in a strained attitude, and his examination is therefore likely to be perfunctory at the best. The patient must be brought to the side of the bed, preferably the left side, her head and shoulders supported by several pillows, so that the chest shall be inclined to the bed at an angle of 30° to 40°, and her knees raised and supported by a firm pillow beneath, so that their flexion shall not depend on the action of her own muscles. Let us ask ourselves what information it is possible to obtain in this position.

First, we note any skin eruption, any pigmentation of the lower part of the linea alba, which, if found, would send us to the breasts for confirmatory evidence of pigmentation there, and the development of follicles around the nipple, enlarged veins over the breast, and possibly presence of milk capable of expression.

Next, any marked distension or retraction of the abdomen, wholly or in part; then prominence or depression of the umbilicus, umbilical or ventral hernia, external growths, excessive development of fat, localised or general, excessive relaxation of muscular walls, with marked bridle lines extending from the loins on either side to a mid-point above the pubes; enlarged veins on one or both sides, usually most marked in one or other lower quadrant, and possibly extending over on to the hips. Such signs can be appreciated almost at once by external inspection, but some of the latter are usually better appreciated when the patient is erect.

The external conditions are, however, usually least in importance, though extremely useful in suggesting further lines of investigation, and therefore by no means to be ignored. Our main object is usually to find out what is beneath the abdominal wall, what may be felt in the peritoneal cavity itself; therefore it is necessary, primarily,

to get the muscular wall into a relaxed, flaccid condition. And here, again, it is worth while to lay stress on the necessity of making a patient feel *secure* in any position in which he or she may be placed. A feeling of insecurity, the fear of falling, inevitably renders all her muscles tense, the abdominal amongst the rest, and so interposes between our hands outside, and the tissues within, a resistant board-like layer, which will tire out any attempt on our part to overcome. If at last it yields, the examiner's hands will then have lost the tactile sensibility so important to retain for deeper exploration. In this position, for instance, if the pillows supporting the head, neck, and upper portion of the chest are carelessly placed so that whilst the shoulders are raised, the head falls backwards, the patient will always attempt to keep the head and neck in a line with the trunk, if only to watch your manœuvres. This means muscular contraction, which will be continued along the whole line to the pelvis ; and the abdominal muscles will be stiff in consequence. Even flexion of the thighs, if performed by the patient herself, will not be wholly done by the action of the psoas and iliac, but partly by the external obliques, acting by their attachment to the deep femoral fascia. It is evident, therefore, that to obtain the utmost relaxation possible in the abdominal wall, such flexion must be obtained by support to the thighs, which will render any personal muscular effort unnecessary.

2.—**The Left Lateral position** (*Fig.* 2) is one which is constantly required. It is well, then, to get a positive idea of what is meant by it. It is the position for bi-manual examination. The patient is placed on her left side, with the hips close to, or even with the gluteal folds slightly overhanging the *left* side of the bed. The body should lie exactly at right angles to the edge of the bed. The knees should be moderately flexed, and lie over one another. The feet should be carried inwards. This position



Fig. 2.—The Left Lateral Position.

differs from the Sims' position, with which it is usually confused.

3.—**Kelly's modification of the left lateral position** is based upon the fact that if air is admitted into the pelvis in the knee-chest position, it tends to press any freely moving viscus in Douglas' pouch or the vesico-uterine pouch upwards out of the true pelvic cavity, into that of the abdomen. Now, normally, both of these pouches are occupied by small intestine, the presence of which obscures the outlines of the more fixed viscera present, such as the uterus, rectum, bladder, Fallopian tubes, and ovaries. He therefore first places the patient in the knee-chest position, admits air by means of a speculum into the vagina or rectum, and then, after waiting a few minutes, gently lowers the patient into the left lateral position, not, however, allowing the hips to again come in contact with the bed, but supporting the pelvis upon a firm cushion 3 or 4 inches thick, so that the intestines are not allowed to slip back again until the examination is over. This manœuvre is certainly often extremely valuable, the outlines of the true pelvic viscera becoming by this means much more clearly defined.

4.—**The Sims' position.*** The body and hips are placed exactly as in the left lateral, but the left leg, which is undermost, is drawn backwards so as to lie parallel with the edge of the bed, whilst the right leg is flexed, and its knee is allowed to touch the bed in front of the left. By this means the pelvis, which in the left lateral position is squarely on its side, with the pubes facing directly forwards, is now inclined downwards and forwards at an angle of 45°, the right ilium being brought in front of the left.

The left lateral position is intended for use in bi-manual examination. Lying squarely, as the body does, the left forefinger passes easily into the rectal or vaginal cavity,

* *Uterine Surgery*, 1866, p. 23.

and faces directly the fingers of the right hand passed between the thighs, and placed upon the anterior abdominal wall.

The *Sims' position* is best adapted for the use of Sims' speculum. This instrument being introduced into the vagina, presses backwards the posterior wall. Air being admitted, the anterior wall of the vagina falls away by the action of gravity, the pelvis being tilted forward, and permits a clear view of the deeper structures, the fornices, cervix, os, etc. If the pelvis is not so tilted this action of the anterior wall is not so perfectly obtained, and, on the other hand, bi-manual examination in this position is hampered, since the anterior hand of the examiner is pressed between the bed below and the abdominal wall above.

5.—**The Sitting flexed position** is occasionally useful. The patient sits on one chair, and, all clothing being removed from the thorax to the hips, she bends forwards resting her hands and arms upon her knees. The examiner sits behind, and, placing the hands flat upon the abdomen on either side, presses firmly backwards towards the posterior wall. This is a very useful position for the examination of structures within the superior portion of the abdomen, but it is not so frequently required for pelvic conditions, inasmuch as the structures there situated can be, as a rule, much better examined in the left lateral position.

6.—**The Upright position** needs no description. It is mainly used to determine the existence and degree of enteroptosis, to accentuate dilated veins, to permit of free descent of an inguinal or scrotal hernia, or a prolapsed uterus, but is not much used in England for any other purpose.

7.—**The Knee-chest position** (*Fig.* 3) has been already mentioned, with one of its main uses, when speaking of Kelly's modification of the left lateral. To obtain it the patient should kneel at the edge of the bed, the feet being supported



Fig. 3.—Knee-Chest Position.

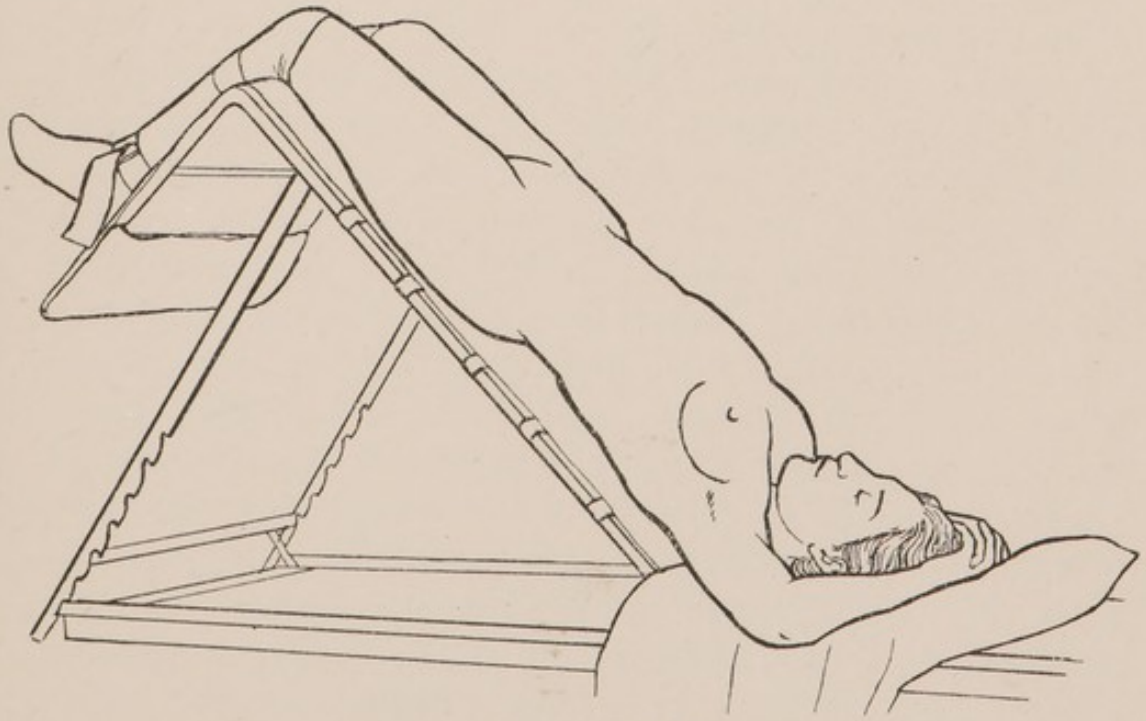


Fig. 4.—Trendelenburg Position.

on two chairs; the hips should be vertically above the knees, and in the same plane; they must not be allowed to sink forward. The patient's arms should be spread out, and her shoulders made to touch the bed; the head should lie on one cheek. Patients require some education before they can take this position easily; they are apt to support themselves upon their arms, or even their elbows, and so to prevent that inclination of the trunk downwards from the hips, which is the essence and main aim of the proceeding. This position is of more use in treatment than for examination, but it is utilised sometimes for examination of the female bladder through a speculum passed into and through the urethra. In this posture air enters the bladder, ballooning it; urine collects in the fundus out of the way, and the uterus falling forwards, carries with it the trigone, with the ureteral orifices at either side, into the line of sight.

8.—**The Trendelenburg position*** (*Fig.* 4) can only in its entirety be used when the patient is under the influence of an anæsthetic. In it the patient is suspended on a framework from the knees. The legs being fixed, the frame on which she lies is tilted upwards until the body from the knees to the shoulders lies in a straight line, inclined at an angle ranging from 30° to 60° or even more with the level. It is mainly used for operative purposes. When once the abdomen is opened and air enters, the moveable viscera slide down out of the pelvis towards the diaphragm, leaving the fixed pelvic organs exposed to sight and touch. It is of use for purposes of diagnosis when we wish to exclude tumours arising from abdominal organs. With the sole exception of ovarian tumours with long pedicles, no mass having a pelvic origin is affected by this position; whilst omental, splenic, gastric, some renal and hepatic

* *Samml. klin. Vortr.*, Leips., 1890, No. 355.

growths, materially change their relation, and can be thus to a certain extent eliminated. As, however, in its true form it can only be used under anæsthesia, it has to be modified for this purpose. The essential idea is to raise the pelvis such a distance above the diaphragm as to obtain the action of gravity, and this can be accomplished by lifting the foot of the bed upon two chairs one under each lower post. Sufficient inclination of the body may thus be obtained, with a little patient waiting until its effect is produced. The mobility of any internal mass directly upwards can in this way be estimated. Much additional effect is obtained by allowing the entrance of air into the rectum or vagina by means of a speculum.

9.—**Pryor's position*** (*Fig.* 5), like the last, is hardly possible except under anæsthesia. It is used for examination of the female bladder. The patient is placed upon her back with the hips close to the edge of the table, the legs raised in the lithotomy position, and the whole body is lifted to an angle of 45°, the weight of the body being supported by curved plates made to fit the shoulders, and bolted to the table upon which she rests. In this position, when air is admitted, the uterus falls back against the sacrum, the bladder is distended with air, and the drag of the retroverted uterus opens up and exposes the trigone to the eye of the examiner, aided by a tubular speculum introduced through the urethra as in Kelly's method. Kelly uses light reflected into the bladder from a head mirror worn by the examiner; Pryor a small electric lamp and reflector introduced into the bladder itself. The advantage of this posture over the knee-chest, is due chiefly to the straight lines which the vaginal segment—in which the ureteral orifices are found—and the pubic segment assume. There is no doubt as to the difficulty

* *Med. Record*, March 2, 1901, p. 327.



Fig. 5.—Pryor's Position.

experienced in Kelly's position in seeing the ureteral orifices, and Pryor's position appears to obviate these. At the same time it is a difficult position for anyone to maintain for any length of time except under anæsthesia.

10.—**The Lithotomy position** (*Fig.* 6 is a very favourite one with many. It combines the power of deep penetration with the advantages claimed for the dorsal. It is objectionable, however, to most female patients unless under the influence of an anæsthetic. It is therefore more often used on the Continent than in England. The patient lies on a table or across the bed. The head and shoulders are raised, and supported as before. The hips are brought closely to the edge of the table or bed so as to project slightly and bring the level of the anus up to its plane. The thighs and legs are fully flexed, and the knees are held well apart, so that the patient's feet lie well away from the head of the examiner. Seated facing the perinæum, we can easily examine all perinæal conditions, the state of the vulva or meatus urinarius in women, the scrotum or penis in men. We can make vaginal or rectal examinations with a finger simply in one, or both canals; bi-manually, or with specula; with direct or reflected light. The male bladder also can be examined with the cystoscope.

11.—**The Elevated Pelvic position** (*Fig.* 7) is perhaps still more convenient for all these purposes. The patient is placed as in the lithotomy position, but by raising the lower portion of a jointed table, or by means of a firm cushion under the hips, the pelvis is placed in a flexed posture with reference to the main plane of the abdomen. The anus is thereby lifted to a higher position, and examination of the rectum especially becomes more easy. It is, however, mainly intended for use in examination of the female bladder by Kelly's method. The patient is first placed in the knee-chest position, the meatus is cocainised, and a calibrator inserted. The necessary size of the canula being thus determined, the calibrator is still further

introduced until it has stretched the external orifice as far as may be considered advisable, or the dilator is used. It is removed, and the deeper urethra injected with cocaine solution, 10 per cent. As soon as this has taken effect, *i.e.*, in about three minutes, the canula decided upon is introduced and gently pushed into the bladder in a curved direction, the concavity of the curve being towards the pubes. Air enters the bladder, which becomes distended. The canula is left in. The patient is now very gently turned on to her back, with the hips raised by a firm pillow beneath, so that the orifice of the canula looks upwards and forwards at an angle of 50° with the plane of the bed. The hips should in this position be close to the edge, the thighs and legs being strongly flexed as in the lithotomy position. The examiner sits in front and directs the light, derived from an electric lamp held over the pubes, from a perforated head mirror into the bladder through the speculum. This position is also very useful in sounding the bladder for stone, as the calculus may be thereby carried away from the sensitive neck to the comparatively insensitive fundus of the bladder.

The use of these various positions may, in conclusion, be summed up in the following way :—

For examination of the skin, and for a general survey of abdomino-pelvic swellings, as well as for percussion, use the dorsal position.

In order to separate swellings of abdominal from those of pelvic origin, use the elevated pelvic, or Trendelenburg positions.

For bimanual examination, use the left lateral position.

For examination with vaginal specula, use Sims' position.

For examination of the female bladder, use Pryor's or the elevated pelvic positions.

For examination of the perinæum, rectum, or male bladder, use the lithotomy or elevated pelvic positions.



Fig. 6.--Lithotomy Position.



Fig. 7.—Elevated Pelvic Position.

Chapter IV.

ON THE USE OF INSTRUMENTS FOR DIAGNOSIS.

ALL instruments should be absolutely clean; if there is any breach of surface present in the parts to be examined, or if they have to enter the bladder or uterus, they should previously be boiled in water. Instruments should be *warm*, especially those which are passed into the vagina, rectum, urethra, or bladder.

All forceps should be made with Collins' joints so that they may be disconnected and easily cleaned. Such instruments may be lubricated with vaseline, except those used for the urethra. With these, aseptic glycerin or castor oil should invariably be employed. Small portions of vaseline may otherwise be carried into the bladder and there act as foreign bodies; not being soluble in urine, there may be considerable difficulty and pain in expelling them, besides the risk of their causing cystitis, or acting as nuclei for phosphatic calculi.

For the Examination of the Rectum there is no better instrument than **Allingham's Dilator.** The handles, however, are defective, and the method of fixing it at a certain amount of distension not all that could be desired; to remedy this I have had the handles made flat, and much longer, so giving greater leverage. The handles are approximated by manual pressure, and fixed by a winged screw acting upon a cross-bar between, so that the muscular power of the hands is not exhausted—an important point if the dilation is to be followed

by an operation (*Fig.* 8). With this instrument well opened a clear view of the entire rectum is obtained,

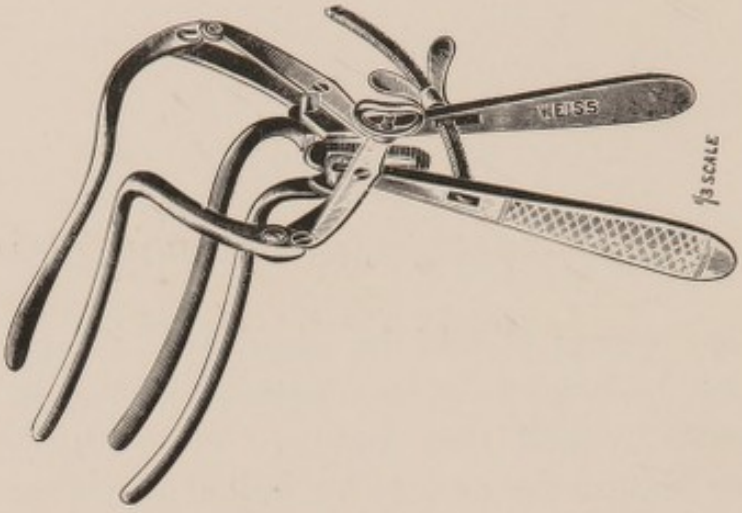


Fig. 8.—Allingham's Rectal Dilator, modified by Stanmore Bishop.

and ample space for any manœuvres required. **Kelly's Proctoscope** (*Fig.* 9) is also useful in certain cases. Light

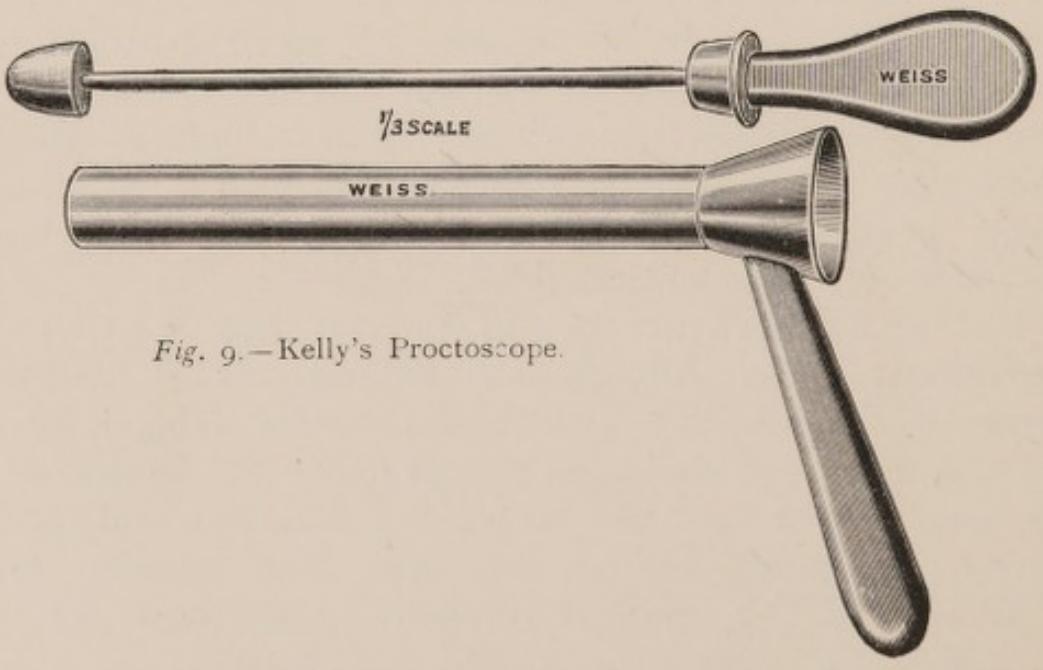


Fig. 9.—Kelly's Proctoscope.

is thrown into the tube by means of a mirror on the examiner's head. Long, narrow **Forceps** (*Fig.* 10) which

do not obstruct the light, are sometimes useful. By their means pledgets of absorbent wool may be used to remove mucus, etc., from the surfaces, polypi may be seized and drawn down, or a sponge may be carried up to the upper extremity to prevent temporarily further escape of fæces.

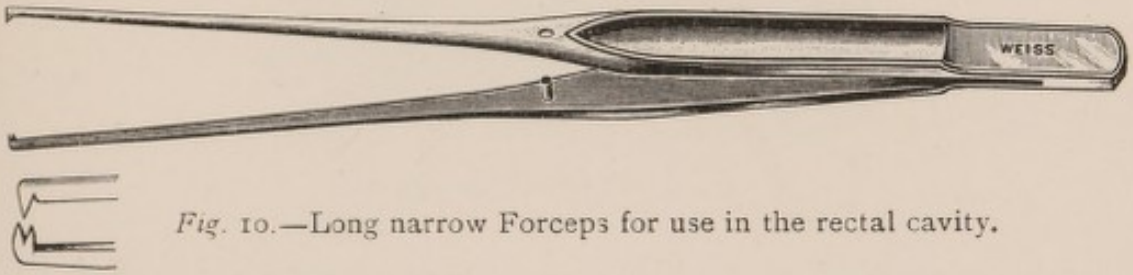


Fig. 10.—Long narrow Forceps for use in the rectal cavity.

For the EXAMINATION OF THE VAGINA various forms of Specula are figured in every instrument-maker's catalogue. Indeed, they are legion. But I have found four forms satisfactory :—

1. **Sims' Duck-bill Speculum** (*Fig.* 11), with two blades, of which the largest should be 1½ inches broad and 4 inches long, the smaller 1 inch broad and 3¼ nches long. The

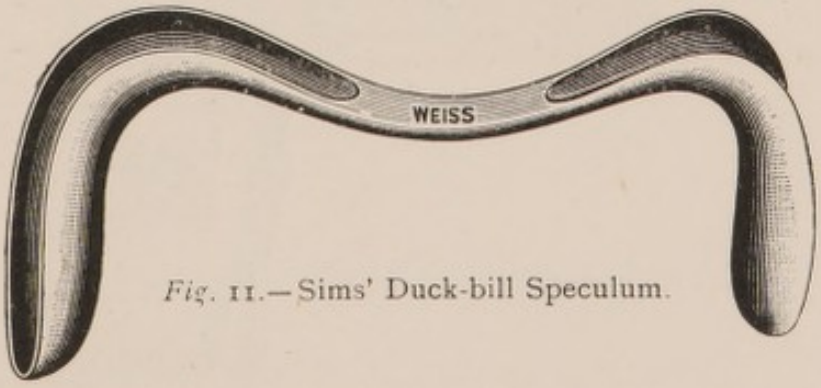


Fig. 11.—Sims' Duck-bill Speculum.

original shape is the most convenient. The patient's hips are raised by a pillow, so that the femora incline downwards towards the table ; and the right knee is in advance of the left, crossing the lower third of the left thigh, thus

throwing the right ilium forwards. If this is done, on passing the speculum the anterior wall of the vagina falls forwards, permitting a free view of the os, fornices, and anterior wall itself. If the anterior wall does not readily

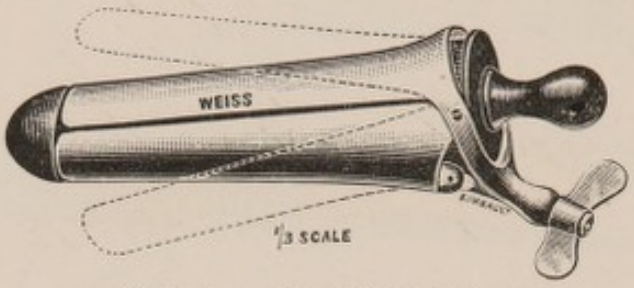


Fig. 12.—Barnes' Speculum.

sink, a pair of crocodile forceps (see p. 40) is useful to press it forward. Griffiths' modification is of no advantage, and the anterior bar is only in the way.

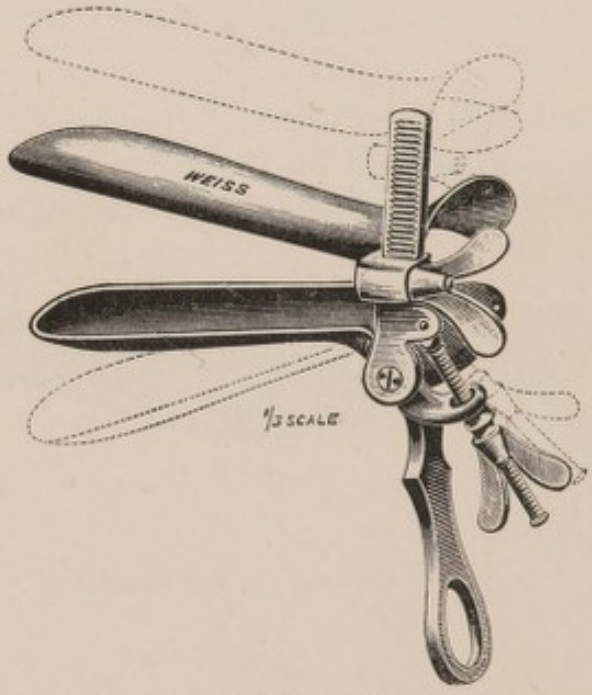


Fig. 13.—Collin's Speculum.

2. **Barnes' Speculum** (*Fig.* 12).—This is especially useful when any application has to be made to the os or cervix uteri, since when screwed open it is self-retaining,

and the surgeon's hands are then at liberty. It has the drawback of distorting to some extent the natural appearances. A similar speculum is that of Collin, which allows the external orifice to be still further dilated if required. I have found this very useful (*Fig.* 13).

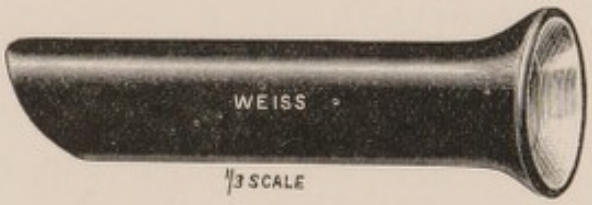


Fig. 14.—Fergusson s Speculum.

3. **Fergusson's Speculum** (*Fig.* 14) is very rarely required. Its main advantage is that it isolates the os, protecting at the same time the vaginal walls. Acids can then be used, if required, with comparative safety. But it must be remembered that the speculum does not fit with air-tight completeness, and therefore irritant applications

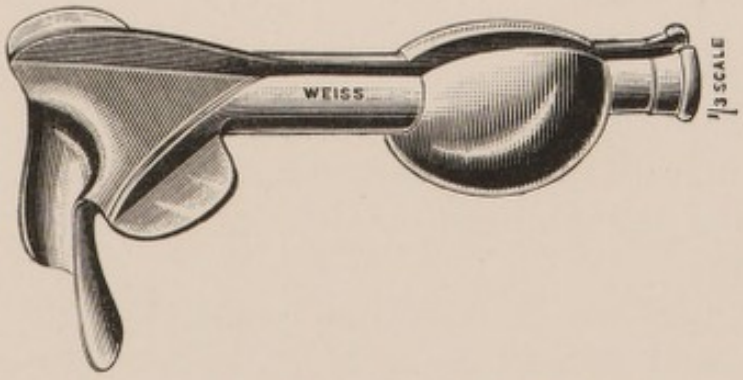


Fig. 15.—Auvard's Weighted Speculum.

may run down beneath it. It is usually safest to use an ordinary Sims' speculum, and to pack around the os with pledgets of cotton wool soaked in a saturated solution of sodic bicarbonate. This (Fergusson's) instrument also, if large enough to be of much use, is more painful to introduce than any of the other forms.

4. **Auvard's Weighted Speculum** (*Fig.* 15).—This, though not useful for diagnosis, is so indispensable for operative work that I include it here. Being weighted, it retains its place without the need of an assistant's hand, which is always in the way, and cannot be trusted through a long operation to maintain the unintermitting, unvarying retraction required. It is, however, useless for examination, as its weight is too painful for the patient without anæsthesia.

Sounds.—It is imperative that no sound should ever be used which is not absolutely *aseptic*. It is not wise to use a sound except with the patient in bed, where she can lie quiet for the remainder of the day. The sound should be boiled in water for ten minutes before use. If for exploration

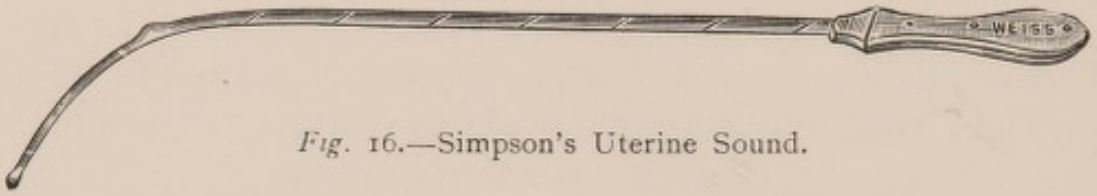


Fig. 16.—Simpson's Uterine Sound.

of the uterus, the vagina and os should be thoroughly disinfected, or the sound may carry vaginal micro-organisms into the uterine cavity. Inflammation there started may spread into the Fallopian tubes, and possibly into the peritoneum.

The vaginal mucus, and that which fills the orifice of the os, should first be removed by absorbent cotton wool soaked in a saturated solution of sodic bicarbonate, after which the parts are well washed with a watery solution of mercuric biniodide (1-500), and a pledget of cotton wool soaked in the same solution is left for a few minutes in contact with the os.

Care is taken in introducing the sound that it is not allowed to touch the external genitals or the vaginal walls. It is therefore always introduced with the aid

of a speculum. **Sims' Speculum** is the most suitable for this purpose. In practice it will be found, that in proportion to the degree of trained dexterity in the use of the hand, the need for the use of the uterine sound will decrease.

If a sound is required for exploration of the bladder, the same precautions should be taken. The meatus, male or female, is similarly cleansed from mucus or other secretions, and disinfected, before the sterilized sound is passed.

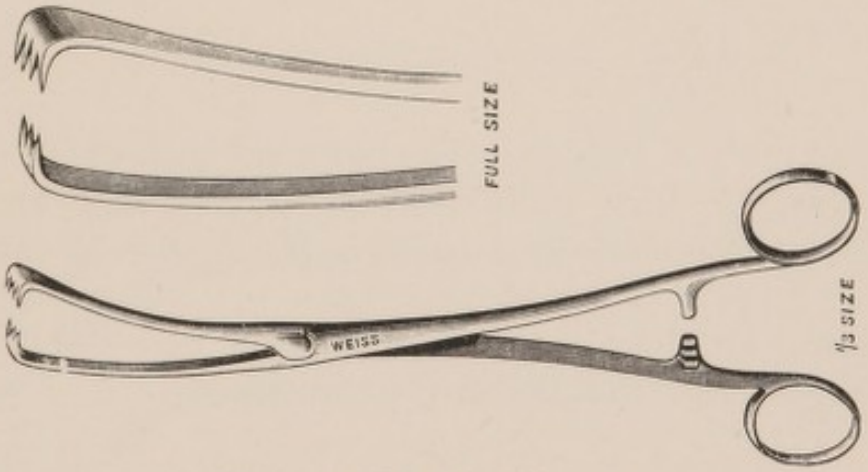


Fig. 17.—Vulsellum Forceps.

There are no better uterine sounds for diagnostic purposes than those of **Simpson** (*Fig.* 16), with a slight elbow and small bulbous end.

Vulsellum Forceps.—These give a much more secure grasp of the os uteri than single vulsella, which are thereby superseded. But they must be carefully made. The teeth should bend well over and fit accurately to one another, so that when closed no sharp points project. There should be four fine teeth on one side and three on the other (*Fig.* 17), and the blades should be capable of being locked.

Sponge Forceps.—In order to see the actual condition of the parts it is often necessary to clear away mucus, pus, or blood. This is done by small pledgets of cotton wool, previously soaked in some antiseptic and squeezed dry. These are held in sponge forceps, of which the best



Fig. 18.—Sponge-holding Forceps.

form is shown in *Fig.* 18. The old form with sliding clamp is useless. A very useful forceps is one sold for nasal polypus, with crocodile mouth. It should be at least 6 inches long in the shaft (*Fig.* 19).

Uterine Dilators.—There are several varieties of these, but they are all divisible into two classes.

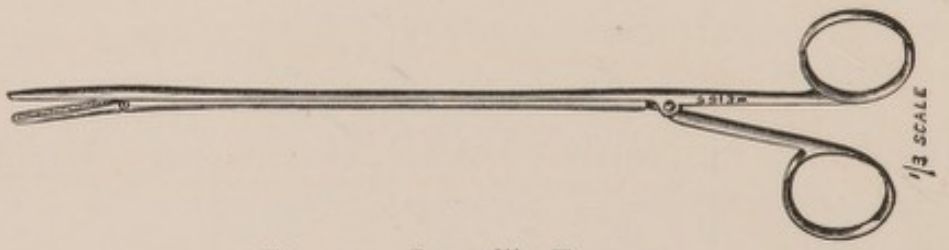


Fig. 19.—Crocodile Forceps.

The first consists of a number of stems accurately graduated, so that after one has been passed, the second will follow. The one must, however, follow the other rapidly, or the fibres of the cervix, and especially those of the internal os, re-contract so easily that the succeeding one may find great difficulty in entering. Of such stems, **Hegar's** (*Fig.* 20) are the type. **Macnaughton Jones'**

Uterine Bougies (*Fig.* 21) are a distinct improvement on these, as they act on the principle of a wedge, the bulbous



Fig. 20.—Hegar's Bougies.

point entering easily and preparing the way for the gradually increasing width of the following stem. Another

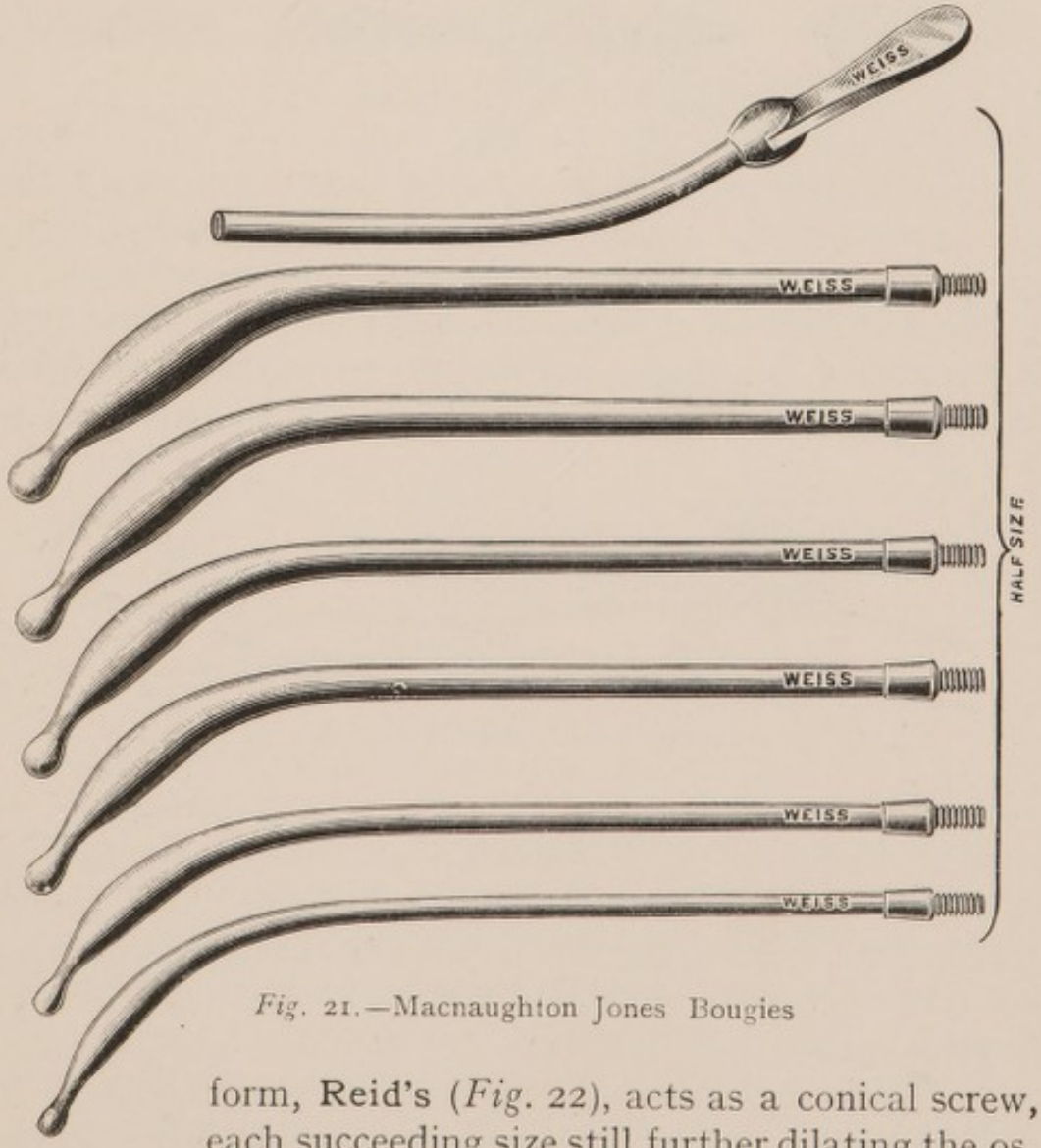


Fig. 21.—Macnaughton Jones Bougies

form, **Reid's** (*Fig.* 22), acts as a conical screw, each succeeding size still further dilating the os.

There appear to be two objections to all dilators of this class: First, that certain uteri are very soft, and their walls are easily penetrated. When using the smaller sizes of these dilators, with each fresh introduction this risk is repeated, lessening, it is true, with each succeeding size, but still possible; and, secondly, that their introduction has to be combined with a pulling action by means

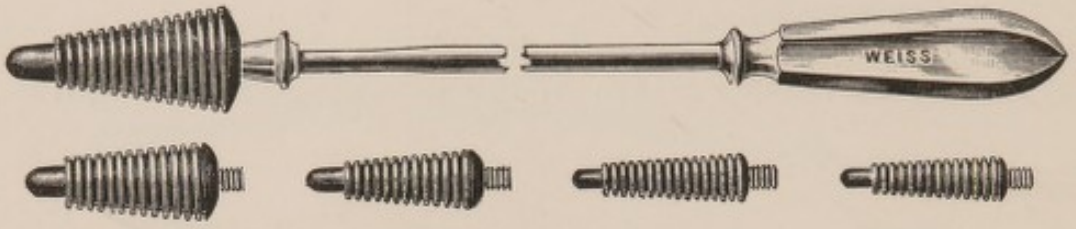


Fig. 22.—Reid's Dilators

of vulsella forceps fixed into the os, and these two forces acting against one another may result in laceration of the cervical lips; still, in certain cases they are very useful.

The second class, of which **Goodell's** (*Fig.* 23) is the type, is introduced as a single, but divided stem, the two or three blades of which can be slowly but forcibly separated by

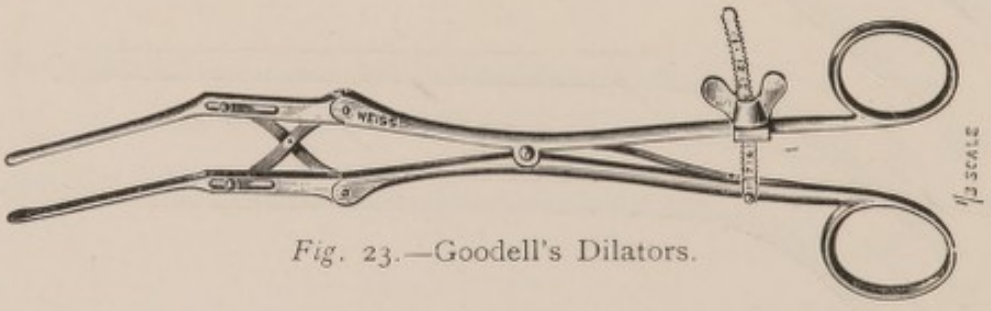


Fig. 23.—Goodell's Dilators.

a screw acting upon the handles. No pulling upon the os is required with these, and the risk of perforation can only occur during the first introduction. Moreover, this is not likely, as the closed blades form so small a stem that it usually slips in without much difficulty.

Tents made of tupelo-wood or laminaria are very useful in preparing the cervix for the action of a rapid dilator.

If passed beforehand and left for eight or twelve hours, the cervix is not merely dilated, but rendered softer and more yielding to the action of the metallic instrument.

For the EXAMINATION OF THE MALE URETHRA, **Leiter's Urethroscope**, as modified by Hurry Fenwick (*Fig.* 24,) is the best for this purpose. Long, bent probes, roughened at the tip so as to hold small wisps of absorbent wool for

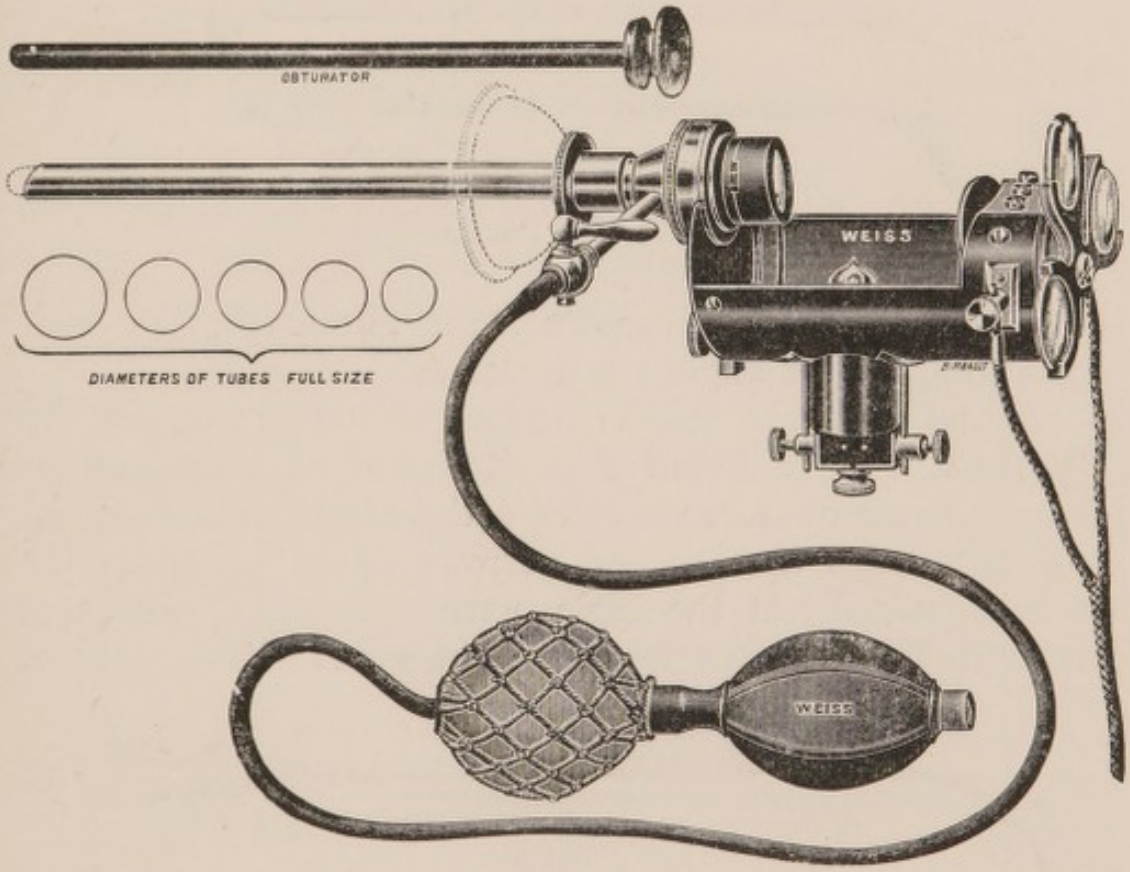


Fig. 24.—Fenwick's Urethroscope.

the removal of secretions, etc., are required. These probes must not be less than 10 inches long in the lowe straight portion. Examination is much facilitated by the attachment of an apparatus for dilating the urethra with air, as suggested by Hurry Fenwick. By this means the folds of the canal are straightened out, and the minute orifices of the urethral glands on the roof can usually be detected. When carrying out this manœuvre, however,

care should be taken that no communication exists between the urethra and the connective tissue outside, as by a false passage; otherwise emphysema of the organ will be produced, and the air may find its way into the thigh or on to the abdomen, with unpleasant and, possibly, dangerous results. For examining the deep

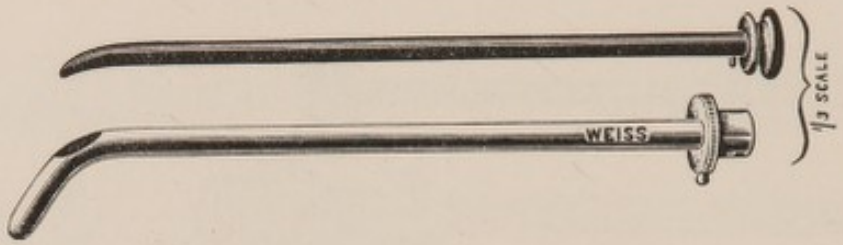


Fig. 25.—Fenwick's Prostatic Canula.

or prostatic urethra **Fenwick's Bent Tubes** (*Fig.* 25) with an opening at the angle are necessary.

For the Detection and Treatment of STRICTURE OF THE URETHRA, I have found a modification of Macnaughton Jones' uterine dilators the most satisfactory. Commencing with a bulbous tip, the end narrows again, to once more enlarge gradually at the angle, narrowing again still more gradually towards the handle. The curve of the instru-

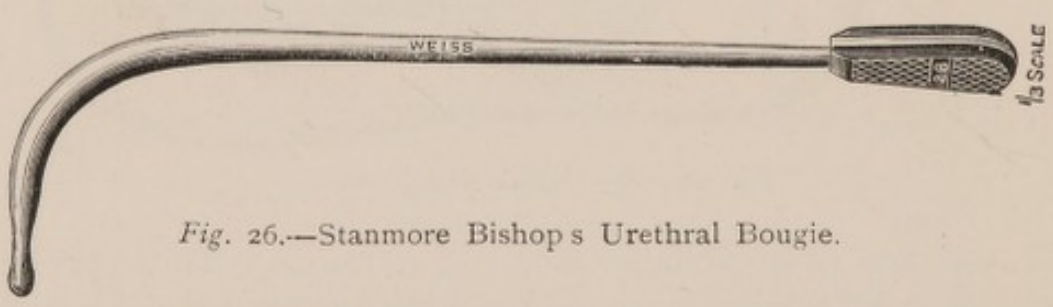


Fig. 26.—Stanmore Bishop s Urethral Bougie.

ment is that of an ordinary urethral catheter (*Fig.* 26), but the shape ensures that the main mass of the stem is at the angle, so that the sound is carried in mainly by its own weight, and requires little or no muscular effort on the part of the surgeon. The relation of the bulbous extremity to the main diameter is such, that any stricture

which the point will enter can be gently stretched by the wedge-like action of the bougie. When once the bulb has passed the stricture, it ceases to be held by it, and is free to detect a second or third below: this is not so easily

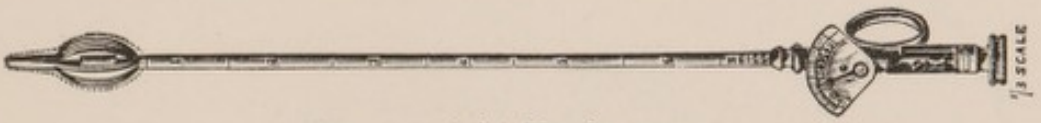


Fig. 27.—Otis' Urethrometer.

done when, as with the ordinary bougie, the sense of resistance is kept up by the presence in the first stricture of the full width of the stem. These are made in ascending sizes on the French gauge by Weiss & Son. **Otis' Urethrometer** is sometimes of value (*Fig.* 27). By its means accurate measurements can be made of the

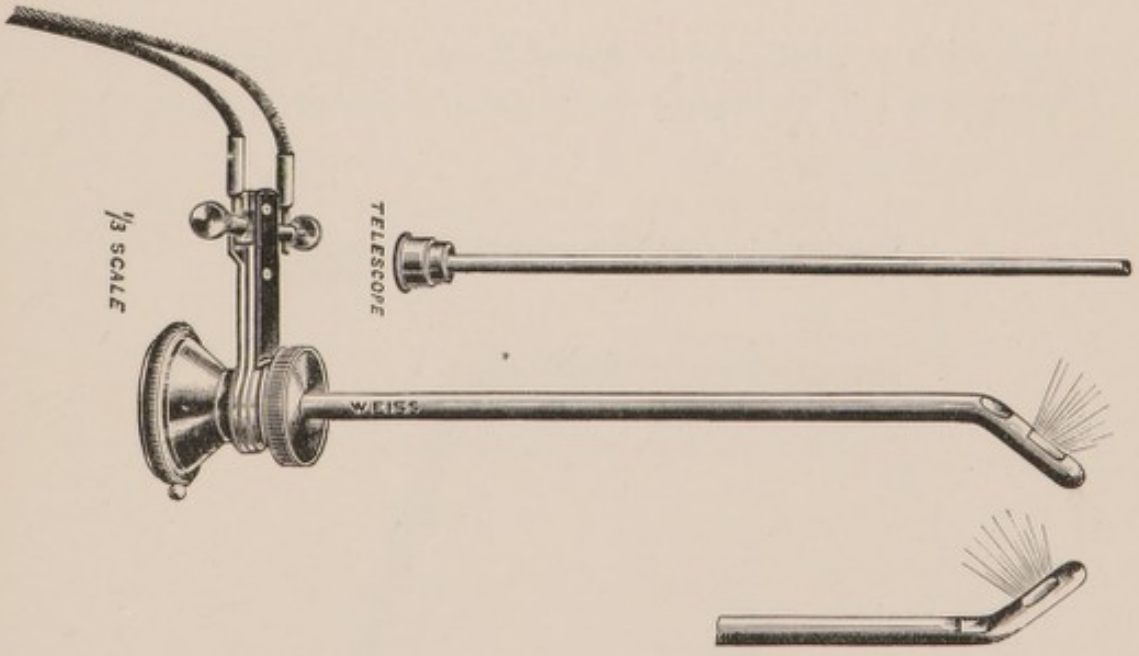


Fig. 28.—Nitze-Leiter Cystoscope.

urethral calibre, and thus improvement or the reverse in a urethral stricture can be demonstrated.

For the EXAMINATION OF THE MALE BLADDER, the **Nitze-Leiter's Cystoscope** is the best (*Fig.* 28). It has

lately had an addition of a channel for the passage of a fine ureteral catheter, the tip of which can be

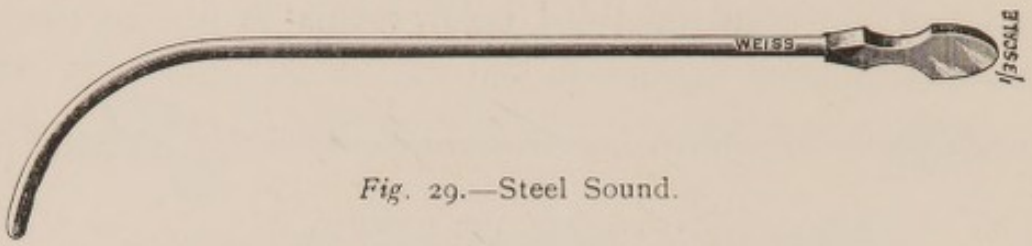


Fig. 29.—Steel Sound.

altered in direction by the pressure upon it of a fine lever operated from without. A solid nickel-plated steel

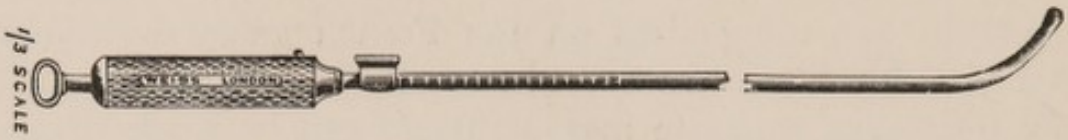


Fig. 30.—Thompson's Lithotomy Sound

sound with a short, well-curved beak (*Fig.* 29) and one of **Thompson's Lithotomy Sounds** are required (*Fig.* 30.)

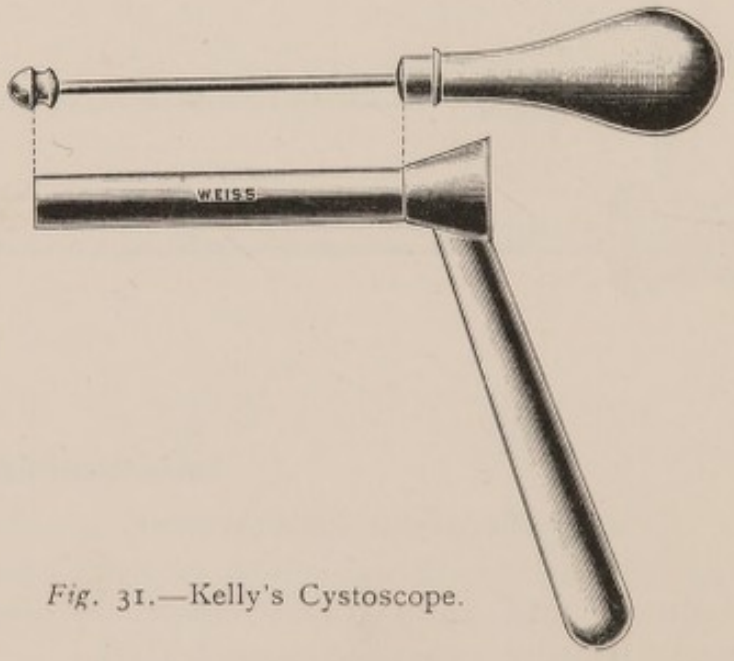


Fig. 31.—Kelly's Cystoscope.

For the EXAMINATION OF THE FEMALE BLADDER, **Kelly's Cystoscope** (*Fig.* 31) is preferable. The patient previously

empties the bladder. The meatus is cocainised. Kelly then uses a calibrator, which is also a dilator, but I prefer to use at once the fine urethral dilator. The patient being in the knee-chest position, one (usually No. 8-10) of his urethral specula is slipped in, and the light directed into



Fig. 32.—Kelly's Evacuator.

it from a reflector attached to the examiner's forehead. If any fluid still remains in or is secreted into the bladder during the examination, a very disagreeable spluttering takes place, and the surface of the bladder can no longer be seen. By the aid of an evacuator (*Fig.* 32) this fluid can be drawn off from time to time. The orifices of the ureters can be seen by rotating the canula from side to side,

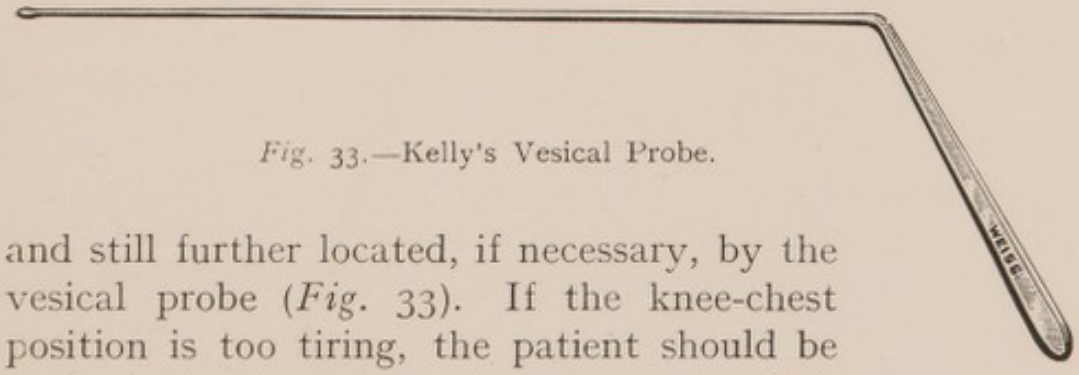


Fig. 33.—Kelly's Vesical Probe.

and still further located, if necessary, by the vesical probe (*Fig.* 33). If the knee-chest position is too tiring, the patient should be allowed to turn into the elevated pelvic position; but the pelvis should never be permitted to come down to the level, or the air will escape and

the dilatation be lost. (See Pryor's position in Chapter III).

Bi-manual Examination of the Bladder is easy in the female, and not difficult in the male. By this method, however, a complete examination is not possible, as only firm thickenings of the wall, or solid contents such as calculi, can be felt.

In hospital or in the consulting room the electric light laid on in most large towns may be utilised for the small lamps required with these vesical instruments, if properly reduced by passage through suitable apparatus, but for portable purposes a small bichromate battery or accumulator will be required.

Chapter V.

PAIN AS A FACTOR IN THE DIAGNOSIS OF ABDOMINO-PELVIC DISEASE.

PAIN, being an extremely common symptom in so many different disorders which affect this region, can only be looked upon as suggestive. It has very little value as a definite indication of any particular disease, but there is a good deal to be learnt from its character, locality, mode of onset, etc., and therefore a preliminary study of it will throw some additional light upon the question of diagnosis. In its consideration it is, however, practically impossible to consider the pelvis alone, so that the following remarks apply to the abdomino-pelvic cavities as a whole.

Abdomino-pelvic pain is of three kinds: it is either *continuous*, *intermittent*, or a combination of the two—a continuous pain with intermittent *exacerbations*. Pain must be differentiated also from *tenderness*, about which I shall speak later. Pain is a subjective sensation, not requiring any interference by the examiner in order to elicit it. Tenderness requires pressure before it can be determined.

True pain, then, may be continuous, intermittent, or a combination of both.

In this region of the body, *intermittent* pain indicates either **Neuralgia**, or some **Obstruction** to the free flow of the contents of one of the four great tubular systems present in the abdomen: the urinary, biliary, fæcal, or, in women, the genital series. It is always dependent upon the peristaltic contractions of one or other of these tubes.

Continuous pain, on the other hand, implies a pathological condition of some mesoblastic tissue.

If this distinction be kept in mind, it becomes clear why in many cases pain commencing in an intermittent manner, later becomes continuous, with exacerbations.

Take, for example, the passage of a **Calculus** along the ureter. At first, if small enough, it enters the canal, producing little or no pain; after a while, either from an alteration in its axis, which brings the long diameter of the stone across the lumen of the ureter, or because of additions to its size from crystallization upon it of some of the urinary salts, or, lastly, because it reaches a point which is less favourable to its passage, as one of the three points at which these calculi are usually arrested—*viz.*, just below the renal pelvis, just above the iliac crest, or at the vesical opening—it becomes more or less fixed, and forms an obstacle to the free passage of urine through the ureter. At once the peristaltic action of this tube becomes sensible to the patient. The tensely-filled ureter is compressed by the action of its own muscular wall, and *intermittent pain* is produced. But muscular action is always temporary. After a while it subsides, and the pain passes away, to recur again as soon as the muscular fibres recover and begin again to contract. A rough foreign body cannot long remain, however, in contact with normal tissues, subjected to repeated pressure of this kind, without producing certain changes which involve the mesoblastic walls themselves. Inflammatory swelling, hypertrophy, and possibly ulceration begin; and at once the pain becomes *continuous*, with, however, *exacerbations* during the peristaltic contractions still going on in the altered muscular wall.

A similar sequence of events may be noted in the intestine when the fæcal current becomes impeded from any cause.

Should the pathological change, however, begin in the mesoblastic tissues themselves, pain, if present, is con-

tinuous from the first, and exacerbations of a remittent type will exist or not, accordingly as those tissues involve one of the four tubular systems, or are situated at a distance from them. This rule will often supply a clue to the line of investigation required, and, when the diseased condition itself is ascertained, will give some idea of the stage at which the examination has been made. On the other hand, certain cases of extensive disease have been observed, such as **Carcinoma** of intestine, for example, where little or no pain was present up to a late stage.

How are we to distinguish *intermittent* neuralgic pain from that produced by peristalsis? There are four distinguishing characteristics :—

(1). **Neuralgic Pain** is referred to the abdominal skin. A slight touch is almost as effective as deep pressure for the purpose of intensifying it; indeed, firm pressure will sometimes, though not always, relieve it. **Visceral Pain** is intensified in proportion to the pressure exerted, and a light touch does not evoke it. This statement, however, does not refer to the visceral *tenderness* which Head describes, and which will be considered later.

(2). **Neuralgic Pain** is most marked in, and indeed confined to, the course of the abdominal nerves themselves. It can always be elicited by pressure over certain definite points, *viz.*, those at which the anterior, lateral, and posterior branches pierce the deep fascia, points which are well known and distinct. It is as marked at the back as it is in front, generally more so. **Visceral Pain** is not confined to the nerve lines, is mainly felt in front, and usually comes on entirely independently of any action on the part of the examiner. (See, however, remarks on INTUSSUSCEPTION, p. 60.)

(3). The intermittent pain of **Neuralgia** is sharp and darting. **Visceral** intermittent pain is paroxysmal, wave-like, gradually becoming more and more intense and then dying away.

(4). **Neuralgic** pain is increased by cold, by insufficient feeding, by anything which lowers the general vitality. **Visceral** intermittent pain is increased by any stimulus to peristalsis of the tube affected.

The *mode of onset* of pain is of importance. In some forms of disease the commencement of pain, whether continuous or not, is *sudden*. This occurs in acute intussusception; for instance, a child is apparently perfectly well at one moment, the next screaming with pain, which is evidently sudden and intense. In perforation of intestine, rupture of gall-bladder, empyema, or ectopic pregnancy the onset is equally sudden; so also with twisting of a volvulus or the pedicle of an ovarian cyst, in strangulated internal or external hernia, acute peritonitis, or renal or biliary colic. In other cases its onset is gradual. The pain of cancer, of an ectopic pregnancy before rupture, of gastric ulcer, duodenal ulcer, or dysentery, of distended bladder, of adhesions, of catarrhal appendicitis, of retroflexed gravid uterus, of pyosalpinx, metritis, or salpingitis, and of hydro-nephrosis or pyo-nephrosis, often begins so gradually that it is impossible for the patient to say precisely when it first commenced.

Acute pain of sudden onset means a sudden impression upon healthy or comparatively healthy nerves; therefore it finds its most typical exemplification in renal or biliary colic, due to the impaction of a calculus in an otherwise healthy ureter or biliary duct. Gradual pain points rather to a slow, insidious change in the tissues, which very slowly and step by step affects their nerve strands, and its type is to be found in neoplasmic changes, such as those of cancer. Inflammatory changes act in much the same way, though not so slowly; thus, the pain of empyema of the gall-bladder is comparatively gradual in onset compared with that of biliary calculi, but more rapid than that of hepatic carcinoma. The pain of cystitis is not sudden in its commencement, as is that of vesical calculus; and

the pain of a vesical calculus in the bladder which has undergone inflammatory changes previous to its formation, cannot be so clearly dated as the commencement of the pain of a calculus which has suddenly found its way into a healthy bladder.

Much, doubtless, of the *intensity* of such pain depends upon the kind of calculus present; thus, the spicular, hard surface of a calculus composed of oxalate of calcium produces much more suffering than the smoother coat of one formed by ammonium urate or the softer phosphatic stones; but this is a question of intensity, not of mode of onset. Pain in either case may be equally intense at last, but in the one case the acme of intensity is quickly, in the other much more slowly reached.

With regard to the *locality* of pain, several statements have been made which are doubtless true, but the emphasis that has been laid upon them is, I think, misleading. It cannot be doubted that the results of surgical exploration tend towards greater security, greater certainty, in the recognition of the relation of pain in certain regions to disease of certain definite viscera; thus, pain on pressure over McBurney's point, when taken in conjunction with other symptoms, almost always justifies belief in the existence of inflammatory changes in the **Appendix**, whilst Mayo Robson has lately shown that disease affecting the **Gall-bladder** produces pain which may be elicited by pressure over another point, one inch above and to the right of the umbilicus. Occasionally cases do occur where pain is complained of on one side of the abdomen when the cause has been located on the other; but these cases are surgical curiosities, the reason of which we do not yet know, but which probably will sooner or later be found to be subject to some definite rule. Meanwhile it seems a mistake to emphasize them, as is so often done, until the student comes to look upon them as exemplifying the normal condition of things, rather than as being, what

they are at present, unexplained exceptions, and his ideas become confused in consequence.

In almost all cases visceral pain, whatever its actual point of origin, is at first located by the patient over the solar plexus; that is, over an area between the ensiform cartilage and one inch below the umbilicus on the one hand, and the external borders of the recti muscles on the other; but in the course of forty-eight hours, and often earlier, such pain will have localised itself. **Gall-stone** pain will become most concentrated over a spot one inch above and to the right of the umbilicus. From this point it will spread towards the tip of the ninth right costal cartilage, around the right side of the chest at this level to the spine of the scapula, and upwards beneath that bone to the right shoulder. The pain of **Appendicitis** will have become most marked at McBurney's point, that is, at the centre of a line drawn from the anterior superior iliac spine to the umbilicus, and sometimes spreading down the right thigh along the course of the obturator or anterior crural nerves. The pain of an **Intussusception** will often lead the investigator direct to the mass so formed. The pain of a **Ureteral Calculus** can often be localised by the patient himself along the course of that tube, and even the pain caused by **Hernia** under a band has been so accurately localised for me by a child suffering from this condition, that I was enabled to go direct to the spot where the band was found, during a laparotomy for that purpose. Increased experience has taught us to expect these indications, and in an increasing number of cases they have been forthcoming when carefully looked for.

But the pain produced by disease of abdomino-pelvic viscera is often referred to other regions than those immediately over the organ affected. Here, however, we are on far firmer ground. Whether or not this reference takes place through certain definite segments of the spinal cord, as Head believes, the relationship is a matter of

constant and consistent experience, and at once gives us a clue upon which we may rely. It is not based on isolated instances which appear to be contradictory to previous experiences, and instances of it may be found in the pain at the inner side of the knee complained of by women with **Metritis**, or the pain at the shoulder in **Hepatic** disorders.

The combination of *pain* with *tenderness* is of great value. It enables us to distinguish ordinary or lead colic, in which there is severe pain, but no tenderness, from peritonitis or appendicitis, in which both are present; gall-stone colic or urinary colic, with its recurring paroxysms of pain without tenderness, from empyema of the gall-bladder or perinephritic abscess, in which both pain and tenderness are well marked. Such a combination usually points to the onset of inflammatory changes, but does not, apart from other symptoms, alone justify such a diagnosis. It only suggests further enquiry in this direction.

There is a form, however, of referred tenderness over certain areas, with maximum spots at a distance from the viscera involved, to which Head and others have called attention, which at first sight seems to invalidate to some extent the remarks in the preceding paragraphs. But these areas are in relation with the viscera not by direct superposition, as is there assumed, but by and through certain *spinal segments*, with which their sympathetic supply on the one hand and certain cutaneous nerves on the other are connected. These nerves are apparently not the ordinary spinal nerves of sensation, since each area crosses over the lines of several nerves, and lies much more transversely than does their line of distribution. Moreover, these areas do not overlap as do the areas of common sensation. They appear to have much more in common with trophic nerves, and Head specially calls attention to the fact that the areas correspond with those mapped out by **Herpes Zoster** when it occurs. They are tested, not by ordinary touch, but by the non-ability to distinguish between the touch

of a blunt and that of a sharp instrument—between the head and the point of a pin, for instance. They, therefore, do not perfectly resemble the usual idea of what is meant by tenderness, and might perhaps be better described as areas of hyperæsthesia. In this locality Head describes such areas from the fifth dorsal to the sacral areas. Following him, the various organs may be represented on the skin in the following way :—

Viscus.	Area.	Maximum Points.
Œsophagus, cardiac end	Infrascapulo-mammary.	Anterior : fifth rib, one inch internal to nipple-line. Posterior : level of seventh spine, one and one-half inches from mid-line.
Stomach.....	Subscapulo-ensiform.	Anterior : over ensiform cartilage. Posterior : ninth spine, from this to scapular angle.
Liver.....	Middle epigastric.	Anterior : eighth space, two inches outside nipple-line. Posterior : one and one half to two and one-half inches below angle of scapula, and two to three inches outside of mid-line.
Gall-bladder.....	Supra-umbilical.	Anterior : tip of tenth costal cartilage. Posterior : level of eleventh dorsal spine, one and one-half inches from mid-line.
Kidney.....	Sub-umbilical.	Anterior : one and one-half inches outside and one inch below umbilicus. Posterior : tip of twelfth rib.
Uterus.....	Gluteo-crural.	Close to great trochanter. Above and on inner side of knee.
Fallopian tubes.....	Sacro-iliac.	Anterior : above Poupart's ligament at level of internal ring. Posterior : fifth lumbar and first sacral spines.
Bladder and prostate...	Sacral area.	Anterior : end of glans penis. Posterior : over ischial tuberosity ; over lower sacrum.

The stomach, however, affects both its own and the area above if the lesion be at the cardiac end, or its own and that below if at the pyloric extremity.

The tenderness of **Peritonitis** is peculiar, since it has no posterior area, but extends laterally to a line stretching from the tip of the eleventh rib vertically to the crest of the ilium, beyond which it is not felt. Moreover, since Head says that there is no true cutaneous tenderness such as he describes in peritonitis, it emphasizes the difference between what is generally understood by the term tenderness and these areas of hyperæsthesia, since the tenderness undoubtedly present in this condition differs fundamentally from that described by him in connection with referred pain.

The *time* at which abdomino-pelvic pain appears, or rather its relationship in time to certain functions, will often give great assistance. Such a case as the following* exemplifies this well, whilst at the same time it shows what caution is necessary in judging of such evidence. Three years since I was asked to see a patient with her own medical attendant. She had complained for many years of a continuous pain in her pelvis on the left side. This pain had been worse at the menstrual periods. Acting upon this fact, her abdomen had been opened by another surgeon, and both her ovaries had been removed. During the enforced rest which followed the pain was less. It never, however, entirely left her, and as soon as she began to move about again she still complained as much, whilst of course, as she no longer had any menstrual periods, they could no longer affect it. But it was thought—and a Manchester physician endorsed the idea—that some nerve fibres might have been imprisoned in the ligature of the stump, and that removal of this ligature might put an end to it. She was, in fact, brought to me in order to have this done. On

* See more in detail in Part IV, Case VIII.

further questioning, however, it appeared that this pain had been present for a year before ever menstruation had occurred; and although there had certainly been increase in the pain at the menstrual times, when, as we know, all the pelvic organs are somewhat congested, there had been far greater increase of pain on and after micturition. She stated that at times no urine would pass for hours and even days, and during that time she would often sit straining to expel urine, whilst the pain would be so severe as to cause her to faint. The bladder was empty, but a recto-bi-manual examination detected a stone the size and shape of an acorn firmly impacted in the lower end of the left ureter. This was extracted through the bladder by a supra-pubic incision, and the pain went with it.

Pain just after micturition suggests **Cystitis** or **Stone** in the bladder or part of the lower ureter; pain during micturition, gonorrhœal or other **Urethritis**; pain before defæcation, **Ulceration in the Rectum**, acute **Prostatitis**, or **Metritis**; pain during and after defæcation, **Fissure**; pain before menstruation, **Ovaritis** or **Salpingitis**; during menstruation, some contraction, organic or spasmodic, or some flexion of the uterine canal; pain directly after eating suggests the possibility of **Ulcer of the Stomach**, two to four hours after **Ulcer of the Duodenum**, and so on.

The *character* of pain, if it is possible to obtain any reliable description, has also its value in diagnosis. An intense, sudden, tearing, rending pain, often severe enough to produce collapse, and usually associated with sharp vomiting, is common to a comparatively small class of cases. These are: **Perforation** of ectopic pregnancy, **Rupture** of pyosalpinx, **Rupture** of appendical abscess into the general peritoneal cavity, **Rupture** of gastric ulcer, of duodenal ulcer, of gall-bladder. Note that these are all **Ruptures** of important organs, permitting the escape of irritant fluids into a healthy peritoneal cavity. One gets nothing like this in ascites, although the peritoneal

cavity may contain far more fluid; or in tuberculous peritonitis, though here also the cavity contains fluid, and sometimes pus. In the one, the fluid is not irritating; in the other, the peritoneum is not healthy at the time when the fluid comes in contact with it. To distinguish between these one has to note the previous history, the age, and kind of patient. In males, of course, one cannot have ectopic pregnancy, or pyosalpinx, but the rest are all possible.

In rupture of ectopic pregnancy there is usually previous good health, except for pain. This is not the case in any of the other conditions. A pyosalpinx means infection of a septic character; the patient has been in previous pain, sickly and ailing, with aching over the sacrum, sense of weight and fulness in the pelvis. Duodenal and gastric ulcer imply previous dyspepsia, and the period with relation to food at which this dyspepsia has been most marked, will help to differentiate the two. As soon as food enters the stomach and the digestive gastric movements begin, pain or discomfort will have been felt if the ulcer is in the organ which immediately receives that food, but nothing reaches the duodenum which can excite pain there until an hour or two after, in the case of an ordinary meal when gastric digestion having reduced the food to a proper consistence and chemical composition, the pylorus opens and permits the gastric contents to flow over the duodenal ulcer. The time will naturally differ with the character of the meal: light food, *e.g.*, bread and milk, will take a shorter period. An appendical abscess does not rupture as soon as formed; very often there is a history of repeated previous lesser attacks of pain in the right iliac fossa, and always there will have been some hours and possibly days of suffering before the intenser pain of rupture sets in. Rupture of the gall-bladder is very rare, and this also does not occur like a thunderbolt out of a clear sky, as in rupture of ectopic

pregnancy; there have been other previous symptoms; slight jaundice usually evanescent, sensation of weight in the right hypochondrium, spreading between the shoulders, and to the right shoulder; usually a well-defined swelling which has been seen and felt before the catastrophe occurs.

A very curious and almost distinctive pain is seen in acute **Intussusception.** In such cases, which usually occur in children, you will hear from the mother that the child has had attacks of intense pain—and she will emphasize this very greatly—but at the time you see it, it will be probably fast asleep, evidently in no pain at all, and it naturally occurs to you that the mother is exaggerating, and that there is nothing more the matter than slight gastralgia. If in such a case you uncover the abdomen and place your *warm* hand upon it, moving it *gently* in various directions, at first the child will make no objection. You may or may not feel any mass at first; but your gentle friction will excite peristaltic action, and the child begins to cry. If you maintain your hand there, the crying becomes greater; the pain suffered is evidently more and more intense, until it reaches its acme, and then gradually it dies away again. It is wave-like. During the paroxysm of pain a mass may, for the first time, become palpable. If you have previously detected it, it becomes steadily harder and more defined as the pain increases. As the pain dies away so also does the sensation of a lump become fainter and more elusive. It is always at the acme of the pain that any intussusception is most likely to be detected; and this because both pain and mass are produced by the same cause, increased peristalsis.

In any intussusception one portion of intestine is placed inside that immediately continuous with it, and so a vertical section through the two would discover six layers of intestinal wall, *viz.*, the containing layer, the entering layer, and the returning layer, the three, of course, multiplied by two, the two semicircles of the gut. Peristalsis of two

layers of healthy and not hypertrophied bowel can scarcely be appreciated by an observer's hand placed outside the abdominal wall; but peristalsis of six superimposed layers, each more internal layer stiffening and rendering more prominent the one external to it, besides stimulating the contraction to a greater pitch than normal, can be appreciated, and usually with fair ease. The mere superposition of these layers when not in a state of active peristalsis, however, does not necessarily render that segment perfectly definite: firm contraction supplies the factor requisite.

The combination of *pain* with *rigidity* is important. So long as the peritoneal surface of a viscus is not inflamed, so long rigidity will not be present; thus, a **Gastric Ulcer** may cause pain, but if it has not reached the peritoneal coat of the stomach there will be no rigidity. **Catarrhal Appendicitis** will produce pain, but no rigidity unless there be as well some peri-appendicitis. But directly the **Peritoneum** itself becomes involved, rigidity, local or general, according to the extent to which this membrane is implicated, will become evident. It appears to be another exemplification of the old axiom of Hilton, that irritation of the membrane lining a joint is reflected at once to the muscles which move that joint. So in morbus coxa, rigidity of the hip-joint is the first and invariably present symptom. This rigidity of the abdominal muscles, however, is but temporary, and disappears after awhile, the rapidity with which it does so appearing to have some relationship to the acuteness of the septic poisoning of the system which so rapidly supervenes in most forms of peritonitis. Thus, when distension begins, showing septic paralysis of the bowel, rigidity passes away; but I believe that it will always be found in the earliest stages if carefully looked for. Quain, in his *Anatomy*, has shown the intimate connection between the visceral nerves, derived from the sympathetic, and the motor nerves of the abdominal muscles. Quain says, "The

sympathetic ganglia are severally connected with the spinal nerves in their neighbourhood by short filaments; each connecting filament consisting of a white and grey portion, the former of which may be considered as proceeding from the spinal nerve to the ganglion, the latter from the ganglion to the spinal nerve"; thus, the obliqui, transversales, and recti are supplied by the lower intercostal nerves, whilst the great, small, and smallest splanchnic nerves are formed by branches from the fifth to the eleventh dorsal spinal ganglia, and these splanchnic nerves supply the solar plexus, the semilunar ganglia, the suprarenal, renal, cœliac, aortic, and other plexuses, from which the viscera are supplied. Other connections between the pneumogastric, the lumbar, and sacral nerves on the one hand, and the cœliac, coronary, hepatic, superior mesenteric, hypogastric, and pelvic plexuses on the other are equally demonstrable.

Present acute pain derives much of its significance from the history or want of history of previous subacute attacks—their locality, duration, and character. Thus, as already mentioned, the acute pain of **Gastric Perforation** may sometimes be differentiated from that produced by **Duodenal Perforation** by the previous history of pain occurring within half an hour after the ingestion of food in the former, as opposed to a history of such pain over two hours after food in the latter; whilst both may be distinguished from that of a **Ruptured Ectopic Pregnancy** by the fact that the latter had a previous history of pain unconnected with meal-times, more persistent, and spreading down anterior crural, obturator, or sciatic nerves. This is useful, since the immediate clinical picture is very much the same in all three.

The history of previous attacks of pain is of great importance in **Appendicitis, Hepatic Colic,** or **Ureteral Colic,** where the pain now felt in the course of the ureter has been preceded by pain during previous attacks in the corresponding renal region; or in acute **Salpingitis,** the

pelvic pain which can be correlated with a previous attack of pain during micturition, is suggestive of a causative infection with gonorrhœal poison.

So far, acute, sharp pain has been mainly in question. Dull, aching pain is, however, far more frequent in pelvic disorders, and especially in women. This pain is usually referred to the sacral and lower lumbar regions. It is almost always present in chronic inflammatory and other conditions affecting the uterus and its appendages, and should always direct attention to these structures. Whilst of little or no value in differentiation, it is of great assistance in arresting attention, since patients usually complain of this symptom sooner and with more emphasis than of any other, and a thorough bi-manual examination will usually reveal the cause.

Lastly, any circumstances which arouse *dormant* pain, or modify it in any way, should be enquired into. The jolting of a carriage or omnibus will greatly increase the pain of metritis. A slip off a curbstone will render the pain of vesical calculus extreme. Rest in bed on the affected side will relieve the pain of **Renal Calculus**, whilst having but little effect upon that of **Tuberculous Pyelitis.**

Part II.—Lines of Diagnosis.

Class I.

Swellings originating and developing in the abdominal wall itself.

The patient may be male or female.

The patient may or may not complain of pain, but attention has been arrested by the discovery of some comparatively superficial swelling in the abdomen.

On examination the swelling is found to move over the deeper contents of the abdominal cavity.

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1. *There is an abnormal localised swelling of the abdominal wall.* (§§ 2-21).

2. *If the patient lies on the back and attempts to rise into a sitting position without assistance, the swelling becomes more prominent. It is therefore seated in the abdominal wall itself.* (See §§ 3-21).

3. *The swelling is moveable in or through the tissues. There is no œdema around it; no infiltration of the structures around, no rise of temperature, and no general emaciation. The swelling is dull or mainly dull on percussion.* (See §§ 4-10).

4. *The contour of the swelling can be clearly defined by palpation. The fingers can be made to surround it, and, with patience, to penetrate beneath it. Manipulation causes no pain, and pressure does not lessen the actual size. It is absolutely dull on light percussion.* (See §§ 5-6).

5. The swelling is hard, incompressible. On stretching the skin there is no dimpling. The rate of growth is slow at first. It is probably a **Fibroma of the Abdominal wall.**

6. The swelling is soft, and to a certain extent compressible. On stretching the skin, dimpling is seen. The rate of growth is slow throughout. It is a **Lipoma.**

7. *The contour of the swelling is not clearly definable. The fingers cannot be made to meet beneath. There is a sensation of dragging, sometimes amounting to pain. Pressure may decrease its size, or even cause its disappearance. The swelling is soft.* (See §§ 8-10).

8. There is a history of previous hernia, or of operation upon the abdomen. The mass is finely nodular. Pressure may entirely reduce. The mass comes through a comparatively large opening in the muscular wall, the edges of which may be felt on either side when partially or wholly reduced. It is situated in or near the line of the previous skin incision, or at the usual positions of hernia. It is dull on light percussion. It is an **Omental Hernia.**

9. The conditions are the same as in § 8, except that besides the finely nodular sensation on palpation, portions of the mass can be felt to be smooth and their outlines rounded. These smooth portions give a clear note on light percussion. It is **Ventral Hernia.**

10. There may be, and probably is, no history of previous hernia or operation. The mass is composed of small, rounded lobules. Pressure may decrease the size, but will not entirely reduce. It can be felt to come through comparatively small openings in the muscular wall, and its position has no relation to any previous scar. It is **Hernia of Sub-peritoneal Fat.**

11. *The tumour is fixed in the tissues.* (See §§ 12-21).

12. *There is no circumferential infiltration, no loss of*

flesh, no rise of temperature, and the mass is soft. (See §§ 13-16).

13. *The mass is covered by skin.* (See §§ 14-15, 17-21).

14. The mass is at, and projects from, the umbilicus. Percussion gives a clear note in parts. There is a history of piles, bronchitis, asthma, parturition, or operation. Pressure upon it causes a gurgling sound. It may be partially or wholly reducible. The outline is usually irregular, with large curves. The fingers cannot pass beneath. If it can be reduced it goes back with a gurgling sound with or without chloroform. It is an **Umbilical Hernia.**

15. The position is indifferent, though usually in the line of the recti muscles. It is dull on light percussion. There is a history of hysteria or other neurosis. Pressure produces no gurgling. It cannot be reduced. Its outline is smooth. The fingers may or may not be made to pass beneath at the sides. Under chloroform it totally disappears without gurgling. It is **Pseudocyesis or Phantom Tumour.**

16. *The mass is covered by mucous membrane.* It lies immediately above and between the often separated symphysis pubis. There is a reddened, velvety mass, upon which the orifices of the ureters can be seen; from these orifices come short spurts of urine. The parts are always wet, and the surrounding skin often raw and excoriated. There is an ammoniacal or urinous smell. In the male the scrotum is diminutive, the testes usually undeveloped, the penis small and usually grooved above. It has existed from birth. It is **Ectopia Vesicæ.**

17. *There is circumferential infiltration. The mass is dull on percussion, not reducible by pressure, and painful.* (See §§ 18-21).

18. *There is no rise of temperature. There is progressive loss of flesh. The growth is at first slow, but becomes rapid.* (See §§ 19-20).

19. The mass is hard and nodular. It is always seated at the umbilicus. There is a history and other signs of hepatic carcinoma. It is **Umbilical Carcinoma.**

20. The mass is soft. Its position is indifferent; there is usually a history of some injury, or previous presence of a wart or other skin growth. It is probably **Sarcoma.**

21. *There is a rise of temperature, especially at night.* There may be slight loss of flesh. The mass is at first firm, becoming soft and elastic in the centre. The position is indifferent. There is a history of injury or the presence of a foreign body. The rate of growth is rapid. It is an **Abscess.**

CLASS II.

CONDITIONS AFFECTING PERINÆUM, EXTERNAL GENITALS, AND INGUINAL REGION.

(DISCOVERED BY DIRECT INSPECTION).

The patient may be male or female.

The patient has discovered some abnormality affecting the generative organs, or the skin of the perinæum, or the gluteal or inguinal region.

Group A.—AFFECTING THE MALE SEX.

Section 1.—AFFECTING THE PENIS.

22. *The patient is a male. He complains of itching and irritation about the end of the penis. There may be increased frequency of micturition.* (See §§ 23-48).

23. *He is a young or middle-aged man.* (See §§ 24-28, 31-35, 37-48).

24. *There is no discharge from the meatus.* (See §§ 25-37).

25. There is a long prepuce. It cannot be perfectly retracted, and its opening is small. It has existed from birth, or in older persons may be acquired. Attempted retraction shows a normal glans, which may be more or less adherent to the mucous surface of the prepuce, or may be free. In children pain or deformity in the lower extremities may occur (Sayre). It is **Phimosis.** (**Preputial Calculi** may form in the coronal sulcus.)

26. The glans is entirely bare; it is reddened and tense. Behind its corona lie reddened, swollen folds of

mucous membrane, which may be dry and hot, or covered by muco-pus. There is a history of interference with the organ, which has been rapidly followed by the present condition. It is **Paraphimosis.**

27. *There is an external inflammatory condition of the glans or prepuce, or both.* (See §§ 28-33).

28. The glans, when uncovered, is redder than normal. Often the coronal groove contains pus or cheesy material. There may or may not be some loss of epithelium. The redness is equally distributed over the surface. It is **Balanitis.**

29. The patient is past middle life. There is a certain amount of redness distributed in patches. The corona and meatus are not affected. The surface may be raw and slightly moist, or dry and scaly. The margins of the patches are abruptly outlined. There are evidences of gout in the system. It is **Gouty Balanitis.**

30. The surface of the glans and prepuce is dark red and velvety. There are numerous erosions, with purulent discharge. Mycelium spores are found in the discharges. The patients are usually stout and florid. Sugar is present in the urine. It is **Diabetic Balanitis.**

31. The prepuce is also affected in a similar manner to § 28. It is **Balano-Posthitis.**

32. The glans is covered at various points with minute vesicles on a reddened base. These vesicles appear in crops. The vesicles burst and disclose minute, shallow ulcers, which heal readily, leaving no scar. It is **Herpes.**

33. The glans and penis are the seat of minute vesicles, which are arranged in a more or less unbroken line, following the course of the pudic nerve. If not rubbed, these vesicles dry up, forming small scabs, which, on falling off, show scars. If rubbed, they disclose ulcers which are intensely painful, and are very slow to heal. It is **Herpes Zoster.**

34. *There is ulceration.* (See §§ 35-37).

35. On the glans, especially near the corona, or on the prepuce, appear numerous small, round, yellow ulcers. They are quite soft, and have no hard, indurated base. Their edges are well defined and tend to spread laterally. They discharge pus. They appear as a red papule about twenty-four hours after a suspicious coition, become vesicular within three days, pustular on the fourth or fifth, and ulcerate within six days. They are always multiple, and readily infect opposing surfaces. If the inguinal glands enlarge, these may soften and break down. No secondary symptoms follow unless the infection of syphilis has been introduced at the same time. They are **Soft Chancres or Chancroids.**

36. Beginning as a soft chancre, in very debilitated and alcoholic constitutions, ulceration may spread rapidly in a serpiginous fashion, or more directly and completely, the sound tissues apparently melting away before the advancing ulcer, which is then covered with a grayish or black slough, until a large portion or the whole of the penis is eaten away. The smell is very offensive. The destruc ion is only arrested by the application of the cautery or some very strong acid. The inguinal glands enlarge and break down in a similar fashion. It is **Phagedænic Ulceration.**

37. There is an irregularly-shaped ulcer; the base is cheesy and yellow, with isolated granulations which yield a thin secretion. The edges are undermined. The deeper tissues are more affected than the surface (H. Morris). It is **Tubercular Ulceration.**

38. *There is a discharge from the meatus, which is more or less purulent.* (See §§ 39-48).

39. *There is no new growth, and no external inflammation. There is some difficulty in urination.* (See §§ 40-48).

40. *The stream of urine is narrow, forked, or twisted. There is a history of gonorrhœa, passage of catheter, gout, exposure to cold, injury, or operation. It takes longer than is normal to empty the bladder, and a few moments after the*

stream has apparently ceased, a small quantity will dribble out. It becomes more and more difficult to direct the stream. It is some time since the cause (if it is one that acts only at a certain time) was in action. The passage of urine is not markedly painful, and the lips of the urethra are neither red nor everted. (See §§ 41-44).

41. With the aero-urethroscope a whitish line can be seen passing transversely round the urethra, at which point the calibre is narrower than the rest of the tube, the mucous membrane bulging out above it. This may be merely a narrow line, which looks as if a thread had been tied around the tube, or it marks the entrance to a narrow portion of the tube, the walls of which are thickened and stiffened. There is often a diminution of the lustre of the distal portions of the tube, showing a loss of epithelium. The opening in the ring thus formed varies from a pin-point to a fairly wide lumen. The orifices of the urethral glands are wider than normal and surrounded by a pink areola (Fenwick). A bougie large enough to fill the meatus is arrested at the point of constriction. When it has passed this, which it does smoothly, it glides on easily. It can be felt to enter the bladder, and the portion outside is not deflected from the median line. If a catheter be used, urine issues. No bleeding of any moment follows. It is a **Simple Stricture.**

42. The symptoms are the same as those of § 41, but there has been a previous instrumentation which was followed by bleeding. With the urethroscope a raw, ragged slit is seen just in front of the constriction, with small clots adherent to the edges. A catheter passed down is arrested at this level; if it passes on, it does not do so smoothly, but as if over a slightly roughened surface, when it is again arrested. It cannot be felt to enter the bladder; the portion outside is deflected from the median line, and no urine escapes. If the attempt be persisted in, blood follows. It is a **False Passage.**

43. With the urethroscope patches of congested or granular mucous membrane are seen, darker in colour than the surrounding membrane, often at the peno-scrotal angle, or in the deeper urethra. These patches may be œdematous, and often bleed on touch. There may or may not be an accompanying constriction of the tube. Passage of a bougie is easy if there is no stricture present, but there is often a sensation of pain when the instrument touches the spot. The orifices of the urethral glands are purplish, and are widely open, or they form slightly-raised, opaque pin-head points, placed in double rows along the roof "like so many buttons" (Fenwick). There is a more or less constant slight muco-purulent discharge, increased by the taking of stimulants. It is **Gleet** or **Posterior Urethritis.**

44. With the urethroscope the deep urethra looks red and spongy, flecked with small, white patches; the caput gallinaginis is red, tumid, and enlarged. There is but a slightly purulent, viscid discharge in no great quantity, which glues together the lips of the meatus. If the urine is passed in two portions, the first will contain minute, thin, white threads—prostatic threads—which float for some time, slowly sinking to the bottom of the glass. It is **Prostatic Catarrh.**

45. *There is sharp pain on urination. The urine itself appears to scald. The lips of the meatus are reddened and everted.* (See §§ 46-49).

46. The lips of the meatus are swollen and markedly reddened and everted. There is chordee at night. The organ itself is hotter and stiffer than normal. The discharge is thick, purulent, greenish, and stains and stiffens linen. It begins from two to eight days after a suspicious coition, most usually on the third or fourth day. There is dragging pain over the lumbo-sacral region. In the cells of the discharge the gonococcus is seen. It is **Acute Gonorrhœa.**

47. The lips of the urethra are but slightly swollen or

everted. There may be chordee, but it is not severe. The organ is not hotter or stiffer than normal. The discharge is thin, yellow muco-pus. There has been no suspicious coition, but exposure to cold and wet, as by sitting on a damp seat; or the passage of an instrument or calculus. The patient's wife may suffer from leucorrhœa. No gonococci are found. It is **Simple Urethritis.**

48. A similar physical condition is seen, but gonococci are found in the pus cells. The history given may be the same, but is not to be relied upon. It is **Sub-acute Gonorrhœa.**

49. There is swelling, heat, and aching of the whole penis, which continues for a long time, and recurs often. There is pain, redness, and a purulent urethral discharge. The glans and anterior portion of the organ are enlarged and tender. There is a history of gout, with turbid urine, but no fever. It is **Acute Gouty Urethritis.**

50. *There is a new formation or growth.* (See §§ 51-61).

51. The organ is much enlarged, usually in common with the scrotum and parts adjacent. The skin is pigmented, cracked, uneven, warty above and below. The erectile tissue may be toughened. The course of the disease is very slow and painless. There are often recurrent attacks of erysipelas. The *filaria hominis* may be present if the patient is a negro or Chinaman, or has lived long abroad. It is **Elephantiasis.**

52. On the glans, but especially on the coronal groove, are situated a number of warty-looking growths. They are soft, and are attached by short pedicles so as to be almost sessile. Their surface and edges are uneven, and they are covered by a muco-purulent secretion. They grow in a dendritic manner. Their base is soft and not infiltrated. The inguinal glands are not enlarged. They may form a large, velvety mass, completely encircling the glans and pushing outwards the prepuce, which latter, however, is

not infiltrated or hardened. They are **Condylomata or Warty Growths.**

53. Springing from the corpora cavernosa, often near the glans, is a rounded mass, which may be deeply seated, and which enlarges rapidly. After some time the skin over it yields, and a spongy, sprouting mass is seen, which bleeds readily. The inguinal glands are enlarged, and are soft and elastic, suggesting the presence of fluid within. It is **Sarcoma.**

54. Small, black or blue, hard spots appear on the glans, more especially near the meatus, or on some other portion of the penis, which enlarge rapidly. They may be elevated or flat. There is induration around them, and often a hard cord may be felt running along the dorsum of the penis. There is some enlargement of the inguinal glands. It is **Melanotic Sarcoma.**

55. The prepuce is normal. It can be easily drawn backwards or forwards. Attached to the lip of the urethra is a small, firm, polypoid body, which is normal in colour, painless to touch, and connected with the glans by a narrow pedicle. It is a **Fibroma.**

56. Occasionally in the long prepuce of boys a firm, elastic, rounded mass is felt. It is clearly defined, globular in shape, and has no surrounding infiltration. On stretching the skin over it the dilated mouth of a gland duct may be found. It is a **Sebaceous Cyst.**

57. On the glans, often near the corona, just within the lips of the meatus, the prepuce, or occasionally on the shaft, is a single, firm, rounded mass the size of a small button ; its edges are ill-defined, and blend with the tissues around. Its surface may present a small crack or excoriation. It is firm, and beneath it is a still firmer layer which feels like parchment. A very slight serous discharge comes from it. It appears from two to six weeks after a suspicious coition, and disappears in six to eight weeks after ; it does not produce others by apposition of surfaces. The glands

of the inguinal transverse chain become hard and "shotty," and remain so for an indefinite time. Secondary symptoms—an erythematous rash on the chest, loss of hair, and a persistent sore throat—follow. It is a **Hard or Hunterian Chancre.**

58. On the prepuce, the skin of the penis, the glans, or in the erectile tissue of the corpora cavernosa, certain changes may be seen in the tertiary stage of syphilis. On the external surface are small nodules which ulcerate and slough out, leaving shallow sores covered by crusts. In the corpora cavernosa are nodular bodies nearly always in the posterior third, indolent and painless except during erection, when they may cause chordee (Zeizzl). They are **Gummata.**

59. *The patient is over forty years of age.* (See §§ 60-62),

60. On the glans, but especially on the coronal sulcus. is seen an irregular, papillated growth, which is hard and has a hardened base. It ulcerates early and breaks down, forming an extensive excavation. The edges of this cavity are hard and everted. There is an offensive, sanious discharge. The prepuce is attacked, infiltrated, and sometimes perforated. The inguinal glands are affected early. They become hard and slowly enlarge. It is **Epithelioma.**

61. There are localised nodules, from the size of a pea to that of a French bean, near the surface of the corpora cavernosa, which are painless on manipulation. There is no enlargement of the inguinal glands. The penis curves on erection. Micturition is not affected unless other conditions are present. It is **Gouty Phlebitis.***

62. *There is a marked change in the colour of the skin of the penis.* Large purplish patches are seen on the glans or shaft, which are insensitive. Very soon the

* Cases by Hennig, *Jahrb. für Kinderheilk.* N.F., 1868, Bd. 1, p. 101, also *Berl. Klin. Woch.*, 1869.

epithelium loosens over the patch, and the part becomes wet and slimy, or dry and shrivelled. There is an offensive smell. Priapism may precede this condition, but when once it is established erection becomes impossible. There is a fall of temperature, and the patient is greatly debilitated. There is a history of small-pox, typhus, typhoid fever, or erysipelas following an injury, or possibly diabetes, or syphilis. It is **Gangrene.**

Section 2.—AFFECTING THE SCROTUM AND CONTENTS.

63. *There is a swelling of or in the scrotum. It is dull on percussion. It cannot be reduced upwards by pressure. It has a defined upper outline, and is not continuous upwards.* (See §§ 64-104).

64. *It affects the tissues of the scrotum itself.* (See §§ 65-66).

65. *The inguinal glands are enlarged.* It begins as a soft tubercle or wart near the lower anterior surface. It ulcerates early. The skin around is dry and dusky. The swelling tends to break down. The penis is rarely embedded. The temperature is normal. No bullæ form. Later on the testis may be attacked. The ulcer has a hard, sinuous, everted edge ; discharge from it is thin and blood-stained. It occurs in England, and—usually—in persons who are constantly in contact with soot. It is **Epithelioma Scroti.**

66. *The inguinal glands are not enlarged.* It begins by repeated attacks of dermatitis, or as a hard kernel beneath the skin. There is no true ulceration, but the skin may be excoriated. The skin is dark, hard, thickened, and fissured. The swelling steadily increases. The penis becomes embedded in the scrotal tissues. The temperature is raised. Bullæ form. The testes are not affected. It occurs endemically in India, China, and Egypt, and is caused by a parasite, which may be found in the blood, the *filaria sanguinis hominis.* It is **Elephantiasis Scroti.**

(A variety of this in which the filaria is not found is **Lymph Scrotum.**)

67. *The condition affects mainly the contents of the scrotum.* (See §§ 68-104).

68. *The vas deferens is unaffected.* (See §§ 69-88).

69. *The swelling is translucent. There is a gradual onset. The swelling is relatively of light weight. There is no history of injury; the inguinal glands are not affected. The skin is normal or shiny; the growth is painless, smooth, and with a clear rounded outline. The testicular special sense is preserved.* (See §§ 70-71).

70. It affects the entire bulk of the scrotum. The contents are watery. It is **Hydrocele of the Tunica vaginalis.**

71. It lies close to the upper end of the epididymis. When large it is somewhat lobulated. Its contents are opalescent or limpid. It is **Encysted Hydrocele of the Testis.**

72. *It is opaque.* (See §§ 73-88).

73. *It is distinct from the testis. The testicular special sense is preserved. It is painless.* (See §§ 74-76).

74. It is of unequal consistence. It lies between the epididymis and the testis. It is irregular in shape. It is congenital, but may grow rapidly about puberty. It is never bilateral. It produces a dragging sensation, owing to its weight. If punctured, oily fluid escapes mingled with short hairs. It is a **Dermoid.**

75. It is equally firm and resistant throughout. It springs from the tunica vaginalis, the rete testis or cord, and presses upon the testis. It is rounded or pear-shaped. It is not congenital, but appears in early manhood. It may be bilateral. It may produce a dragging sensation, but is never so heavy as 74. If punctured, blood escapes. It is probably a **Fibroma.***

* Cruveilhier, *Anat. Path.* I. 5, plate 1, Fig. 3; Warrington Howard, *Path. Soc. Trans.*, Vol. xxiii, p. 168. Extremely rare, Jacobson.

76. It is entirely soft, even obscurely fluctuant. Its point of origin is indifferent. It is smooth and lobulated. It is not congenital. It is unilateral. It produces no dragging sensation, being very light. If punctured, nothing escapes. It is probably a **Lipoma.***

77. *It is indistinguishable from the testis.* (See §§ 78-88).

78. *The testicular special sensation is lost; the epididymis is distinct; the glands and skin are unaffected. There is a sensation of weight and consequent dragging. It is not tender on manipulation.* (See §§ 79-81).

79. The swelling is "bossed," each elevation being low. There is no tendency to ulceration. It does not suppurate. The patient's age is under thirty years. It is probably an **Enchondroma.**

80. Hard craggy nodules exist, with a tendency to soften, ulcerate, or suppurate. The patient is usually above thirty years of age. The ulcers left are deep, with a sloughy base, circular and scooped out. There is a history of syphilis. It is a **Gumma.**

81. The testis is enlarged, smooth, and dense. It is oval in shape. Ulceration and suppuration are both very rare. The patient is usually above thirty years of age. The testis is heavy, and there is a dragging sensation. There is a history of syphilis; lymphocytosis and eosinophilia are present. It is **Syphilitic Orchitis.**

82. *The special testicular sense is preserved.* (See §§ 83-88).

83. *There is a sudden onset. The skin may be ecchymosed.* There is a history of injury or operation. The swelling is soft at first, but becomes hard. The testis may be discoverable by the special sensation on pressure, but it is otherwise obscured. On puncture, blood escapes. It is **Hæmatocele.**

84. *There is a gradual onset. The skin is not discoloured.* (See §§ 85-88).

* Park, *Trans. Amer. Surg. Assoc.*, Vol. viii.

85. The testis is enlarged. There is no history of syphilis. It occurs in young men; may be bilateral. There is no hydrocele, no hernia testis. It yields no fluid on puncture; soft subcutaneous secondary deposits are found in the skin, far from the primary growth. (Monod and Terrillon). It is very rare. It is probably **Lymphadenoma.***

86. *There is no alteration of the skin.* (See §§ 87-88).

87. There is a history of syphilis. It occurs in middle life. It is never bilateral. The epididymis is mainly enlarged. It is often associated with hydrocele, and sometimes hernia testis. It yields no fluid on puncture. It is uniformly firm, and is fairly common. It is **Tertiary Syphilitic Epididymitis.**†

88. There is no history of syphilis. It occurs in middle life. It is never bilateral. The testis is mainly enlarged. There is no hydrocele, and hernia testis is somewhat rare. It yields various coloured fluids, yellow to brown, on puncture. Portions are softer and more elastic than others. It is **Cystic Fibroma** or **Testicular Adenoma.**

89. *The vas deferens is thickened.* (See §§ 90-104).

90. *There is a gradual onset.* (See §§ 91-96).

91. *The epididymis is first and mainly affected.* The swelling is nodular. There is no pain, unless an abscess forms. There is a slow course. It is not often bilateral. The distinction between the testis and epididymis is easily felt. The thickening spreads quickly to the vesiculæ and the prostate. It occurs in early manhood. Special sense is preserved until late. There is pallor, debility, and anæmia; later, wasting and hectic. The skin becomes adherent. Hernia testis may occur, and abscesses are very apt to form. There is often a family history of tubercle. It is **Tubercular Epididymitis** or **Tubercular Testis.**

* Rare, Monod et Terillon, *Arch. gen. de Méd*, 1879, ii, 325.

† See Cumston, *Annals of Surgery*, 1897, vol. 25, p. 306.

92. *The testis is mainly affected.* (See §§ 93-96).

93. *The swelling is fluctuant.* There is a gradual enlargement at first, which becomes suddenly larger. It occurs in youth, and is very rare.* It is probably **Myxoma.**

94. *The swelling is not fluctuant, it is solid.* (See §§ 95-96).

95. *The epididymis is obscured.* The whole testis is enlarged, it may be to three or four times the normal size. It is firm, usually unilateral; there is a loss of the testicular sense, and hernia testis is fairly frequent. It occurs usually between the ages of thirty to fifty years. There is constant dull pain and sense of weight and dragging. The inguinal glands are not enlarged. There is a history of rheumatism, gout, malaria, previous attack of acute orchitis, injury, or rarely, gleet. It is **Chronic Orchitis.**

96. *The epididymis is not obscured.* A hard mass is felt in the testis, which is never very large. The mass is stony hard, always unilateral, there is a loss of the testicular sense, but no hernia testis. It occurs usually after forty years of age. There is sharp shooting pain, but no particular sense of weight. There are secondary deposits in the glands. It is extremely rare. It is probably **Schirrus of Testis.**

97. *There is a rapid onset.* (See §§ 97-104).

98. *The enlargement is inflammatory. The general temperature is raised, the attack often commencing with a rigor. There may be vomiting; there is always nausea and anorexia. There is a hot, tense, tender, painful swelling of the parts; this rapidly increases up to a certain point, and then decreases. It occurs in boys and young men.* (See §§ 99-100).

99. *The epididymis is mainly affected.* There is usually a history of gonorrhœa, or of urethral instrumentation. It is **Acute Epididymitis.**

100. *The testis is mainly affected.* There is usually a history of mumps, or injury. It is **Acute Orchitis.**

* *Bull. de la Soc. Anat.*, Paris, 1878, p. 523.

101. *There is no inflammation. The parts are not at first tender or very painful. The general temperature is not raised; there are no rigors, and the appetite at first is not affected. There is later marked loss of flesh. The swelling increases steadily, and may reach a large size. Hydrocele is seen early. There may, or may not be, a history of some injury. The epididymis is obscured. There is often hernia testis, and the skin becomes adherent.* (See §§ 102-104).

102. *The growth is persistently rapid.* The mass is elastic and nodular. It is always unilateral. There is dull pain. There is an irregular outline from the first. Secondary deposits appear in the liver, spine, cord, lungs, bones, but not in the skin. It is probably **Encephaloid Testis.**

103. *The rate of growth varies at different times.* The mass is of very unequal consistence. It is often bilateral. It is painless during the early stages. It is at first smooth in outline, but this later becomes irregular. Secondary deposits appear in the liver, bones, and skin. The lumbar glands enlarge by the end of the first year (Jacobson). It is usually associated with and developes from enchondroma, fibroma, or myxoma. It is probably **Sarcoma Testis.**

104. *All the symptoms and signs of* 103, and in addition; The mass is extremely elastic, with several softened spots. The outline becomes distinctly bossed. There are patches of hard material. The development is very rapid. Each individual cyst is small. The cord contains enlarged varicose veins. Puncture yields serous, viscid, or blood-stained fluid. It is **Cystic Sarcoma of Testis.**

Group B.—Affecting both sexes.

Section 1.—Swellings occurring midway between Abdomen and Scrotum, or affecting both.

105. *There is some swelling in the inguinal region.* (See §§ 106-161).

106. *Pressure upon the swelling in a direction outwards and upwards produces a marked diminution in its size, or may cause it to entirely disappear; it is increased by straining or any effort. When the patient is in the dorsal position it tends to disappear, only to reappear when the patient stands erect. Coughing produces impulse, and causes reappearance if the swelling has been already reduced.* (See §§ 107-118.)

107. *After reduction, pressure over the external ring of the inguinal canal does not prevent return.* The swelling enlarges from below upwards. The vas deferens can be easily isolated. There is no gurgling sound on reduction. It usually occurs in early manhood. The sensation on palpation is that of a bundle of worms under the skin, in and below the base of the scrotum in men; in women, in and above the labium majus. The pubic spine can be felt below and outside the neck. It is **Varicocele.**

108. *After reduction, pressure upon the opening through which it has passed prevents return. It enlarges from above downwards.* (See §§ 109-118).

109. *It is dull on percussion. There is no gurgling on reduction.* (See §§ 110-111).

110. *It is fluid, translucent*, perfectly smooth, returns into the abdomen at an equal rate up to the last; usually occurs in childhood; and the pubic spine is felt below and outside. It is a **Congenital Hydrocele.**

111. *It is solid, opaque.* It has a finely nodular outline, and returns into the abdomen with a final "plop." It is rarely seen in childhood. The pubic spine is below and outside. It is a **Reducible Inguinal Omental Hernia.**

112. *It yields a clear sound on percussion. Gurgling sounds are heard on reduction. There are fluid or mixed solid and fluid contents. It is opaque.* (See §§ 113-118).

113. *The pubic spine is inside and above the neck of the swelling.* The testis is distinctly separated from it. In women it never enters the labium. There is a gradual

enlargement, and it usually appears in adults. It is a **Chronic Reducible Femoral Hernia.**

114. *The pubic spine is outside and below the neck of the swelling.* (See §§ 115-125).

115. *The testis is perfectly distinct from the swelling. There is a gradual enlargement.* (See §§ 116-117).

116. It appears in childhood. It is an **Infantile Hernia.**

117. It appears in adults. It is a **Chronic Reducible Inguinal Hernia.**

118. *The testis is obscured. There is a sudden appearance.* It occurs in childhood or early puberty. It is a **Congenital Hernia.**

119. *It is irreducible by pressure.* (See §§ 120-160).

120. *It is associated with acute inflammation. There is an elevated temperature and constitutional disturbance. The parts are acutely tender on manipulation.* (See §§ 121-130).

121. *There is no testis in the scrotum on the affected side.* The swelling is dull on percussion. The pubic spine is below and outside the swelling. There is some impulse on coughing. The bowels act as they did before the swelling was observed. The skin is red, infiltrated, somewhat œdematous. There has never been any testis in the scrotum on this side. There has been some injury, or an ill-fitting truss has been worn. There is rapid enlargement with severe pain. There is the special sensation produced by pressure on a testicle. There has been some vomiting, which is not continuous. It is an **Inflamed Undescended Testis.** (See § 146.)

122. *Both testes are present in the scrotum.* (See §§ 123-145, 147-161).

123. *The swelling is dull on percussion. The position of the pubic spine may be obscured. There is no impulse on coughing. The bowels act as they did before the swelling was observed. The skin over the swelling is shiny and reddened. There is early fluctuation. There is throbbing pain. There is no vomiting.* (See §§ 124-125).

124. The swelling is secondary to tubercular orchitis, (q.v.) The spermatic cord is enlarged. It is **Acute Abscess —probably Tubercular—of Cord.**

125. The swelling is secondary to some injury or lesion of the lower extremities, to gonorrhœa, or inflammation of the scrotum, penis, or vulva. In men the spermatic cord is not markedly involved, though hardened and thickened lymphatic vessels may be felt. It is **Acute Glandular Abcess.**

126. *The swelling is clear on percussion.* (See §§ 127-130).

127. *The pubic spine is above and inside the neck of the swelling.* There is no impulse on coughing. There is absolute constipation. The skin may be normal; if reddened, it is not œdematous. There is a history of a sudden strain, with usually a previously reducible swelling in the same position. The temperature may suddenly become sub-normal. There is persistent vomiting. It is a **Strangulated Femoral Hernia.**

128. *The pubic spine is below and outside the neck of the swelling.* (See §§ 129-130).

129. *There is an impulse on coughing.* Constipation is not absolute. The skin is red and œdematous. There is a history of a previous reducible swelling in the same position. The temperature is always raised. There is nausea, probably vomiting. It is an **Inflamed Inguinal Hernia.**

130. *There is no impulse on coughing.* Constipation is absolute. The skin is probably normal, but if red it is not œdematous. There is a history of a sudden strain, with usually a previous reducible swelling in the same position. The temperature may suddenly fall. There is persistent vomiting. It is **Strangulated Inguinal Hernia.**

131. *The condition present is not associated with acute inflammation. There is no rise of temperature, and no acute tenderness on manipulation.* (See §§ 132-161).

132. *The swelling is firm, solid.* (See §§ 133-149).

133. *The mass is fixed, not moveable in the tissues around.* (See §§ 134-143).

134. *It is connected with the spermatic cord. Its growth is rapid. It tends to fungate through the overlying skin. It is irregular and indefinite in outline, and infiltrates the tissues around.* (See §§ 135-136).

135. It is always secondary to disease of the testis. The lumbar glands are affected. It is probably **Carcinoma of the Cord.**

136. It may be a primary growth, or secondary to disease of the testis. There are secondary growths in the peritoneum, omentum, and abdominal viscera. It is probably **Sarcoma of the Cord.**

These two conditions may be only distinguishable by microscopical examination.

137. *It is connected with the lymphatic glands.* It is rounded, and distinct from the tissues around. (See §§ 138-143).

138. *It tends rapidly to soften and suppurate.* (See §§ 139-140).

139. It is secondary to tubercular disease of the testis. It is **Tubercular Adenitis.**

140. It is secondary to injuries or lesions of the lower extremities, penis, or scrotum. It is **Chronic Traumatic Adenitis.**

141. *It never suppurates, but remains firm.* (See §§ 142-143).

142. It is secondary to hard chancre, (*q.v.*), on the generative organs. Each swelling is comparatively small and hard. It is **Secondary Syphilitic Adenitis.**

143. It is associated with other similar swellings in the axilla, cervical regions, etc. Each swelling is comparatively large and elastic. It is probably **Hodgkin's Disease.**

144. *It is moveable in the tissues around, especially by traction upon the spermatic cord. It may, at first, disappear*

in the dorsal position, but drops down again of its own weight—not forced down by coughing—in the erect position. Any attempt at reduction produces no gurgling sounds. (See §§ 145-149).

145. *It is firm, hard,* of slow growth, small, rounded, or an elongated oval. The testes are present in the scrotum. There may be some aching. After removal, it does not recur. It is **Fibroma of the Spermatic Cord.**

146. *It is firm, elastic;* remains the same size, comparatively small, but larger than 145. It is a rounded elongated oval. There is no testis in the scrotum on the same side. Pressure upon it causes aching, and the special testicular sensation. After removal it does not recur. It is a **Retained Testis.** (See § 121.)

147. *It is soft, lobulated, and both testes are present in the scrotum.* (See §§ 148-149).

148. It is of slow growth throughout. There is no aching, and it is comparatively small. It does not recur after removal. It is a **Lipoma.**

149. Its growth is slow at first, becoming more rapid. It may ache very much. It sometimes attains a large size. After removal it recurs. It is a **Myxo-Lipoma.**

150. *The swelling is fluctuant.* (See §§ 151-161).

151. *It appears rapidly. Fluctuation is uneven. There is a history of traumatism.* (See §§ 152-153).

152. There is ecchymosis of the skin around. The sensation on palpation is boggy, diffused. The cord is obscured. There has been no previous hydrocele. It is often of large size. The swelling is opaque. It is a **Diffuse Hæmatocele of the Cord.**

153. There is no ecchymosis of the skin around. It is tense, of defined outline, and pyriform in shape with the base downwards. The cord can be plainly felt above and below. It often follows a previous hydrocele. It is relatively small, and is opaque. It is an **Encysted Hæmatocele of the Cord.**

154. *It appears slowly. There is no history of previous traumatism.* (See §§ 155-161).

155. *It is translucent. There is complete fluctuation. Its outline is well defined. The cord can be felt below. It is painless, and the skin is freely moveable over it.* (See §§ 156-157).

156. There are one or more globular or pear-shaped swellings to be felt in the course of the vas deferens. The swelling may pass into the inguinal canal. The condition appears in boys or young men. It is an **Encysted Hydrocele of the Cord.**

157. There is a single elongated swelling in the course of the spermatic cord. It is usually continuous with a second swelling immediately within the abdomen. The tumour is cylindrical, or hour-glass shaped, and occurs in children. It is an **Infantile Hydrocele.**

158. *It is opaque. Fluctuation is incomplete.* (See §§ 159-161).

159. The spermatic cord is uniformly enlarged. It is **Diffuse Hydrocele of the Cord.**

160. The cord is irregularly enlarged. It is probably **Cavernous Angioma of Cord.**

161. There is a diffuse swelling around the cord, extending into the scrotum. It is **Œdema of the Cord.**

Section 2.—Anus and Perinæum.

162. *On inspecting the anus and perinæum an abnormal opening is seen. Around it are a few small granulations. Around it the skin may be normal, or bluish and evidently loose from the deeper structures.* It is a **Fistula.** (See §§ 163-166).

163. If a probe is passed into the opening, it passes upwards and inwards towards the rectum. The finger passed into the rectum comes in contact with the free end of the probe, which has passed directly into that cavity. The internal opening is just above the internal sphincter,

and below the levator ani. It is a **Complete Ischio-rectal Fistula.**

164. The finger in the rectum feels the end of the probe higher up than in 163, but is separated from it by mucous membrane. If the probe is partially withdrawn and again passed just above the sphincter, it finds a small opening. It is a **Complete Ischio-rectal Fistula** which has burrowed upwards.

165. The finger in the rectum feels the end of the probe, but it is separated from it by the entire wall of the gut, which may be attenuated, but is intact. It is a **Blind External Fistula.**

166. Occurring only in men, an opening is situated in the perinæum, the scrotal raphe, the scrotum, at the root of the penis, or in any part of the penis. A metallic sound passed down the urethra is struck by the probe. It is a **Urinary Perinæal, Scrotal,** or **Penile Fistula.** It may be multiple, especially if opening on the scrotum.

167. *There is some bleeding from the anus.* (See §§ 168-180).

168. *The bleeding is not very great.* (See §§ 169-174).

169. The external sphincter is plainly seen, surrounding a complete circle of purplish, moist tissue which is entirely smooth, or separated here and there by shallow clefts. This mass becomes larger and more prominent on straining. It feels thick and spongy. It is **Procidentia of the Rectum.**

170. The external sphincter is not so prominent. At one segment of its circumference, and projecting from its interior, is a moist, brownish-red flap, which is perfectly smooth and feels thin. It is a **Prolapse of the Rectum.**

171. Springing from some part of the circumference of the anus are rounded folds of skin, wrinkled transversely, flabby, of comparatively small size, painless, and not bleeding. These are the **Remains of Old External Piles.**

172. Springing in the same way are larger folds which are elastic, bluish, prominent, and which are smeared with

blood after defæcation. They are covered by skin. They feel tense, but are not warmer than the rest of the body. They are **External Piles.**

173. These folds feel hot, and are very tender. They are **Inflamed External Piles.**

174. These folds feel hard and firm. They are **Thrombosed External Piles.**

175. *The bleeding is sometimes great.* (See §§ 176-180).

176. Projecting from the interior of the external sphincter, which entirely surrounds them, are similar folds to those in § 172. They are more purplish in colour, more painful, and more prominent. They are covered by mucous membrane only. They are **Prolapsed Internal Venous Piles.**

177. The same as § 176, but not entirely surrounded by the sphincter, and partially covered by skin, partially by mucous membrane, and the line between the two can be plainly seen on their external surface. They are **Mixed Internal and External Piles.**

178. *There is great pain on and after defæcation.* (See §§ 179-180).

179. At a point near the coccygeal end of the anus is a small, triangular fold of skin and mucous membrane, the base looking towards the skin and the coccyx, the apex towards the centre of the anal ring. It is single. Defæcation is very painful, and the pain increases for some minutes after the act, then gradually dying away. The surface of the fold is normal in colour. On separating the buttocks, whilst the patient strains, and lifting up the fold, a small ulcer is seen which extends upwards. It is a **Sentinel Pile,** marking the lower extremity of an anal fissure or irritable ulcer. It is usually due to the passage of very hard fæces or a foreign body. Bryant considers it to be one of the Morgagni valves formed by the union of the proctodeum and rectum, torn down by the passage downwards of some hard, rugged body.

180. Springing from the edge of the anus is a rugged growth, ulcerated in parts, bleeding on touch; the edges of the ulcer being hard and everted, the base brownish and at times necrotic. The discharge from it is extremely offensive. It is an **Epithelioma.**

181. *Only occurring in the female; there is complaint of sacral pain, lassitude, feeling of "falling to pieces." There is a history of injury or parturition.* (See §§ 182-188).

182. *On separating the glutei when the patient is in Sims' position, the vaginal opening is larger than normal. The parts are covered by normal skin.* (See §§ 183-186).

183. The perinæum is normal in length; one finger in the vagina and one in the rectum feel only skin and mucous membrane, with the rounded sphincter between. No firm tissues besides this can be felt in the perinæum. The vaginal finger finds an angular sulcus at either side of that canal in the lower half. The rectal finger can bulge forward the rectal wall. It is **Internal Rupture of the Perinæum,** produced by detachment of the levator ani fibres from the rectum, separation of the transversi perinei and the recto-vesical fascia, or inferior layer of the pelvic fascia.. This is the "**Relaxed Outlet**" of Kelly.

184. The perinæum is much shorter than usual. The labia majora appear elongated. This may be combined with § 183, or 185

185. The tissues of the perinæum may be of normal thickness, and no sulci may be felt in the vagina. The rectal wall maintains its usual relation to the cervical canal. It is in either case **Incomplete Rupture of the Perinæum.**

186. The perinæum may be entirely absent. On separating the glutei a large gap is seen, bounded behind by the posterior curve of the anal sphincter, at the sides by the labia majora, and folds of skin and mucous membrane joining their posterior extremities with the anal folds, and in front by the anterior commissure of the labia, or,

187. The gap is divided at the level of the anterior wall

of the anus by a thin, whitish line, the outer limit of a reddened membrane which stretches between the two separated ends of the sphincter ani. In both cases the anterior ends of the divided sphincter are marked by shallow depressions on the skin, around which it is lightly puckered. These depressions are rendered more marked by pinching or pulling upon the posterior edge of the anus, which contains the remainder of that muscle. In the first case the depressions are farther back than in the latter. Both these conditions are included in the term **Complete Rupture of the Perinæum.**

188. Occasionally an opening, comparatively large, will be found in the female perinæum, with irregular edges, separated from the anus behind by a portion of intact skin, in which the sphincter muscle can be felt, and in front from the vagina by a more or less narrow bridge of skin and mucous membrane, in which no firmer tissues are perceptible. This is a **Central Rupture of the Perinæum.** A probe passed through can be felt free in the vagina.

189. *There is a pedunculated growth springing from the perinæum.* (See §§ 190-191).

190. On the surface of the perinæum, and springing from it by a pedicle which is more or less thick, is a soft mass, indistinctly lobed, covered by normal skin, which dimples slightly on stretching. It may grow to a large size. There is no discharge. The parts are dry. It is a **Lipoma.**

191. The growth is soft. Its surface is covered by villous projections. It usually does not spring from the skin, but from some mucous surface. It is usually multiple. The tissues from which it springs are supple and healthy. There is some increased secretion of mucus. It is a **Papilloma.**

192. *There is a skin eruption.* (See §§ 193-223).

193. *There is much itching of the parts.* (See §§ 194-208).

194. *There is itching accompanied by burning sensations.* (See §§ 195-205).

195. *There is a reddened patch.* (See §§ 196-205).

196. *The redness disappears on pressure.* (See §§ 197-201)

197. On this reddened patch appear a crop of small vesicles, transparent at first, like minute drops of water, which rapidly become opaque, shrivel, and form minute yellowish crusts. The whole process is over within a week or a fortnight. There is no other general rash, the rest of the skin is of a normal colour, and there are very slight or no constitutional symptoms. In women, it appears on the perinæum, insides of thighs, vulva, and mons veneris. In men usually on the prepuce and glans penis. It is **Herpes.**

198. On this reddened patch, which in this case is very small, minute nodules appear, each capped by a small flat vesicle. Their size is from that of a millet seed to that of a lentil. The top of this becomes depressed, eroded, and oozes slightly. Shallow ulceration follows. The ulcers are covered by thin crusts. These nodules, etc., agglomerate into confluent plaques; the intermediate skin becomes irritated. The condition is seen around the anus, on the buttocks, labia majora and commissures, on the prepuce, thighs, and groins. It disappears entirely with cleanliness. It occurs in children only. It is **Vacciniform Infantile Ecthyma.**

199. The reddened patch is not swollen by any subcutaneous effusion, nor does it exude fluid. It is probably **Erythema.** If it forms rings, the centre of which is paler than the circumference, whilst upon the ring so formed papules and vesicles form, with a later production of small scabs; it is **E. Multiforme, Papulatum, Tuberculatum, Annulare, Gyratum,** or **Marginatum,** according to the stage reached.

200. If in the scabs so formed a fungus—tricophyton—is found by the microscope, it is **Tinea Circinata.**

201. If the redness extends down to the feet in a child and is coppery in tint, it is the **Erythema of Congenital Syphilis.** Other symptoms of congenital syphilis are present, and are perhaps more conclusive.

202. *The reddened patch does not disappear on pressure.* (See §§ 203-208).

203. On this reddened patch appear several papules, which quickly develop into minute pustules. Generally through the centre of them a small hair passes. These are hard at first, and evidently seated in the skin, not *on* it. They become conical, point on the third or fourth day, and burst on the eighth, forming small ulcers, at the bottom of which is a minute, white, pulpy slough. They most usually appear on the nates. It is **Furunculosis.**

204. Vesicles form, and on these grayish-yellow, fatty crusts, from beneath which white, clear, sticky fluid persistently oozes. There is great swelling, especially in parts where subcutaneous tissue is loose, as in the scrotum in men, and the labia in women. The epithelial layer cracks in various places, and from these cracks the same fluid exudes. There is no constitutional disturbance. It is **Eczema.**

205. No fluid exudes, the parts are always dry, but there is considerable constitutional disturbance. The temperature rises, there is general *malaise*, and the patient is feverish. The parts are somewhat raised, and there is a well-defined edge which spreads laterally. The parts feel thickened and hot. It frequently starts at some breach of surface. It is **Erysipelas.**

206. *There is intense itching, but no burning.* (See §§ 207-208).

207. It is only seen on the pubic region, amongst the hair. Papules form, with slight serous exudation; minute hæmorrhages take place into the skin, and occasionally small steel-grey pigmentations are found. A large parasite,

the crab-louse, is seen creeping about between or clinging to the hairs. It is **Pediculosis.**

208. It is seen over the perinæum, the nates, and the inner sides of the thighs. Small red points, small vesicles and pustules, narrow elevated streaks of raised epithelium occur. At the same time, and more markedly, it is found between the fingers. On lifting the raised epithelium a comparatively large microscopical parasite is seen at one end—the *acarus scabæi*. It is **Scabies.** In both of these last two scratch marks are very prominent.

209. *The itching is only slight.* (See §§ 210-219).

210. *The lesion is defined; each constituent is relatively small.* (See §§ 211-217).

211. *The itching is combined with tingling. The inguinal glands are not enlarged.* In the inguinal fold, or on the buttocks, small golden-yellow patches are seen which look like bits of wash-leather let into the skin. They are always associated with glycosuria, azoturia, or albuminuria. It is **Xanthoma Diabeticorum.** Ordinary xanthoma is not seen in this region.

212. *There is no tingling, and the inguinal glands are enlarged.* (See §§ 213-217).

213. On the penis, vulva, or anal folds is seen one or more small, clean-cut ulcers, circular or forming combinations of circles, with a gray, soft base. These produce others similar to them on any surface opposed to them. They appear within twenty-four hours after a suspicious connection, and tend to spread. If unchecked, they may produce phagedænic sloughing of the parts on which they are situated. The inguinal glands tend to fuse together and suppurate. It is **Chancroid, Soft Chancre,** or **Soft Sore.**

214. On the same parts, or on others, is seen a single, raised, small mass the colour of freshly-cut muscle. The surface is smooth, level, polished, or may be slightly eroded. It appears in the third or fourth week after a

suspicious connection, and is always soon followed by sore throat and a roseolous rash on the chest. Its base is hard, and feels as if a piece of stiff parchment had been let into the tissues beneath. The inguinal glands are hard, "shotty," small, and distinct, and do not suppurate. It is **Hard or Hunterian Chancre** (ulcerative form).

215. After it has existed a short time, one or two weeks, it may become modified. Its papillæ become hypertrophied, welded together by swelling of the intervening tissue, and covered by soddened, white epithelium. It now takes on the form of a flattened mushroom, and is known as a **Condyloma.**

216. Covering the nates, the labia, or scrotum, and genito-crural fold are numerous papules, which are circular, aggregated into patches or curved lines, and raised above the general level. They are coppery in colour. There is a history of a primary sore, rash on the chest, sore throat, and alopecia some months before. It is a **Lichenoid Syphilide.**

217. Around the anal folds, spreading up towards the coccyx, along the edges of the labia majora in women, or up on to the scrotum in men, also on the inner surfaces of the thighs, are a number of reddish-brown masses, slightly lobed, eroded on the surface, sessile or broadly pedunculated, distinct or tending to coalesce, and of a hard but elastic consistence. There is a history of syphilis several months before. It is a **Proliferating Papular Syphilide.**

218. *There is an eruption characterised by the formation of thick scabs or crusts.* (See §§ 219-222).

219. The crusts are chalky-yellow to bright-yellow in colour. The inguinal glands do not enlarge, and there are no constitutional symptoms. Discs or rings are formed, pale pink in the centre, which is scattered over by finely divided scales. The edges are prominent, are covered by scabs, which run together and form crusts. Each scab is

rounded and is deeply umbilicated. There is a yellowish secretion, which is thick and rapidly dries. It is **Impetigo.**

220. *There is no itching.* (See §§ 221-223).

221. The crusts are silvery white. The inguinal glands do not enlarge, and there are no constitutional symptoms. The scales are arranged in raised nummular patches, are flat, and attack the sacral region, the penis, and labia majora. They are also found on the knees and elbows. It is **Psoriasis.**

222. The crusts are dark brown or black. The inguinal glands are hard, "shotty," and distinct. There are the constitutional signs of late secondary syphilis. The scabs are arranged in a conical or pyramidal fashion, and cover circular ulcers, which progressively enlarge centrifugally. They are usually symmetrically distributed. It is **Rupia.**

223. There are numerous small growths, sessile, or with very short pedicles, each rounded, discrete, with umbilicated tops, in which is a black or white pot. Pressure on these causes a small amount of fatty, curded material to exude, leaving a small shallow cavity which readily bleeds. It is **Molluscum Contagiosum.**

Group C.—Affecting the Female.

Section 1.—The Clitoris.

224. *The condition does not impede locomotion or coition.* See §§ 225-228).

225. *The size is abnormal.* (See §§ 226-227).

226. It is decreased in size or apparently absent. Sexual desire is said to be decreased. It may be congenital, or the result of an operation. It is **Atrophy of the Clitoris.**

227. It is increased in size. Sexual desire is said to be increased. Its contour is defined and its tissues supple. It projects markedly between the labia. It is **Hypertrophy of the Clitoris.**

228. *It is normal in size.* There is ill-defined discomfort, and itching. Sexual desire is said to be increased.

Masturbation and reflex paralyses are said to have been produced. The fold of mucous membrane forming the prepuce is adherent to the glans. It is **Adherent Prepuce.**

229. *The condition impedes locomotion and coition.* (See §§ 230-240).

230. *It is inflammatory.* The organ is slightly enlarged, excoriated, painful, and reddened. The prepuce is swollen. There is great pruritus, a sensation of heat in the part, and some purulent discharge. There is often a history of previous attacks. It occurs principally in persons of uncleanly habits, and is generally associated with some form of vulvitis. It is **Clitoriditis.**

231. *There is a new growth.* (See §§ 232-240).

232. *The outline is defined. There is no surrounding infiltration. It does not ulcerate. The skin and mucous membrane are of normal colour, and there is little or no discharge.* (See §§ 233-234).

233. The swelling is elastic, fluctuant; the prepuce is stretched and thinned out over the swelling. It is **Cystic Disease of the Clitoris.**

234. The swelling is firm, solid. The prepuce is not altered. It is attached by a narrow peduncle. It is a **Fibroma.**

235. *The outline is not defined. It is irregular. The parts around are infiltrated. There is a great tendency to ulceration. The coverings are abnormal.* (See §§ 236-240).

236. *The condition commences in the glans.* (See §§ 237-239).

237. The parts are rugged, brawny, lobulated, and fissured. The swelling is not fixed on the parts beneath. Any ulcers present have a brawny margin. It is part of a general hypertrophy. There is usually some pruritus and a sour-smelling discharge. There are no hæmorrhages. It is **Elephantiasis.**

238. There is a warty growth, which becomes fixed below early. Any ulcers present have raised and indurated

margins. It is not associated with a general hypertrophy. It is not painful at first, but becomes intensely so. Early in the case there is pruritus. Later there is a fœtid discharge, with hæmorrhages. The inguinal glands are soon involved. It is **Carcinoma.**

239. There is a nodular growth, which becomes fixed, but not so soon as in § 238. Any ulcers present have nodular, hard margins. It is not associated with a general hypertrophy. There is a sensation of heat and burning. Early in the case there is pruritus. Later there is a foul discharge, and there may be some hæmorrhage. The inguinal glands are involved, but only late in the case. It is **Epithelioma.**

240. *The condition usually commences in the crura.* There is a swelling with a defined, lobulated outline, moveable upon its base; any resulting ulcer has a soft margin. It is not associated with a general hypertrophy. It is painful, pruritus is not marked, the inguinal glands are not involved, but there are secondary deposits elsewhere. It enlarges rapidly. It is probably **Sarcoma.**

Section 2.—The Labia.

241. *There is a swelling of the labia.* (See §§ 242-295).

242. *There is a general swelling which is not confined to the labia.* (See §§ 243-246).

243. *The skin itself is greatly thickened.* (See §§ 244-245).

244. There are large, irregular, tuberculated nodules. The skin is fixed on the subjacent tissues, and traversed by fistulous tracks. It does not spread up the vagina. There is a history of primary or secondary syphilis. The swelling starts in the labia, the skin of which is thickened and hard; it spreads over the mons veneris on to the abdomen, also on to the nates and thighs. It occurs in Europeans, and no filaria are found in the blood. It is **Tertiary Syphilitic Hypertrophy.**

245. There is a brawny induration of the skin, the

surface of which is lobulated and fissured. There may or may not be a specific history. The swelling begins in the clitoris, spreads first to the labia minora, next to the labia majora, and thence to the perinæum. It occurs most frequently in the tropics amongst bushwomen and Hottentots. The parasite *filaria hominis* is found in the blood. It is **Elephantiasis Vulvæ.***

246. *The skin is not thickened.* It and the tissues beneath are doughy, any pressure upon them leaving a temporary indentation. The skin is not fixed to the subjacent tissues ; it is not broken, only more or less stretched ; it is soft and supple. There is a history of some cardiac, renal, or hepatic disease. It is **Anasarca.**

247. *There is a defined swelling, mainly confined to the labia.* (See §§ 248-295).

248. *It affects the skin or mucous membrane only.* (See §§ 249-266).

249. *The inguinal glands are enlarged.* (See §§ 250-260).

250. *It is a single localised swelling.* (See §§ 251-254).

251. It begins as a small shining nodule, which rapidly ulcerates. The edges of the resulting ulcer are hard, everted, and irregular. The base is hard and infiltrated, the infiltration extending later deeply into the subcutaneous tissue. It bleeds easily, spreads by continuity of tissue, occurs most frequently at the line of junction between the skin and mucous membrane, and once started does not disappear. It has no connection with any chest rash or sore throat. It usually occurs between forty-five and sixty years of age. It is **Epithelioma.**

252. It begins as a pimple. There is no definite ulceration, though there may be slight excoriation. It grows into a broad, flattened mass, with a slightly convex upper surface. It rests upon a circumscribed base which feels like a layer of parchment, and does not extend deeply.

* Case by Kidd. *Med. Press and Circ.*, March 11, 1896.

It does not bleed, does not tend to spread, and may occur indifferently on any part of the skin or mucous membrane. It disappears entirely in the course of a month or two. It is followed by an erythematous rash on the chest, and persistent sore throat. It occurs usually in young or middle-aged women. It is a **Hunterian Chancre.**

253. It begins as a dark-red spot, gradually rising above the general level. This becomes dendritic, and its epithelial layer white, moist, macerated, and easily detached. Flat, raised patches of soft papillæ are formed. The subcutaneous tissue is not affected. There is seldom much, if any, bleeding. Fresh patches form and coalesce. It only appears on the mucous membrane, and disappears readily with treatment. It is often contemporaneous with an eruption on the chest and sore throat. There is a muco-purulent secretion, with severe itching. It is **Mucous Tubercle** or **Condyloma.**

254. It begins as a painful, raised, and acuminate nodule, which softens and becomes yellow in the centre. This becomes swollen, tense, and ultimately bursts. Groups of pustules are formed. The subcutaneous tissue is invaded, but not deeply. There is no bleeding. These pustules appear either on the skin or on the mucous membrane. Each pustule lasts only a few days, but successive crops appear. There is no sore throat or chest rash. There is itching at first, followed by aching and throbbing. It is **Furunculosis.**

255. *There is a general swelling of the labia. Locomotion is painful, and so is the sitting position. There is no definite contour.* (See §§ 256-260).

256. *The condition runs an acute course. It is associated with a rise in the general temperature. The parts are tender to touch, and there is pain on urination.* (See §§ 257-259).

257. The mucous membrane is injected, not markedly swollen, but puffy at times; pain is not acute, and the hymen, if present, is purplish. There is no sore throat. There

is a yellow, tenacious discharge which is not profuse. There is no urethritis, rarely Bartholinitis, and in children no vaginitis. There may be a few shallow, well-defined ulcers. It occurs in weakly or uncleanly persons, and most often in children. There is no formation of papillomata. It is **Acute Catarrhal Vulvitis.**

258. The mucous membrane is yellowish-red. There is no sore throat. There is a greenish-yellow discharge which is profuse. There is usually concomitant urethritis and Bartholinitis, also vaginitis. There is rarely any ulceration. There is the history of a suspicious connection. Papillomata form around the vaginal orifice. The gonococcus is found in the cells of the discharge. It is **Gonorrhœal Vulvitis.**

259. The mucous membrane is covered with patches of a greyish-yellow membrane. There is concomitant sore throat, which is covered by a similar exudative membrane. The discharge is thin and acrid. It is **Diphtheritic Vulvitis.**

260. *The condition runs a chronic course. The temperature is but slightly or not at all raised. The parts are not tender to touch. There is no pain on urination, unless a fissure is present.* The labia are thickened and indurated. Painful fissures are often present. The hymen is usually absent; if present, it is thickened. There is no sore throat; the discharge is creamy, purulent, and abundant. There is no urethritis, rarely Bartholinitis, but always some vaginitis. There is usually a history of a previous acute attack. Papillomata may form. It is **Chronic or Eczematous Vulvitis.**

261. *The inguinal glands are not affected.* (See §§ 262-266).

262. *The condition is single. It is not infective, and is congenital.* There is no history of gonorrhœa or syphilis. There is a rose-red raised patch, which when first seen is usually star shaped. There is no pain, no bleeding, and

no discharge. There is no tendency to ulceration, and the situation may be on either the skin or the mucous membrane. It is a **Nævus.**

263. *The condition is multiple. It is infective, and appears in successive crops.* (See §§ 265-266).

264. *There is a history of gonorrhœa.* (See §§ 265-266).

265. The growth is pedunculate. It is dry, begins as a papule, which rises and becomes dendritic. There is no pain, no bleeding, no ulceration, and very slight secretion. It is usually seated on the skin surface. It is a **Wart.**

266. The growth is almost sessile. It is moist. It begins as a hyaline granule, which rises and becomes dendritic. There are burning, smarting, and itching sensations. There is a tendency to ulceration, and to slight hæmorrhage. There is a muco-purulent secretion. It is usually seated on the mucous surface. It is a **Condyloma.**

Many authors describe these two as identical, their character being modified merely by the difference in position.

267. *The disease commences in, and mainly affects the tissues beneath the skin and mucous membrane.* (See §§ 268-295).

268. *The swelling is soft and more or less elastic. There is a deviation of the vulval cleft towards the unaffected side.* (See §§ 269-290).

269. *The skin and mucous membrane covering are normal in colour.* (See §§ 270-285, except 282).

270. *The swelling is reducible on pressure.* (See §§ 271-276).

271. *Reduction is associated with gurgling. The last portion returns with a sudden "plop." After reduction the swelling returns from within on coughing or straining.* (See §§ 272-273).

272. There is a rounded cylindrical mass in he posterior and inferior portion of the labium majus, extending under

the pubic ramus. It is **Post-Pudendal Hernia**, or **Hernia Vaginalis Labialis.**

273. There is a pear-shaped swelling extending from the ex ernal ring into the labium majus, and passing above the pubic ramus. It is a **Reducible Inguinal Hernia.**

274. *Reduction is not associated with gurgling. The swelling is reduced gradually and equally to the last.* (See §§ 275-276).

275. The swelling is translucent. When reduced, if this is possible, return can be prevented by pressure over the external ring. It returns from above, and is congenital. There is a rounded or moniliform cord extending from the inguinal ring into the labium majus. This is from the size of a string of beans to that of a small sausage. It is a **Hydrocele of the Canal of Nuck.**

276. The swelling is opaque. When reduced, the return is quickened by pressure over the external ring. It returns from below, and is acquired. There is an irregular multiple swelling which gives the sensation of a bag of worms. The size varies, but is never very large. There is aching. It is **Varicocele.**

277. *The swelling is not reducible on pressure.* (See §§ 278-295).

278. *It affects the labium minus*, projecting from its inner surface. It is of slow growth, fluctuant throughout, is translucent, not lobulated, and is from the size of a pea to that of a plover's egg. The wall is very thin, the growth is sometimes multiple, and there is no œdema around. It is **Cyst of the Labium Minus.**

279. *It affects the labium majus.* (See §§ 280-295).

280. *It is in the position of Bartholin's gland. It is best seen from the mucous surface. The mucous membrane is tightly stretched over it, and very often the minute opening of the vulvo-vaginal gland is seen on this tense surface.* (See §§ 281-282).

281. It is normal in colour. There is no œdema. It is

of slow growth ; fluctuant throughout, not lobulated, and its size is from that of a bean to that of a hen's egg. The fluid contents are gelatinous. It is a **Cyst of the Vulvo-vaginal Gland.**

282. It is dark red in colour. It is surrounded by œdema. Its growth is slow at first, becoming more rapid. Fluctuation is present, but is uneven. It is lobulated, and its size is from that of a pea to that of an orange. The fluid contents are cheesy and blood stained. It is probably a **Sarcoma**, or an **Adeno-Carcinoma of the Vulvo-Vaginal Gland.**

283. *It is not situated in the position of Bartholin's gland. It is seen best from the skin surface. The mucous membrane and skin are stretched over it, but are never tense. It is of slow growth, always acquired. The skin is normal in colour, and there is no œdema around.* (See §§ 284-285).

284. The swelling is indistinctly fluctuant. It is lobulated. When the skin is stretched over it, it becomes dimpled. It may be pedunculated. The contents are oily. It is a **Lipoma.**

285. It is not fluctuant, but elastic ; not lobulated, but rounded. It is never pedunculated, but is seated deeply in the subcutaneous tissue. Its contents are curdy, or cheesy. It is a **Sebaceous Cyst.**

286. *The skin or mucous membrane covering is abnormal in colour.* (See §§ 287-290 and 282).

287. *The skin or mucous membrane is ecchymosed. The whole mass tends to become harder ;* there is seldom any œdema ; it occurs in the whole of one or both labia—more often in one. There is a sudden appearance. Its course is chronic unless the covering membrane is broken, and air finds an entrance. If this happens an abscess is produced, the course then becoming acute. There is a history of parturition, injury, or violent straining. There is no rise of temperature. It is a **Hæmatoma.**

288. *The skin or mucous membrane is reddened and*

inflamed. The mass tends to become softer. There is some œdema. (See §§ 289-290).

289. The swelling is situated in the lower posterior half of the labium majus. It has a well defined contour. It runs an acute course, and the temperature is raised. There is probably a history of gonorrhœa. It is **Bartholinitis.**

290. The swelling is in any other part of the labia majora or minora. Its contour is not well defined. It runs a chronic course, and the temperature is usually normal. There is a history of injury, hæmatoma, or uncleanly habits. It is a **Chronic Labial Abscess.**

291. *It is firm.* (See §§ 292-295).

292. *It is pedunculated,* with a defined outline. There is no history of syphilis, gonorrhœa, or trauma, no œdema, it is of slow growth, and without pain. There is a firm, pendulous mass hanging from the labium majus. It may be multiple. It is probably **Molluscum Fibrosum** or **Fibroid Tumour of Labium.**

293. *It is non-pedunculate,* but embedded in the tissues. (See §§ 294-295).

294. It has a defined outline. It is hard; there is no œdema around. It is usually single, of slow growth, and intensely painful, the pain being increased on pressure. It is a **Neuroma.**

295. The outline is not well defined. It is a firm mass embedded in the substance of the labium, surrounded by some œdema. Its development is somewhat sudden, occurring after parturition or injury; it may be multiple. It is always preceded by sharp pain, and aching remains. It is partially reduced in size by pressure. It is a **Thrombus.**

CLASS III.

DISEASES AFFECTING THE VAGINA, RECTUM, BLADDER, AND PROSTATE,

DIAGNOSABLE BY TOUCH, TOGETHER WITH EXAMINATION BY MEANS OF SPECULA, TOUCH, CYSTO- AND PROCTOSCOPES.

THERE is discomfort in the pelvis, more or less pain, and the condition is usually associated with abnormal discharges from the pelvic canals. On dilatation of rectum or vagina, or examination of urethra or bladder with instruments, a deviation from the healthy condition is recognisable.

Group A.—VAGINA.

296. *The condition is one affecting the vagina, best examined with the aid of a speculum. It comprises changes in or growths from the vaginal wall itself.* (See §§ 300-378).

297. *These affect the meatus urinarius.* (See §§ 300-312).

298. *They affect the vaginal walls but do not affect the meatus.* (See §§ 313-355).

299. *These conditions do not spring from the vaginal wall, though some of them may affect it secondarily. They come from above, and project between the walls. A finger or probe can be passed between.* (See §§ 356-378).

300. *Of those affecting the meatus, or immediately around it, some are characterised by a distinct outline, and do not infiltrate parts around.* (See §§ 311-307).

301. Of these, one is elastic, bleeds at coitus, may

encircle the orifice, is painful, seated in the wall itself, and if projecting, always sessile ; is of a deep red, or livid bluish red ; is a rounded, coarsely lobulated, small mass, and occurs in young or elderly persons. It is probably the early stage of a **Sarcoma.** (See § 309.)

302. *Another is friable, easily torn, and bleeds easily.* This may be either 303 or 304.

303. It is sessile on the urethral lip, from which it evidently springs. It is extremely tender to touch, is of a bright red colour, somewhat branching or dendritic in form, and occurs in middle-aged or elderly women. It is a **Vascular Caruncle.**

304. The characters are very like those of § 303, but it is not tender, and evidently projects through the meatus; it is also of a paler red than the former, and may sometimes be drawn out for a short distance. The urine often contains blood evidently mixed with the secretion, but rapidly subsiding on standing. It is probably a small frond of a **Villous Vesical Papilloma.**

305. *Another variety is firm, does not bleed, is pedunculated, and springs from the urethral lip. It is painless, not tender to touch, ordinary flesh colour, and is rounded or pear-shaped.* (See §§ 306-307).

306. It occurs in young girls. It is probably a **Fibroma.**

307. It occurs in adult women. It is probably a **Myoma.**

The last two can only be certainly differentiated by microscopical examination after removal.

308. *They have an indistinct outline, infiltrate the tissues around, and are associated with discharges. They are painful, bleed easily, and are seated in the wall of the urethra itself.* (See §§ 309-312).

309. Of these, one is deep red or livid bluish red. It forms thickened folds around the meatus, or a mass like a cock's comb. There is a constant discharge of bloody

watery fluid, without odour. It is probably the **Late Stage of a Sarcoma.*** (See § 301.)

310. *Another is whitish grey in colour, and is associated with a foul offensive discharge.* (See §§ 311-312).

311. Develops inside the urethra, and transforms it into a rigid, hard tube. There is a flattened irregularly nodular thickening of the tissues. It is probably a **Peri-Urethral Carcinoma.**

312. Affects the mucous membrane of the orifice. A rugged mass projects from the meatus, which is itself rugged and hard. It is **Urethral Carcinoma.**†

313. *Growths projecting from the walls. These all agree in this, that they interfere in some degree with coition and parturition, and that a finger or probe passed between them and the vaginal wall passes easily around most of their circumference, but finds one spot by which they are attached laterally to it.* (See §§ 314-317).

314. The swelling is translucent, and fluctuant, with fine vessels ramifying over its thin walls. The growths may be polypoid or sessile. They are rounded, globular, tense, elastic, smooth, occur singly or in groups, and are from the size of a pea to that of a hen's egg. The tissues around are normal. They are **Cysts of the Vaginal Wall.**

315. *The swelling is solid, opaque, and polypoid.* (See §§ 316-317).

316. It occurs in childhood, is bluish red in colour, and bleeds easily. It is rounded or irregularly berry shaped, tends to increase rapidly, and there is some pain on micturition. It is probably **Sarcoma.**

317. It occurs in adults, is normal in colour, and does not bleed easily. It is rounded or pear-shaped, does not

* There is a case mentioned by Galabin, *Trans. Obs. Soc.*, vol. xxxviii, and by Ehrendörfer, *Centralbl. für Gyn.*, 1892, No. 17, p. 321.

† Rare, but cases mentioned by Melchior and Riberi, *Schmidt's Jahrb.*, Bd. 166, p. 314, and Winckel, *Billroth's Handbook.*, 2nd. Edition, Bd. 3, p. 381.

tend to necrose, and there is no pain on micturition. Increase in size is very slow. There may be tenesmus or irritability of the bladder, according to the position of the growth. It is either a **Fibroma** or a **Myoma** of the vagina, and this can only be determined by microscopical examination.

318. *Conditions which affect the walls of the vagina itself and the lining membrane mainly.* (See §§ 320-331).

319. *Affect deeper tissues.* (See §§ 332-355).

320. *The symptoms are severe, and point to an acute inflammation.* (See §§ 321-326).

321. *There is a sudden onset,* six to eight hours after coitus (Baldy); within two days (West). There is œdema of the vulva. It is not associated with similar appearances on the pharyngeal mucous membrane. There is greatly increased vascularity, with much swelling of the mucous lining. There is a dry condition at first, soon followed by profuse discharge of a greenish yellow colour, sometimes tinged with blood. If the surfaces are cleaned, they appear yellowish red. The vulva is excoriated, the urethral meatus, cervix, and frequently the vulvo-vaginal glands are involved. If Bartholinitis occurs, it is almost pathognomonic. There is great frequency of, and smarting on, urination. Neisser's gonococcus is found in the pus cells. It is **Gonorrhœal Vaginitis.**

322. *There is a more gradual onset. There is no œdema of the vulva.* (See §§ 323-326).

323. *There is a similar condition to be seen on the mucous membrane lining the pharynx.* There is increased vascularity and congestion, with some swelling of the mucous membrane. On this are seen localised patches of ash-coloured false membrane, which adhere closely to the surface beneath. If these are removed, the parts beneath bleed readily. The case may terminate in gangrene (q.v.) It is **Diphtheritic Vaginitis.**

324. *There are no similar conditions on other mucous membranes.* (See §§ 325-326)

325. The surface is bright red, shining and hot; soon there is a discharge of muco-pus, in which no gonococci are found. The discharge is tenacious, yellowish white, and not profuse. There is frequency in micturition, but no smarting. There may be a little superficial ulceration. It is **Simple Vaginitis.**

326. The surface is dark red, eroded, rough and fissured. There is a thin, purulent discharge, which is not profuse, but is acrid. The papillæ and mucous follicles are hypertrophied. There is marked swelling of the mucous membrane, whilst the rugæ are enlarged. There is a sensation of heat and smarting. There is a great tendency to the formation of adhesions. This is frequently a sequel to 334. In some cases, collections of gas form in the connective tissue, when it has been called **Cystic Vaginitis.** If not, it is **Granular Vaginitis.**

327. *The symptoms are sub-acute or chronic.* (See §§ 328-331).

328. There is no great alteration in the appearance of the vagina, but there is a slight discharge of whitish, fatty clots. It occurs in stout persons, old maids, and during pregnancy. It is probably **Seborrhœic Vaginitis.** Cases of this kind have been described by Strassmann.

329. There are small, white, raised patches on the vaginal mucous membrane, and the discharge contains small white flakes. The patches lie on a reddened base, and are not easily wiped off. It is **Aphthous Vaginitis.**

330. Following acute attacks of vaginitis of various kinds, is a condition in which round, thickened, prominent papillæ are seen on the vaginal wall. The labia majora are a little swollen, the labia minora slightly tender. There may be some ulcerated or adherent areas, from which a thin, purulent discharge escapes. It is **Chronic Vaginitis.**

331. Occurs in old persons. The inner surface of the vagina is smooth, uniformly injected, or spotted with red. It may be adherent or ulcerated. The vagina is shortened

and narrowed. There is a slight purulent discharge. It is probably **Senile Vaginitis.**

332. *There are gaps in the vaginal wall. There is an offensive smell. There has been a history of parturition, injury, or operation.* (See §§ 333-337).

333. Fæces, or gas, smelling fæcally, escape through the vulva. The opening is on the posterior wall between the rugæ. The edges of the opening are usually ragged. It is a **Recto-Vaginal Fistula.**

334. *The opening is on the anterior wall. Urine escapes through the vagina. The vulva is sodden, excoriated, and an ammoniacal smell hangs about the patient.* (See §§ 335-337).

335. The opening is small. It is high up in the antero-lateral fornix. Milk injected into the bladder does not escape through it, whilst the urine escapes in small gushes. It is a **Uretero-Vaginal Fistula.**

336. The opening is usually not a large one. It is within two inches of the meatus in the middle line. Urine escapes in a stream through it during micturition. Milk injected into the bladder does not appear immediately, but at the next urination. It is a **Urethro-Vaginal Fistula.**

337. The opening is usually comparatively large. It is situated beyond the first inch and a half from the meatus. The urine is constantly dribbling. Milk injected into the bladder appears at once. It is a **Vesico-Vaginal Fistula.**

338. *There is an alteration in the relative position of the vaginal walls, or of portions of them. The tissues are of normal or less than normal thickness and consistence, and are not altered in colour.* (See §§ 339-343).

339. This alteration affects the posterior wall. On separating the vulval labia, the posterior mucous membrane bulges forwards and outwards, its limiting line being convex forwards, and behind this, numerous convex lines define the folds of this tissue. It is always associated with a more or less complete rupture of the perinæum, which is reduced to skin and mucous membrane, with only the sphincter ani

between. The levator ani and pelvic fascia fibres have been ruptured, and have retracted to the sides of the vagina, where their edges can be felt. A finger passed into the rectum can be easily placed in the interior of the protrusion, which can be felt to consist only of the two opposed rectal and vaginal walls, and to be thin and supple. There is a dragging, bearing-down sensation, usually constipation, with a characteristic difficulty in completely emptying the rectum at stool. The protrusion can be easily pushed upwards, but returns on removal of the pressure. It is a **Rectocele.**

340. *The alteration in position affects the anterior wall. On separating the labia the anterior wall bulges forward. The limiting line is convex backwards.* (See §§ 341-342).

341. On pushing the protrusion upwards and forwards, urine escapes at the meatus. The protrusion itself is circumscribed and fluctuant. The swelling lies immediately below the urethra; and if a probe be passed along the upper wall of this canal it passes over the swelling and does not enter it. If, however, the probe be bent, and passed along the urethral floor, the point may be felt to engage in an opening, and can then be felt in the swelling. It is a **Urethrocele.**

342. On pushing the protrusion upwards and forwards no urine escapes. The swelling is not circumscribed, for the tumour bulges the whole anterior wall. A probe passed into the urethra passes at once into the protrusion. It is a **Cystocele,** and is frequently associated with 339.

343. The alteration in position affects the whole vaginal wall. On separating the labia the vaginal wall is seen lying in circular folds. The os uteri may or may not occupy the lowest point. In any case it is nearer the vulva than normally. The perinæum is ruptured more or less completely. The vaginal walls feel lax, loosened from their surroundings, and lie in transverse folds. It is **Vaginal Prolapse.**

344. *There is a new formation springing from the vaginal wall.* (See §§ 345-355).

345. *It is an inflammatory new formation. The temperature of the part is raised, probably also that of the general system. Rigors often attend the commencement. The condition begins as a firm, hot, circumscribed swelling, which softens at the centre, and becomes fluctuant. The last two of these are the first stages of their respective fistulæ.* (See §§ 346-348).

346. The swelling is situated near the vault, close to the cervix, along the antero-lateral wall, and at the level of the posterior opening of the urethra. It occupies the upper third of the vagina. It is irreducible. A probe passed into the urethra passes by the side of the swelling, but does not affect it. There is severe pain in the vulva and the vagina. It is probably an **Abcess of Gærtner's Duct.**

347. The swelling is immediately below the urethra in the anterior vaginal wall. It occupies the *lower* or *middle third* of the vagina. It may sometimes be emptied by pressure, in which case pus and a little blood escape from the meatus. A probe in the urethra will either pass immediately above, or slightly to one side of the swelling, or, if an opening exists, can be made to enter it. There is severe pain on and after micturition. It is a **Sub-Urethral Abcess.**

348. The swelling is in the posterior vaginal wall. It may lie anywhere in the lower two-thirds, but is usually found just above the sphincter ani. It is irreducible. A finger passed into the rectum finds a similar swelling bulging into that canal. There is much pain, increased on pressure and on defæcation. There is tenesmus. It is an **Abscess of the Recto-Vaginal Septum.**

349. *It is a new formation springing from the vaginal wall, but not inflammatory; the temperature is not raised, and there are no rigors.* (See §§ 350-355).

350. *There is a defined outline.* (See §§ 351-352).

351. The swelling is fluctuant, is reducible upwards, but returns on straining. There is pain in the side radiating upwards to the loin. The swelling occupies the antero-lateral angle of the vault of the vagina, passing forwards towards the bladder. Its lower end often projects into the bladder itself. It is a **Cystic Dilatation of an Occluded Ureter.**

352. There is a swelling which is not reducible. There is pain at the menstrual periods. It is situated at the vault. It may or may not be fluctuant. It lies by the side of the definitely outlined uterus, which is somewhat concave on that side. It is probably **Atresia of a Rudimentary Uterine Horn.**

353. *The swelling has an indefinite outline. It is solid, and more or less infiltrates the tissues around.* (See §§ 354-355).

354. There is a diffuse, knobbed, bluish-red growth, which bleeds at irregular times. There is a sense of bearing down. The bladder is early involved. It tends readily to necrose, and the discharges have a putrid smell. It is very rare. It may require microscopical examination in order to obtain certitude. It is probably **Sarcoma.** (See § 368).

355. There is free hæmorrhage ; a foul discharge. The condition may be either :—

(*a*). A fungating rugged hard mass.

(*b*). An ulcer with hard everted edges, and uneven sloughy base, or :—

(*c*). The vaginal wall may be rigid, hard, nodular, and contracted.

In either case the neoplastic formation breaks down easily. It is probably a **Carcinoma.** Microscopical examination will probably confirm.

356. *There is a median septum.* Its outer extremity lies at a point internal to the labia minora, starting from a point about 1 c.m. below the meatus, from which it may

pass downwards to the posterior commissure, or curve round to one side, being attached at some point near the lateral inferior angle, in which case the appearance is that of a small tube within a larger, to which it has become adherent laterally. The body of the septum extends upwards without a break to the vaginal vault, and at the top of each tube can be detected a relatively small os and cervix, one for each tube. Such a division of the vagina always implies a double uterus. It is **Vagina Duplex.** Septa may occur in the vagina, not implying a double uterus, of varying extent, and shape; but these are not included in the term Vagina Duplex, nor are they usually median in position.

357. *There are multiple tumours attached to the uterus above, which contain fluid, and are fluctuant.* (See §§ 358-359).

358. These tumours are sessile on or in the lips of the os. They are small, pearly-looking, and tense. They give a sensation to the finger as though small shot were imbedded in the substance of the cervical tip. They are **Enlarged Nabothian Follicles**, or **Cystic Degeneration of the Cervix.** (See § 373).

359. These tumours are polypoid, distinctly pedunculated; their pedicles spring from within or outside the cervix; their size varies from that of a pea to a walnut, and they look something like a small bunch of grapes. They are opaque, flaccid, soft, and flabby. They are **Racemose Adenomata**, or **Glandular Polypi of the Cervix.**

360. *The condition is solid, not fluctuant.* (See §§ 361-378).

361. *The fundus uteri is much lower than normal. The mass may project between the vulval lips.* (See §§ 362-363).

362. The os uteri is at or near the lowest point of the mass. The depth of the vaginal cavity is greatly decreased. The condition has slowly appeared. The protrusion is lax, not tense, the colour normal; the surface smooth or covered with coarse dry scales. The mass does not bleed

on handling. There has been no sudden shock, but there is and has been for some time a general pelvic aching and dragging sensation. There is a history of—usually repeated—labours, but not one just immediately before. A finger in the rectum discovers the fundus uteri low down in the pelvis, but its superior extremity is normally convex. It is **Prolapsus Uteri**, or (if actually projecting externally) **Procidentia Uteri.**

363. There is no os to be felt near the lowest point. The depth of the vaginal cavity is not materially decreased. The condition has rapidly, often suddenly, appeared. The protrusion is tense, the colour purplish red, the surface velvety. The mass bleeds on manipulation. There is profound shock at first, with intense, fixed, persistent pain. There is a history of a very recent parturition, with often some trouble in removal of the placenta. A finger in the rectum finds, instead of the convex fundus, a concave, funnel-shaped depression where the fundus should be. A careful examination of the extreme lateral extremities of the protruding mass will usually discover the openings of the Fallopian tubes. It is **Inversio Uteri.**

364. *The fundus uteri is at or near its normal position.* (See §§ 365-378).

365. *The tumour is polypoid. It may become gangrenous from twist of its pedicle. The os is in the normal position and covered by normal mucous membrane. These tumours may interfere with coition or parturition. If they become sphacelated, they will all produce a foul-smelling purulent discharge which is usually blood-stained, and great constitutional debility.* (See §§ 366-369).

366. *Its appearance is preceded by uterine colic resembling labour pains. There are frequent hæmorrhages, which may be menor- or metrorrhagic. The pedicle of the tumour can be traced into the cervical canal. Before the colic has ceased, as it does after the appearance of the tumour outside the canal, there has usually been much vesical irritability and tenesmus.*

During the earlier stages of its expulsion its gradual exit from the cervix may be seen. Whilst in that position it looks like a smooth, rounded mass dilating the os, but not attached to it at any point. (See §§ 367-368).

367. The tumour is firm, smooth, and hard. It is normal in colour. After its exit from the cervical canal, unless others are following, profuse hæmorrhages cease. It is a **Uterine Submucous Fibro-myomatous Polypus.**

368. The tumour is soft, smooth, lobulated. It is bluish red in colour. After its exit there is still some hæmorrhage, and the growth itself will often bleed. It is probably a **Uterine Polypoid Sarcoma.** (See § 354).

369. *Its appearance is not preceded by uterine colic.* There is seldom much, if any, hæmorrhage. Its pedicle is attached to, or just within, the os. It does not affect the bladder unless it becomes of large size. It is firm and smooth. It is probably a **Polypoid Fibromyoma of the Cervix.**

370. *The solid growth is sessile, affecting the os uteri, vaginal cervix, and vaginal vault.* (See §§ 371-378).

371. The tissues are mobile, not infiltrated. (See §§ 372-373).

372. The os is normal in shape, the lips normal; there is no exposure of the cervical mucous membrane, but the os is much lower than normal, and the cervix projects much further into the vagina than usual. The uterine canal as measured by the sound is longer than 2½ inches. It occurs in nullipara. The condition is that of **Elongation of the Vaginal Cervix.**

373. The os is split, the lips everted, usually thickened; the cervical mucous membrane is exposed, often widely; the os may appear to be almost on a level with the vaginal vault, and the cervix proportionally shortened. It never occurs in nullipara, being a direct consequence of parturition. It is **Ectropion of Cervix,** often called **Split Cervix.** The condition numbered 358 is usually coincident.

374. *The tissues are fixed, thickened, infiltrated. They cut like cheese. There is slight pain at first, later becoming severe. The thickening spreads towards the vaginal vault into the broad ligaments, rarely into the uterine body. Hæmorrhage follows coitus.* (See §§ 375-378).

375. There is a general infiltration of the vaginal mucous membrane. There is but slight discharge at first, which, however, soon becomes offensive. There is bleeding, at first at the menstrual periods, the quantity of which is increased, but afterwards between them. Ulceration occurs early, the margins of the ulcer being sharp and dentated. It is the **Ulcerative Form of Epithelioma.**

376. There are one or more nodules to be felt in the substance of the cervix. There may be no discharge at first or for some time. There is increased menstruation, becoming metrorrhagic. Small ulcers form, which fuse together, the margins being hard and nodular. It is the **Nodular Form of Epithelioma.**

377. There are papillary growths springing from the cervix. There is much watery discharge. There is increased menstruation, becoming metrorrhagic. There is seldom much, if any, ulceration. It is probably the **Cauliflower,** or **Papillary Form of Epithelioma.**

378. There is a crater-like excavation of the cervix and upper vagina. There is a foul, ichorous discharge, mixed with cheesy material and gangrenous shreds. There is profuse hæmorrhage at and between the periods. The margins of the excavation are hard and everted; its base is rugged. There is violent colicky pain, which is persistent, and felt in the lumbar region, hypogastrium, inguinal regions, and down the thighs. It is a **Late Stage of Epithelioma.**

Group B.—The Rectum.

Affections which can easily be seen without the use of specula have been included in Class 2.

379. *There is a feeling of fullness and weight or irritation in the lower bowel. There are difficulties in defæcation, and more or less tenesmus.* (See §§ 380-448).

380. *The anus is tightly closed. Any attempt at exploration is strongly resisted and is very painful. There is a history of pain on defæcation, and still more after the act. Usually the pain is severe during the passage of fæces; when that is over there is a temporary lull, but the pain soon returns, and becomes increasingly acute for some minutes, then slowly dies away. On separating the buttocks, a small elevation is seen at the level of the muco-cutaneous line, continuous with the skin outside and shutting down like a valve over the anal edge—Bryant's sentinel pile. When this is drawn backwards it lifts up and discloses the lower end of an ulcer beneath.* (See §§ 381-383).

381. The ulcer is triangular, base downwards, is superficial, with a perfectly supple base, with edges which are clean cut and not elevated. It is single, and directed towards the coccyx. It is a **Fissure or Irritable Ulcer.**

382. When multiple and passing in other directions, especially forwards, it is a **Syphilitic Ulcer.**

383. There is a defined circular ulcer, with a grayish-white base and defined edge. It soon becomes multiple from direct infection. It is generally close to the muco-cutaneous line, but has been seen 4 cms. above the sphincter. It is a **Soft Chancre or Chancroid Ulcer.**

384. *The anus is normal.* (See §§ 385-404).

385. *If the finger is passed into the rectum, something abnormal is felt which is moveable; or on dilating the sphincter with a speculum, it is seen.* (See §§ 386-399).

386. The abnormal substance is perfectly free in the rectal cavity, or some portion of it is penetrating the rectal wall from within. It is a **Foreign Body.**

387. *The abnormal body is attached at some point to the rectal wall by a pedicle. There is no change in the surrounding mucosa.* (See §§ 388-399).

388. Hair escapes per anum with some cheesy or curdy material. There is no great amount of bleeding. The growth usually arises 2½ inches above anus. The tumour is of uneven consistence, parts being very hard, whilst others are very soft. It is a **Dermoid Tumour** or **Teratoma.**

389. *No hair escapes. Blood escapes. The mass is entirely soft.* (See §§ 390-399).

390. *Blood escapes as the patient walks about.* (See §§ 391-392 and 404). *A fleshy mass may protrude at stool.* (See §§ 391-392).

391. The condition occurs in children. The mass is more or less globular or pyriform. It is bright red, has a long pedicle, and may produce intussusception. There is a frequent desire to defæcate. It is a **Gelatinous Polypus** (Allingham), a **Vascular Polypus** (Erichsen), or **Adenoma of Rectum.**

392. In children who have lived in Africa a similar polypus is observed, which is due to the presence of a parasite, the **Bilharzia Hominis.**

393. The condition occurs in adults. There is a lobulated, spongy mass covered with dendritic processes. There is a more or less broad pedicle, or the growth may be sessile. There is frequent desire to defæcate, and intussusception may be produced. If removed, it may recur as an epithelioma. It is a **Villous Tumour** (Curling), **Villous Polypus** (Esmarch), or **Granular Papilloma** (Gosselin).

394. *Blood escapes during defæcation only.* Occurs in adults only. (See §§ 395-404).

395. *The growth is multiple.* They are equally distributed over the rectal wall, or may occur in groups. There are numerous projections from the surface of the mucous membrane. Each projection is usually the same width in its whole length, or is slightly knobbed at its extremity. There is frequent desire to defæcate; the

stools are liquid or semi-solid, and mixed with blood and mucus. There is often a family history, *i.e.*, that more members than one have suffered from the same disease. It is **Disseminated Rectal Polypi.**

396. *The growth is single.* (See §§ 397-404).

397. The growth is almost sessile. There is an aggregation of small lobes on a short peduncle. The whole growth is about one inch long. It is a **Warty Polypus.**

398. There is a marked pedicle. Hanging from it is a firm, pale, tuberous mass. It is half an inch to two inches long. It is a **Fibrous or Myomatous Polypus.** These two can only be distinguished after removal by microscopical examination.

399. The growth is more or less pedunculated; the peduncle is often hollow. There is a gap in the muscular wall through which the pedicle has passed. The growth is slightly lobed; its size varies up to that of a pigeon's egg. It is pinkish in colour. It is probably a **Lipoma** formed from the sub-peritoneal fatty layer.

400. *The growth is directly sessile upon the rectal wall. Blood escapes per anum.* (See §§ 401-404).

401. There are several bulky, bluish-coloured tumours. They do not readily bleed. They are attached to the rectal wall immediately above the external sphincter. They usually protrude at stool, and bleed during defæcation if they bleed at all. These are **Venous Hæmorrhoids or Venous Internal Piles.**

402. *The mass is red. It bleeds on touch.* (See §§ 403-404.

403. It is a large, fleshy tumour; it is seated high up on the wall. It seldom protrudes, but bleeds during defæcation. It is probably **Sarcoma.**

404. There is a small, rounded, strawberry-like, prominent patch which is situated just above the internal sphincter, or at no great distance from it. It never protrudes, but bleeds very readily; and blood often escapes

at other times than merely during defæcation. It is an **Arterial Hæmorrhoid** or **Arterial Pile.**

405. *The mucous lining of the rectum is hot, swollen, and reddened.* (See §§ 406-409).

406. *The condition is primarily and mainly local. Any constitutional disturbance is purely secondary, and evidently a consequence of the local condition. There is a frequent passage of small quantities of bloody mucus, at first mixed with the fæces, later alone. There is irritability of the bladder, and frequently partial prolapse of the rectum.* (See §§ 407-408).

407. A specific organism—the gonococcus—is found in the discharges. There are severe spasmodic attacks of pain in the anus. Pus also is often found escaping from the urethra. There is erythema, excoriations, and small fissures in and around the anus. There is a discharge of thick, greenish muco-pus. There may be a history of suspicious coitus. It is **Gonorrhœal Proctitis.**

408. No gonococcus is found in the discharges. The attacks of pain are not so severe. No pus comes from the urethra. There is seldom any erythema, or any excoriations or fissures around the anus. There is a discharge of muco-pus, which is yellowish, but not so thick. There is a history of exposure to cold and damp, as by sitting for some time on a wet seat, or there is a foreign body in the rectum, or oxyurides are found. It is **Acute Catarrhal Proctitis.**

409. *The condition is part of a general intestinal inflammation.* There is a discharge of semi-fæculent mucus with or without blood, not incorporated with the fæces. The bowel is irritable or paralysed. There is griping pain in the abdomen, which becomes tumid and tender. The stools are extremely offensive and frequent. They resemble the washings of meat, and may become entirely serous. It is **Dysenteric Proctitis.**

410. *The finger passed into the rectum detects two*

canals, one projecting into the other. The finger passes freely into the outer for some distance, usually further on the right side than on the left. On the left side it finds a junction between the two, over which the mucous membrane appears to be continuous. Tenesmus is very marked. Defæcation is very difficult, and may be totally obstructed. There is much mucous discharge, often streaked with blood. It is an **Intussusception**, usually of a part of the sigmoid into the rectum if occurring in adults. In children it is more often of the small intestine headed by the ilio-cæcal valve, into the large intestine.

411. *There are definite alterations in the wall itself, which thicken and stiffen it. It has lost to some extent its elasticity. There is more or less constant pain, which is increased on defæcation. There are discharges of pus and blood. Obstruction is frequent. There is diffuse ulceration and infiltration.* (See §§ 412-415).

412. It attacks comparatively young persons, *i.e.*, under forty years of age. The discharges are not specially offensive. The infiltration is smooth and firm. It pursues a chronic course, and usually affects the whole circumference. There may be a history of syphilis. Lymphocytosis with eosinophilia is present. It is probably **Ano-rectal Syphiloma.**

413. *It attacks elderly persons, i.e., over forty years of age. The discharges are peculiarly offensive. The infiltration is hard. It runs a rapid course; Jessop says seventeen months. It usually attacks, and is always more marked on one side.* (See §§ 414-415, also § 435).

414. The swelling forms a wart-like mass. It is localised, very hard, ulcerates late, and produces marked contraction of the gut. It is the **Warty or Nodular Variety of Carcinoma.**

415. The swelling is cauliflower-like. It early involves the whole circumference of the gut. It is more spongy

than § 414, ulcerates early, and is not so likely to obstruct. It is the **Annular Variety of Rectal Carcinoma.**

416. *There is an opening of the rectal wall communicating with the tissues around it. A finger passed into the rectum feels a toughened cord passing outwards from its wall. The fæces are smeared with pus or blood.* (See §§ 417-423).

417. Urine escapes per rectum. Fæcal matters and gas pass through the urethra; striped muscular fibre is found in the urinary sediment. There is excoriation around the anus, and great irritability of the bowel. There is usually associated cystitis (q. v.) It is a **Recto-vesical Fistula.**

418. No urine escapes per rectum. Fæcal matters and gas escape through the vagina. There is no muscular fibre in any urinary sediment. There is no excoriation of the anus, though there may be of the vulva. There is no associated cystitis. It is a **Recto-vaginal Fistula.**

419. *There is no escape of fæcal material either through the urethra or the vagina.* (See §§ 420-423).

420. *There are one or more external openings on the skin adjacent to the anus or at a distance from it.* (See §§ 421-422).

421. The opening in the lumen of the bowel lies above the attachment of the levator ani; a probe passed into this passes upwards outside the entire wall. The external opening is at some distance from the anus, on the pelvic wall. It is a **Pelvi-rectal Fistula.**

422. The opening in the lumen of the bowel lies below the attachment of the levator ani; it is usually just above the internal sphincter. A probe passed into it may pass upwards, but if it does it passes between the mucous membrane and the muscular wall for a comparatively short distance. It also passes downwards and outwards, and its point projects through an abnormal opening in the perinæum. The skin around this opening may be undermined, bluish, and congested. It is an **Ischio-rectal Fistula.**

423. *There is no external opening.* The opening in the lumen of the gut lies below the attachment of the levator ani. A probe passed into this passes downwards and outwards, and its point can usually be felt projecting against some point in the intact perinæum. If it passes upwards as well, it does so between the mucous membrane and the muscular wall. There may be a boggy swelling at some point of the anal circumference. It is a **Blind Internal Fistula.**

424. *An ulcer can be seen on the rectal wall. There is frequent or constant diarrhœa, with discharges of blood-stained mucus.* (See §§ 380-383, 425-443).

425. *The ulcer is small and circumscribed; the base is supple, not infiltrated.* (See §§ 380-383, 426-432).

426. *There is no marked increase of pain after defæcation. The ulcers are multiple.* (See §§ 427-429, also 432).

427. *The surface of the ulcer bleeds easily. It is of irregular shape.* (See §§ 428-429, 435).

428. The ulcer is seated on a congested venous pile. The symptoms are continuous. The margins of the ulcer are elevated and irregular. It is a **Hæmorrhoidal Ulcer.**

429. The ulcers are seated on a smooth, longitudinal fold of mucous membrane. There may be intervals of years between the recurrence of symptoms. The ulcers are very shallow. They are **Nævoid or Angiomatous Ulcers.**

430. *The surface of the ulcer does not bleed easily.* (See §§ 431-432).

431. There is a "shotty" feeling between a finger passed into the rectum and one outside. The ulcer itself may not be readily seen, but if a probe is passed into the sinus of Morgagni corresponding to the point where the "shotty" sensation has been felt, it causes intense pain and sudden spasm of the sphincter. There is a history of prolonged constipation. It is an **Ulcer of Sinus of Morgagni**, and is the first stage of **Irritable Ulcer** (q.v.)

432. There are several ulcers scattered over the rectal walls. There is a passage of small masses of inspissated mucus like grains of boiled sago. There is a history of chronic catarrhal proctitis. The ulcers are distinct, and do not infect by apposition. They are **Follicular Ulcers.**

433. *The ulcers are comparatively large and tend to spread.* (See §§ 434-443).

434. *The base of the ulcer is infiltrated, thickened* (See §§ 435-440).

435. *The discharge is very offensive. The infiltration is hard and nodular. Defæcation is very painful.* The ulcer is crateriform. The edges are nodular, not undermined, whilst the base is hard, nodular, and irregular. The rectum itself is stiffened and hardened for some distance around. It occurs usually in elderly people. Its progress is comparatively rapid, and cachexia is soon produced. One portion of the circumference of the gut is always more obviously involved. In advanced cases the pain radiates to all the branches of the sacral plexus. The condition usually commences at a point well above the sphincter, so that in the early stages the pain may be trivial. Bleeding signalizes the commencement of ulceration. In the later stages the anus becomes patulous, wet, and the skin around excoriated. Cramps are felt in the lower extremities, which become œdematous. Diarrhœa alternates with constipation. The ulcer itself is always preceded and surrounded by nodular formations in the mucous membrane, whilst the tissues around are hardened and fixed. It is a **Carcinomatous Ulcer.**

436. *The discharge is not very offensive. The infiltration is firm and diffused. There is some pain on defæcation, but this is not excessive.* (See §§ 437-440).

437. The edges of the ulcer are undermined and ragged. The infiltration penetrates no deeper than the mucous membrane. There are tubercle bacilli in the mucus removed from above the sphincters. There is probably

some family history of tubercle. It is a **Tuberculous Ulcer.**

438 *The edges of the ulcer are not undermined, and are clean cut. There is a history of syphilis. Lymphocytosis with eosinophilia is present.* (See §§ 439-440).

439. The cavity of the ulcer is deep, and looks as if scooped out. The rectum itself becomes a stiff, rigid tube. It is a **Gummatous Ulcer.**

440. The ulcer is shallow, but widespread. The base is lowly tuberculated, undulating, and uneven. It is a **Late Tertiary Syphilitic Ulcer.**

441. *The base of the ulcer is not infiltrated.* (See §§ 442-443).

442. The affection is of long duration, extending over years. The ulcer begins at the muco-cutaneous line and spreads upwards. It often also affects the vagina. It is extensive. The base of the ulcer is greyish-white, studded with rosy granulations of irregular form. One edge is obviously spreading. It is sharp, festooned, and reddened. The opposite edge is slowly cicatrising, leaving thin, bluish scars. It is **Lupus.**

443. The affection is of short duration, extending over weeks. The ulceration is entirely confined to the rectum, often to prominent ridges and folds of the mucous membrane. These ridges look dirty-grey or black, whilst the intervening parts are livid or dark red. It is probably **Dysenteric Ulceration.**

444. *A stricture can be felt in the rectum. The act of defæcation is seldom satisfactorily complete. The stools are not tape-like unless the sphincter is involved, which is very unusual. Fæces are generally like marbles or sheep-droppings. After a while colicky pains are felt in the abdomen. Later the distended colon may be mapped out by sight, touch, or percussion. Later still there is meteorism. Seldom any vomiting.* (See §§ 445-448).

445. *The course of the disease is essentially chronic,*

lasting for years. Any pain felt is proportional to the amount of obstruction, and is felt mainly at the time of defæcation No glands are enlarged. The entire circumference of the bowel is affected. If polypoid growths exist, they are attached simply to the mucous membrane. There is little or no discharge per anum, and, if it occurs, it has only a feculent smell. (See §§ 446-447).

446. There is a sensation as though a string had been tied round the gut. The tissues around are supple and healthy. Any concurrent fistulæ have moist walls obviously lined with granulation tissue. There is possibly a history of catarrhal proctitis, traumatism, or piles. It is a **Simple Stricture.**

447. There is a smooth constriction which is more diffused than § 446. The tissues around are stiffened and firm, but not rocky. Any concurrent fistulæ have dry walls, like holes made for ear-rings. There is probably a history of syphilis. Lymphocytosis with eosinophilia is present. It is a **Syphilitic Stricture.**

448. *The course of events is more rapid—weeks or months. Pain is constantly present, and is increasing.* Sacral and lumbar glands enlarge. One side of the bowel is always chiefly affected. If polypoid growths exist they are fixed to the deeper tissues. There is a rugged, hard barrier against which the finger impinges. The outlines of this on the tissue side are indefinite. Any concurrent fistulæ have hard, rocky walls of similar character. The discharge is free, blood-stained, and extremely offensive. (See also § 435). It is a **Carcinomatous Stricture.**

Group C.—Bladder, Urethra, Prostate, Pelvic Ureter.

Before attempting to diagnose a vesical or prostatic condition, we should determine the absence or presence of renal diseases.

The two are not infrequently combined, so that it is quite possible that both sets of symptoms may be present

in a given case. As this work, however, only deals with pelvic disorders, the symptoms proper to the pelvic section of the urinary system are alone given.

In considering hæmorrhage, it is to be remembered that the passage of long, *thin* clots, especially if gray or blackish, points to a renal origin. Blood casts are also obviously renal; and blood cells intimately mixed with the urine, forming no sediment in a conical glass after some hours, and appearing as pale yellow rings under the microscope, also have a renal origin—**Acute Nephritis.**

Blood in large, irregular clots, and *thick*, red, cylindrical clots, on the contrary, point to a vesical, prostatic, or urethral origin. The only exception to this is met with in children the subjects of renal sarcoma.

Pus coming from a renal source renders the urine turbid, and this turbidity does not disappear if the urine is allowed to remain for some hours in a conical glass. Pus derived from a vesical source also renders the urine turbid, but subsides after standing. If the purulent urine is acid, it is almost certainly derived from the kidney; if alkaline, it certainly derives its pus from the bladder.

Acid purulent urine may obtain its pus from the prostate or vesiculæ seminales, but in that case, if the stream is passed into two receptacles, the one which contains the first amount will also contain the pus; the second will be clear, or at least much clearer.

Having eliminated renal conditions, the chief symptoms of vesical disorders are frequency in micturition, nocturnal or diurnal; hæmorrhage, associated or not with micturition; and pain.

449. Increased frequency of micturition is the main symptom. (See §§ 450-466).

450. *There is a gradual onset. Frequency is associated with a difficulty in starting the stream, and some diminution in the power of projection. After the act is over there is some dribbling. There is no blood in the urine, nor any marked*

pain. The anus is not swollen or prominent. There is no rise of temperature. No tenderness in the rectum or swelling of its mucous membrane. (See §§ 451-461).

451. The patient is a young man or in middle life. There is a history of gonorrhœa or of some injury. A bougie passed down the urethra meets with a diminution of its calibre at one or more spots anterior to the prostate. As soon as these are passed the instrument easily enters the bladder. It is not deflected from the median line during its passage. The urine is acid. It is **Stricture of the Urethra.**

452. The patient is a man about or over fifty years of age. There is a sense of fulness and weight in the perinæum, which is not relieved by micturition, nor is that act followed by the usual sense of completeness. A catheter passes easily until it reaches the prostatic region. It appears to require a larger curve and a longer tube than usual before it can enter the bladder. It may be evidently deflected from the median line in its course. With the catheter in position, a finger in the rectum finds a larger mass of firm, defined tissue between the two than is normally present. Later the urine ceases to be clear, becomes alkaline and ammoniacal. As time elapses more and more urine is found to be left behind after micturition—residual urine. The urine is acid at first, later becomes neutral, then alkaline. It is **Hypertrophy of the Prostate.**

453. The patient may be any age. There is some difficulty in defæcation, with tenesmus, as well as gradually increasing difficulty in micturition. The finger in the rectum finds a large, elastic swelling above, intimately connected with, but distinct from, the prostate. Bimanual examination shows that this is continuous with a swelling over the hypogastrium, and percussion through from one point to the other elicits a definite thrill. It is not affected by change of posture, and is not decreased by the passage of a catheter, though it frequently causes some amount

of retention, and then there is a sensation of a double tumour. The passage of a catheter causes disappearance of the anterior, but does not affect the posterior tumour. The urine is acid. It is probably a **Hydatid Cyst** springing from the connective tissue between the muscular wall of the bladder and the peritoneum.

454. The patient is not very young, probably over twenty-five or thirty. On passing the finger into the rectum the *prostate itself* is found enlarged, of normal shape, tense, and hard. Pressure with the finger elicits sensitiveness. The epididymis is not knotty. A catheter passed into the urethra shows that there is tenderness when its tip passes over the prostatic portion, and there is a creaking sensation as if the instrument were passing over wet leather, but no grating. If abscess forms, there is a single opening in the skin which is not undermined around. The urine is acid. It is probably **Chronic Prostatitis.**

455. The finger in the rectum feels distinctly hard masses in the region of the prostate. With this, or with a catheter in the urethra, a grating sound is heard and sensation felt. There is pain in urination, pain and difficulty in defæcation. There may be passage of a little blood. The urine is acid. It is probably **Prostatic Calculi.**

456. *There is frequency associated with apparently causeless hæmaturia. This hæmaturia may be profuse or but slight. It does not persist, but recurs from time to time for no reason that can be given. The bleeding is not caused by exertion, nor is it prevented or relieved by rest. There is pain just where the penis joins the scrotum, that is, on the under surface, "the peno-scrotal angle."* It is probably 457-458.

457. The cystoscope shows a small, single, intra-vesical ulcer, like the dint of a bullet on a target (Fenwick). Its edges are raised, gelatinous looking; its base does not show the muscle bundles beneath. It is therefore a comparatively shallow ulcer. The base gradually shelves down from the edge, and does not show a shadow from it,

such as is seen in a *sacculated* bladder. (See § 470). It is uneven and sloughy. It is situated just within the position of the ureteric orifice. There is a history of tuberculosis, and small nodules can be felt in the vesiculæ seminalis or in the epididymis. The urine is acid. It is a **Solitary Tuberculous Ulcer of the Bladder.**

458. The cystoscope shows exactly the same condition, but there is no history of tubercular mischief elsewhere, and the vesiculæ and epididymis are healthy and free from any nodulation. The urine is acid. It is probably a **Simple Solitary Ulcer of the Bladder.**

459. *There are traces of blood in the urine; some pain; a rise of temperature, especially at night; some tenderness in the rectum and there may be swelling of the mucous membrane.* (See §§ 460-461).

400. The patient is a young man. There is increasing difficulty and some pain in defæcation, with tenesmus, as well as increasing difficulty in micturition. The finger in the rectum finds a firm, nodular, doughy and plastic, or soft and fluctuating mass above and to one side of the prostate, the outlines of which are not well defined, and with which that organ is apparently blended. There is no hypogastric swelling unless the bladder is distended. It is not affected by change of posture. There is much aching in the perinæum, loins, and testes. Blood may be seen before and after micturition. There is pain during and after coition, and the semen may be stained with blood. Tubercle bacilli may be found in the discharges. Abscesses often form, discharging into the perinæum or rectum. There have usually been some previous changes of a similar nature in the epididymis or prostate. The temperature is very irregular or not raised at all. It is **Tubercular Vesiculitis.**

461. On passing the finger into the rectum the prostate is found irregularly enlarged, some soft, flaccid spot or soft nodules being felt. There may be a sensation as of grains

of rice under the finger. The urine contains "prostatic" threads, and these may be blood-stained. Defæcation is often followed by burning pain in the perinæum. The epididymis and vesiculæ seminalis contain small knotty masses. If abscess forms, several fistulæ are produced, their outer extremities being bluish and the skin around undermined. The urine is acid. It is probably "**Prostatic Tubercle.**"

462. *The onset is sudden. There is rectal tenesmus, with difficulty and pain in defæcation. There is pain, especially at the end of micturition. The anus is often swollen and prominent. Passage of a catheter into the bladder, or of a finger into the rectum, is very painful. The finger in the rectum finds the prostate enlarged, or the parts around hot, tumid and prominent. The temperature is raised.* (See §§ 463-466.)

463. The patient is a young man or of middle age. There is increasing difficulty and some pain in defæcation, and the act increases the pain. So also does micturition. The finger in the rectum finds an obscurely fluctuating mass, well defined, passing upwards and outwards from the lateral lobe of the prostate, which is hot and tender. The upper limit can often not be felt. There is no hypogastric swelling, and it is not affected by change of posture. There are shooting pains in the perinæum, hypogastrium, and anus. There is often pain in the hip-joint and sacro-iliac articulation on the same side, running down the outside of the leg. There is a history of discharge from the urethra. There are frequent and persistent erections, with painful emission of blood-stained semen. Micturition is frequent, painful, and straining. It is **Acute Vesiculitis.**

464. The patient is a young or middle-aged man. There are no rigors, except possibly at the commencement. The finger in the rectum finds the prostate enlarged, hot, tumid and prominent; the prostate is of uniformly firm consistence. The outline of the gland is well defined. It is **Acute Prostatitis.**

465. The outline of the gland is not well defined. It is **Acute Peri-prostatitis.**

466. There are recurrent rigors. The pain becomes throbbing. The swelling becomes soft and fluctuant. There is a zig-zag temperature with sharp evening rise. Pus passes at the commencement of micturition, the succeeding stream being clear. Fistulæ often form. It is **Prostatic Abcess.**

467. *Frequency and pain are the two dominant symptoms, and are usually present together, though frequency is usually the earliest.* (See §§ 468-476).

468. The patient is a neurasthenic—often a young man who has been given to excessive sexual indulgence, or some one who had been undergoing great nerve strain and consequent exhaustion. There is no pus or blood. He complains of some frequency of micturition, which is diurnal, but especially of an acute pain which gives the sensation of a hot wire traversing the urethra. The prostate may or may not be altered. It is never much enlarged, but Fenwick describes a broadly-grooved condition felt per rectum existing in the prostate of onanists which he believes characteristic. The cystoscope shows a normal bladder. The urine is acid. It is probably **Neuralgia.**

469. There is pain at or near the end of micturition. The urine contains small white flakes. Some little blood may be seen at a late period in the case, but there is never any large amount, usually a drop or two at the end of micturition. The symptoms are very intermittent, there being periods of months or years during which the patient appears absolutely free. The cystoscope shows numerous dull-red patches on the posterior vesical wall, each of which has a small white flake upon it similar to those seen in the urine. These flakes are small, curled-up islets of epithelium. The orifice of the ureter is attacked later. It becomes open and displaced. The displacement only occurs when

the disease has spread some distance towards the kidney. The edges of the ureteric orifice then look as if coated with wax. The patches may ulcerate. The urine is usually acid. It is probably **Diffuse Tubercular Disease of the Bladder.**

470. Care must be taken not to confuse with 457 or 458 small herniæ of the bladder wall, the commencement of a **Sacculated Bladder.** In hernia the base is smooth and is much more depressed; the walls arising from it are more abrupt. There is not the gradual shelving downwards present in the others. The edge throws a distinct shadow over the depressed portion. The urine is acid.

471. Pain, frequency, and pus are all present at once. Micturition is painful, and the acute pain is intensified at the beginning and the end of micturition. It disappears almost directly afterwards, but leaves an aching sensation behind the pubes, along the urethra, in the testes and lumbar region. In very acute cases the urine resembles thin prune juice, from the admixture of blood. Pressure over the trigone from behind through the rectum or vagina elicits tenderness. Any instrumentation is excessively painful, and is dangerous. It is not necessary for a diagnosis. The urine is alkaline. It is **Acute Cystitis.**

472. There is pain in or near the glans during, and especially after, micturition. There is also transient perinæal pain increased by micturition. There may be a small amount of pus in the urine, but this is by no means a marked feature. There may also be a little blood, either mixed with the urine or at the close of the act. The pain is markedly increased by exercise, especially by jolting or sudden slips. It is as markedly relieved by rest. There has usually been some previous lumbar pain or renal colic. Occasionally the stream of urine, which is full and well projected, is suddenly arrested, with intense pain. This is at once relieved if the patient can be placed with the hips raised. The urine is usually acid, but may be neutral or

alkaline, according to the time which has elapsed since the commencement, and the care with which any instrumentation has been conducted. Very often well-marked crystals of uric acid, urate of ammonia, oxalate of lime, or (when not acid) triple phosphate can be found in the urine. A sound passed into the bladder produces a ringing metallic sound, but scarcely any pain. It is **Vesical Calculus.**

473. There is pain in or near the glans before micturition. There is transient suprapubic pain before, which is relieved by the act. There is often great desire to micturate, and the amount passed is small. There is a large amount of pus diffused in the urine, which settles rapidly to the bottom of the glass. This is stringy, greenish-yellow, and is most marked at the beginning and end of the stream. The symptoms are increased by exercise, but not greatly, nor are they much improved by rest. There is very seldom any stoppage in the current, and, if it occurs, it is not sudden. The urine is always alkaline; crystals of triple phosphate are frequently seen. A sound passed into the bladder causes pain, but produces no sound. The symptoms have lasted for some time, and have probably been preceded by an acute attack. It is **Chronic or Sub-acute Cystitis.**

474. There are recurrent waves of pain starting at a point somewhere in a line drawn from the kidney to the base of the bladder, and radiating upwards into the posterior region under the ribs, and downwards into the testes of the same side or into the labium magnus. If any urine is passed during the attack, it is with great pain and *straining*. During the attack the amount is scanty, whilst almost directly afterwards a large quantity is voided. The easiest position for the patient is when lying curled up on the side affected. The most painful is that assumed when lying on the opposite side. The pain, however, is so severe that all kinds of attitudes are successively tried, usually without relief. Nothing appears

to give ease but the hypodermic use of morphia. A small, hard mass may sometimes be discovered per rectum or per vaginam lying in the course of the ureter. It is probably an impacted **Ureteral Calculus.**

475. There is a history of injury, the bladder being distended at the time. No urine, or but very little, can be passed, although there is a constant, persistent attempt. There is a rounded, defined, dull area above the pubes which resembles the full bladder. There is intense, constant pain at the hypogastrium, umbilicus, and in the groins. If a catheter is passed, nothing, or very little, escapes at first, whilst the point of the instrument does not appear to be free in a cavity. By moving it slightly in various directions it may appear all at once to pass into a free space, whilst a gush of fluid passes through it. Injection of warm fluid through the tube produces a sensation of warmth in the groins and a similar amount returns. There is much shock and tendency to collapse. It is probably an **Intra-peritoneal Rupture of the Bladder.**

476. There is a history of injury, the bladder being distended at the time. No urine, or very little, can be passed, although there is a persistent effort to do so. There is a doughy, asymmetrical swelling above the pubes, or, if the finger is passed into the rectum, a swelling possessing similar characters is felt to one side of the pelvis, or there is an infiltrated sensation about the tissues of the abdominal wall, iliac fossæ, scrotum, or thighs. The pain is most felt in the perinæum, about the rectum, neck of bladder, groins, hypogastrium, and thighs. If a catheter is passed, no fluid escapes, nor can the tip be insinuated into any cavity. If fluid is injected, the doughy swelling is increased, whilst the same amount of fluid does not return. It is probably an **Extra-peritoneal Rupture of the Bladder.**

477. *Bleeding is the first and most prominent symptom.* (See §§ 478-489).

478. *The bleeding is transient;* it is accompanied by strangury. Cantharides or turpentine have been used. Both symptoms cease soon after discontinuance of the drug.

479. *The bleeding is transient and slight.* It is not accompanied by strangury. Certain vegetables have been eaten, such as garden rhubarb, sorrel, some varieties of apples or strawberries, and gooseberries. The bleeding ceases as soon as these are no longer taken.

Both these conditions occur only in certain patients who are susceptible.

480. *Bleeding is not profuse. A firm tumour, which does not infiltrate, can be felt* bimanually in the region of the bladder. It has an uneven consistence, certain portions being softer than the rest. If hair or cheesy materials are found in the urine, the diagnosis is easy. They can only come from a **Dermoid Tumour.** If such do not appear, to arrive at absolute certainty may require a cystotomy. But, generally speaking, no other benign tumours occurring in the bladder can be felt bi-manually, whilst malignant tumours infiltrate the tissues from which they spring. The only exception is a possible **Sarcoma** which may be pedunculated. But in such a case bleeding is usually very profuse.

481. *Bleeding is profuse. No tumour can be felt. No infiltration of the walls accessible from vagina or rectum can be felt. Clots are passed which are irregular in shape, somewhat eroded, and these and the fluid blood present settle early in the urine glass; the blood corpuscles are not decolourized or fragmented. Rest has little or no influence in checking the flow; frequency of micturition does not appear for a considerable time, and unless the growth happens to have a long pedicle, enabling it to act as a ball valve, and so producing sudden stoppage of the stream, pain is not a marked feature, and may be entirely absent. These symptoms point to* **Benign Vesical Tumours,** *the actual nature of which it may*

not be possible to determine without removal and microscopical examination. With the cystoscope usually, however, they show the following characters. (See §§ 482-485).

482. There are fine, pinkish films, which are always pedunculate, move easily with every current set up in the bladder, and are very easily torn. These are **Villous Papilloma.** But it must be remembered that many malignant growths have a villous surface, and that the appearance of such villi are often the first manifestation of the disease. Should such villi be removed, that would certainly be no check to the later development.

483. A single or multiple tumour may be found, pedunculate or sessile. It has a smooth, rounded surface; its consistence is firm but not hard; its surface may be velvety. It is probably a **Fibroma, or Fibro-papilloma.**

484. Numerous nodules are seen in the submucosa. They are smooth, covered by healthy epithelium, and are distinct. The sheen of the vesical wall is normal. They are probably small **Myomata.**

485. Pedunculated, soft, multiple growths are seen, rounded, from the size of a pea to a walnut. They spring from the vesical neck; their surface is smooth or slightly villous. They are probably **Myxomata.**

486. *Bleeding is profuse, and from the rectum or vagina the vesical wall is felt to be indurated, nodular, and infiltrated. There is usually much pain, which increases, but this appears to be mainly due to the position of the growth, since, if it springs from the lateral walls or the fundus, the pain is late in appearance, and is never so severe as when the trigone or the vesical neck is affected. Bleeding is very easily induced, and the urine acquires the smell and appearance of flesh washings. Fairly soon it becomes offensive, and cystitis is easily induced. When pain exists it is usually intense. There is usually rapid emaciation.* (See §§ 487-489).

487. Defæcation early becomes painful and difficult. There is pain in the rectum, scrotum, hypogastrium, and

down the inner surfaces of the thighs. The finger in the rectum finds the main growth occupying the position of the prostate gland. There is great tenesmus. Blood may escape unmixed with urine. Thrombosis and œdema of the lower limbs may be caused. It is **Prostatic Carcinoma.**

488. Defæcation is often not affected at all, or, if it is, only late in the case. The patients are usually over fifty years of age. The bladder wall is hardened and stiffened. The pain is reflected to the hypogastrium, anus, testis, penis, and down the thighs. Seen through the cystoscope, the surface is uneven, nodular, often ulcerated, but it is most difficult to obtain a view, as the merest touch produces fresh bleeding, and the medium becomes clouded. Felt from the rectum or vagina, the growth is hard, rocky, uneven, nodulated, and is quite above the prostate, which, however, it may invade; or, *vice versa*, the growth may have started in that organ and have secondarily attacked the bladder. It is **Vesical Carcinoma.**

489. Defæcation is not usually affected. The patients are usually children. There is a roundish mass, polypoid, subsessile, or pedunculated. The surface is smooth or villous. Pain is not marked unless the growth, which usually springs from the neighbourhood of a ureteric orifice, causes its obstruction, in which case there will be renal pain on that side. The surface is smooth or villous. It is probably a **Vesical Sarcoma.**

CLASS IV.

SWELLINGS IN PELVIS FELT BI-MANUALLY, IN THE MALE OR FEMALE.

Group A.—In Females. The Swelling involves the Uterus.

490. *The patient complains of discomfort in the pelvis, for which no visible cause can be assigned.* (See §§ 491-554).

491. Apart from any definite symptoms there are four different abnormal positions of the uterus which seldom exist alone, but usually complicate, or are complicated with, other conditions defined below. These are Ante- and Retro-version, in which the uterus, as a whole retaining the normal relation between fundus and cervix, is turned forwards or backwards, the fundus lying in the former case upon the bladder, whilst the os lies high up in the posterior fornix; in the latter, the fundus lying in the hollow of the sacrum, whilst the os is carried high up behind the pubes; and Ante- and Retro-flexion, in which the uterus is bent upon itself, the fundus approximating to the cervix, in the former case in front, in the latter behind.*

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* I cannot agree that versions and flexions "seldom exist alone." On the contrary, in my experience they most frequently occur without any complications other than those caused by themselves. In special surgical practice no doubt they are generally complicated, and it is really the complication (which is also the cause) that brings the patient. Nine out of every ten versions I have seen have been unassociated with any disease whatever. Their causation is generally easily made out.—J. F. Le Page.

492. *Pozzi's syndroma is present. This includes : pain, leucorrhœa, dysmenorrhœa, menorrhagia, and metrorrhagia ; symptoms referring to surrounding organs (bladder, rectum), symptoms referring to distant organs (digestive canal, nerves).* (See §§ 493-536).

493. *Loss of blood is the most prominent symptom. The menses are at first excessive in quantity ; later they are irregular, and blood appears between the periods. There is a feeling of bearing down, and a sense of weight. There is sacralgia. There may be repeated miscarriages. There is later, anæmia, dyspnœa, and cardiac palpitation. The uterus is found irregularly enlarged, the oultines of these irregularities being firm, rounded, definite, and not associated with any infiltration around.* (See §§ 494-508).

494. *The pain is expulsive, paroxysmal, resembling labour pain. The flow is profuse. The os is open. There is constant leucorrhœa. There are no sounds on auscultation.* (See §§ 495-499).

495. *A mass is felt protruding from the os uteri. It is attached to some point within the uterine canal, and is pedunculated. There are no pressure symptoms.* (See §§ 496-498).

496. The mass is soft and flaccid ; it is usually pear-shaped. It is of greyish colour, and its pedicle is comparatively narrow. It is a **Mucous or Glandular Polypus.**

497. The mass is firm and rounded. It is of a reddish-white colour, and its pedicle is so thick that the growth appears sessile. It is a **Fibrous Polypus,** or **Extruded Fibroid.**

498. The mass is pulpy, shreddy. It is greyish black in colour, its pedicle is thick, or may not be recognizable, and there is a foul discharge. All the non-sloughing parts have firm rounded outlines ; there is no true ulceration, and no infiltration around. It is a **Sloughing Extruding Submucous Fibromyoma.**

499. *No tumour can be felt in the vagina, but on dilating*

the cervix, sessile, firm, rounded, defined growths can be felt projecting into the uterine canal. It is **Submucous Fibromyoma.**

500. *There is little or no expulsive pain. The flow of blood is free, but not so profuse. The os is usually closed. There is leucorrhœa, most marked after each period. There are no sounds on auscultation.* (See §§ 501-505).

501. *The uterus can be d fined as distinct from the tumour.* The uterus is carried upwards and to one side. The growth is persistently slow. Pressure symptoms (œdema of ankles, retention of urine, pain in sciatic or obturator nerves) are observed early. There is enlargement of the abdominal veins. There is painful and difficult urination, and frequently difficulty in defæcation. The growth is firm, extends into one or both sides of the pelvis, from which, however, it is separable, and its outlines are rounded and defined. It is an **Intra-ligamentous Fibromyoma.**

502. *The uterus is blended with the tumour. Its surface is "bossed."* (See §§ 503-505).

503. The growth is persistently slow. The tumour is uniformly hard. Pressure symptoms are late in appearance. There are no sounds on auscultation. It is **Interstitial** or **Intramural Fibromyoma.**

504. The growth is slow at first, becoming more rapid often at or about the menopause. Part of the tumour is hard, but there are soft, and often even fluctuant parts. Sometimes a loud venous hum synchronous with the pulse is present a few days before menstruation, and disappears on the establishment of the flow. Pressure symptoms are late. It is probably a **Fibrocystic Uterine Tumour.**

505. The growth apparently varies greatly at different times. The tumour may rapidly enlarge, and as rapidly decrease in size. It is an **Œdematous Fibromyoma.**

506. *The uterus is uniformly enlarged. There is seldom any acute pain. The flow is increased and irregular, but seldom profuse. The os is open; there is persistent muco-*

purulent discharge mixed or stained with blood. The surface of the uterus is smooth, soft, somewhat flaccid. The uterus itself is usually central, but may sway to right or left, forwards or backwards, or may be flexed, most often backwards; it is heavy, and rather lower than normal. It does not grow larger. There is a history of parturition. (See §§ 507-508).

507. Rest and salts of potash relieve symptoms. The symptoms are mild. It is **Sub-Involution of Uterus.**

508. Rest and salts of potash do not relieve. The symptoms are more marked. The os is open. It is **Sub-Involution with Retention of Products of Pregnancy.**

509. *Leucorrhœa and pain are the most marked symptoms.* (See §§ 510-536).

510. *There is a rise of temperature, and a quickened pulse.* (See §§ 511-525).

511. *The illness has commenced with a rigor, the temperature rising at once to* 103° or 104° Fahr. *There is pain and tenderness in the hypogastric region. The os and cervix are swollen and dark red; viscid muco-pus is issuing from the os. The recti muscles strongly contract to oppose bi-manual examination, but they are capable of relaxation.* (See §§ 512-515).

512. The uterus itself is hot, heavy, and tender. It is softer than normal. It is moveable, but movement causes great pain. Retroversion is common, but never retroflexion. It is **Acute Metritis**, or **Acute Endometritis.** All such cases begin as endometritis, the inflammatory changes spreading more or less rapidly to the submucous muscular tissue.

513. Behind or to one side of the uterus, is a soft, firm, elastic mass, which is extremely tender. The outline is that of a cylinder bent abruptly in one or two places. It can usually be traced to possess an attachment to one upper corner of the uterus, but separated from it by a groove. Often both sides are affected. The pain is relieved by menstruation if it occurs. It is **Acute or Septic Salpingitis.**

514. Behind or to one side of the uterus, is a soft, firm mass which is extremely tender. The outline is rounded. It may be attached to the back of the uterus, or lie free in Douglas' pouch. There is intense lancinating pain in the iliac fossæ, especially on the left side. There is sharp pain in the mammæ, especially the left. Pain is relieved by the menstrual flow, if it occurs. It is **Acute Ovaritis.**

515. There are the same or similar symptoms to those enumerated in § 511. But the abdominal wall is rigid in the hypogastrium, and cannot be relaxed. There is sudden acute pain in the lower pelvis, with faintness and great tenderness. All outlines of tissues within are less defined. All tissues and organs become more fixed and adherent. Sometimes fluid can be detected in the peritoneal fold between the rectum and vagina. It is **Acute Pelvic Peritonitis.** These four last conditions usually co-exist in varying proportions.

516. *There are no rigors, and the temperature is only moderately raised. There is pain and tenderness in the hypogastric region, over the sacrum, in the iliac fossæ, and down the thighs. The cervix and os are swollen—there is a bright red excoriated area around the opening : viscid muco-pus which may be blood-stained is issuing from the canal. The recti muscles are not strongly contracted. Menstruation is irregular and usually painful.* (See §§ 517-525).

517. *The condition occurs in youth, or during the period of sexual activity. The uterus is enlarged and tender on palpation. Pain is more or less continuous, but is always exacerbated at the menstrual periods.* (See §§ 518-524).

518. *The condition occurs in childhood, and in young women about puberty. The tubercle bacillus may be found in the discharges. It is associated with encysted peritonitis. The patient is often apparently otherwise in good health. The temperature rises towards evening. Leucocytosis is not present.* (See §§ 519-520).

519. Usually follows labour or miscarriage. The discharges are purulent and persistent. The ovaries are enlarged and sensitive. There is a convoluted mass, which is granular to the touch, behind or to one side of the uterus. There are extensive adhesions. Micturition is often painful. It is **Tubercular Salpingitis.**

520. It has rarely any connection with parturition. The discharges are curdy, cheesy. The uterus itself is slightly enlarged, and is finely nodular. Other tubercular lesions are found elsewhere in the lungs or bones. It is **Uterine Tubercle**, or **Tubercular Endometritis.**

521. *The disease always dates from some parturition, miscarriage, abortion, or some suspicious coition. It therefore occurs during the child-bearing period. The tubercle bacillus is not found in the discharges. Locomotion is painful, railway travelling or jolting increases pain. Defæcation is infrequent and painful. Micturition is frequent. There is great weakness and an expression of suffering. The gait is peculiar, and the patient sits down with caution.* (See §§ 522-524).

522. The uterus itself is enlarged and tender, often retroflexed. If this is the case the rounded mass in Douglas' pouch, which is the fundus, is firm, resistant, and gives the sensation of a solid body, directly continuous with the cervix ; no fundus can be felt in front, over, or behind the pubes. Pain is more or less continuous, and is exacerbated during the whole period of the menstrual flow. It is **Chronic Metritis.**

523. The uterus itself is usually enlarged and tender, but there is also a rounded moniliform mass behind in Douglas' pouch, which is tense and resistant or somewhat lax, but always giving the sensation of a body containing fluid. This is not continuous with the cervix, and the fundus uteri can be felt in front, above or just behind the pubes. There is a history of a previous purulent vaginal discharge. There is tenderness or aching pain in the iliac

fossæ, especially on the left side before the menstrual period. It is **Pyo-salpinx or Chronic Tubo-ovarian Abscess.**

524. The uterus is usually enlarged and tender, but there is a firm, resistant, smooth, sausage-shaped body usually fixed lying behind or to one side of the uterus and connected with it. Just at this connection there is a marked decrease in its size. There is a firm, small, irregular mass, closely surrounded by the coiling body, which is extremely tender. Pain is always present, but is greatly increased before and during the first day of menstruation. It is **Salpingo-Ovaritis,** or **Chronic Salpingitis.**

525. *The condition usually occurs after the menopause.* The condition is usually associated with cancer of the cervix, fibromyomata, or endocervicitis. It therefore does not often occur in young persons. Locomotion and jolting produce pain. Defæcation is infrequent and painful. Micturition is often unaffected, but this will depend upon the associated conditions and their stage. The uterus is enlarged, globular, elastic, and tense. There is dribbling of fœtid pus, which occurs whilst the patient is walking about. Pain is paroxysmal, and is intense at the menstrual periods. The amount of pus discharged is always most on rising in the morning. It is **Pyometria.**

526. *There is no rise of temperature. There is a flow of ill-smelling watery discharge.* (See §§ 527-536).

527. *The uterus is enlarged, but not above the mid-line between the umbilicus and the pubes. There is great deterioration in health, with rapid loss of flesh. There is tense distension of the uterine wall. Pain is paroxysmal, recurring like labour pains, or there are boring, bearing-down pains in the sacral region, radiating down the legs and into the lower abdomen.* (See §§ 528-531).

528. *The condition follows labor or abortion. The vaginal vault is stony hard.* The uterus becomes fixed early. Clots pass; the discharge of blood is profuse and frequently recurring. Secondary nodules are found in the thoracic

and abdominal viscera, and occasionally in bones. A lobulated smooth mass may project from the cervical canal. There is a rapid increase in size of a previously slow growth. The cervix is usually closed, unless a polypoid mass is descending. It is **Uterine Sarcoma.**

529. *The condition is very rarely seen before forty-five years of age; it is almost always after the menopause.* (See §§ 530-531).

530. The vaginal vault is supple at first, but soon becomes firm and resistant. The uterus becomes fixed early. There are small sloughs in the discharges, which consist of watery ichorous pus. There is rarely any protrusion except of necrotic masses from the cervical canal. The cervix is open. Growth is comparatively slow. It is probably **Cancer of the Uterine Body.**

531. The vaginal vault is always supple. The uterus is usually mobile. There is the passage of "fleshy" pieces in the discharges, which are thin, shiny, copious, red, and watery. There are seldom any secondary growths; if any, they will be found in the broad ligaments. A fleshy, soft mass, which is not pedunculated, may project from the cervical canal. The growth is slow. It is probably **Uterine Adeno-carcinoma,** or **Adenoma Malignum.**

§§ 528, 530, and 531 may require a microscopical examination to distinguish them from one another, or from chronic endometritis.

532. *The uterus is not much enlarged. There is no tense distension of the uterine wall. There is a mass behind or to one side of the uterus.* (See §§ 533-536)

533. *There is concomitant hydro-peritoneum.* (See §§ 534-535).

534. The general strength is much impaired. There is marasmus, with early œdema of the feet and ankles. There is marked abdominal distension. Soft compressible or nodular masses are to be felt in Douglas' pouch. There is rapid growth. It is **Carcinoma of the Ovary.**

535. The general strength is fair. There is no marasmus, no œdema of feet and ankles. There is some abdominal distension. The Fallopian tube can be felt to be enlarged for some part of its course, but there is a clear space between this enlargement and the uterus. There may be hydrothorax. It is probably **Papilloma of the Fallopian Tube.**

536. *There may be no hydro-peritoneum.* The general health is impaired, and marasmus is present. There is a history of previous salpingitis (q.v.), the symptoms of which at or about forty-five years of age have become suddenly intensified. There is a firm swelling of the Fallopian tube, with a clear space between it and the uterus. It is probably **Carcinoma of the Fallopian Tube.**

The symptoms of 535 and 536 are so much alike that a microscopical examination after removal may be necessary in order to distinguish them.

537. *There is amenorrhœa at first, or from first to last.* (See §§ 538-554).

538. *There is amenorrhœa throughout. There is marked uterine enlargement.* (See §§ 539-544).

539. *The menses have never appeared.* The patient is at or near puberty. There is no pigmentation of the pubo-umbilical line, or of the nipple areas. There is some nausea. There is increasing pain, which is greatly accentuated at the monthly periods. The uterus is rounded, enlarged, elastic, and tense. The lower abdomen is tender to the touch. There is vesical irritability, with pain and difficulty in defæcation. It is **Hæmatometria**, or **Retained Menses.**

540. A somewhat similar condition is that of **Hæmatokolpos.** In this, however, the uterus itself is not enlarged, but is felt on the top of a cylindrical elastic mass, which extends downwards as far as the hymen, which is closed, and probably bulging between the labia.

541. *The menses have been more or less regular up to a certain time, when they ceased. The patient is at the child-bearing age, and was previously to the menstrual cessation in*

good bodily health. There is a darkened areola around the nipples, and discolouration of the pubo-umbilical line. Follicles develop in the areola. There is morning vomiting. The breasts are enlarged and firm. Milk can frequently be expressed from the nipples. The cervix is softened (3rd month). The uterus exhibits slightly rythmical contractions (4th month). This is not because there are no rythmic contractions present in the uterus at an early period; they are always present; but because they now become appreciable, owing to the increased size of the organ. Fœtal heart sounds are heard (4½ month); there is a violet discolouration of the vagina. (See §§ 542-544).

542. There is little or no pain. The tumour is not tense. Vomiting only occurs in the mornings, and the patient is not exhausted by it. The bladder is not distended. There is no vesical retention. The cervix is in its normal position, the os looking towards the hollow of the sacrum. The fundus can be felt anteriorly, above or just behind, the symphysis pubis; there is no mass in Douglas' pouch behind the cervix. There is but slight or no leucorrhœa, and no other discharges. The uterus increases steadily at a normal rate, is pear-shaped, and the os is closed. It is **Normal Pregnancy.**

543. There is some diffused pain. The tumour is more tense. Vomiting only occurs in the mornings. There is vesical irritability and marked distension of the bladder; often there is actual retention. The cervix lies behind the pubes: the os being directed towards the symphysis. When the bladder has been emptied, the fundus is not felt in front. There is a rounded elastic mass behind the cervix in the pouch of Douglas. There is slight leucorrhœa, but no other discharges. The uterus increases in size, but at an apparently slower rate. The uterus is curved upon itself backwards. The os is closed. It is **Retroflexion of the Gravid Uterus.**

544. There is marked pain in the back and loins. The

lower segment of the tumour is tense. There is persistent uncontrollable vomiting. There is some vesical irritability. The cervix is in its normal position, the os looking towards the hollow of the sacrum. The fundus is prominent anteriorly. No mass is present in Douglas' pouch. There is a discharge of grape-like masses per vaginam. The uterus increases rapidly in size, is globular, and the os is open. There are no fœtal sounds. It is **Myxoma of Chorion** or **Hydatidiform Molar Pregnancy.**

545. *One or two periods have been missed, or apparently postponed, followed by irregular discharges of blood. Previously there has been perfect general health. There is some uterine enlargement. Symptoms of commencing pregnancy (q.v.) are present.* (See §§ 546-554).

546. *The uterus alone is enlarged; there is no lateral, anterior, or posterior mass; the uterus is central in position.* The os is open, the cervix soft. A mass projects from the os, which is either a clot, or is thick and organized. No markedly pulsating vessels are felt in the lateral or posterior fornices. There is no pain in the iliac fossæ, or down one thigh. It is **Abortion or Miscarriage.**

547. *There is a soft, elastic swelling to be felt behind, in front, or by the side of, and closely applied to the uterus. The uterus itself is pushed out of its central position upwards, laterally, backwards, or downwards. The os is patulous. The cervix is hard, and can be traced upwards to the body and fundus of the uterus past the swelling. There is a discharge of dark blood moderate in amount, with shreds or entire casts of the endometrium; these shreds under the microscope show decidual cells. The patient describes this discharge as a menstruation, but an unusual one: "The period has not come on properly." Pulsating vessels are felt in the fornices; there is usually pain in one iliac fossa, and down one thigh.* (See §§ 548-554).

548. *Amenorrhœa has not lasted for twelve weeks. There has been no sudden pain or syncope, the tumour is moveable,*

and not markedly sensitive. It is sharply marked off from the rest of the tube. It is elastic and yielding. It is an **Unruptured Tubal Gestation.**

549. *Amenorrhœa has lasted for twelve weeks or more. There is sharp, sudden pain, with vomiting and syncope. There is a sudden sensation of something having given way in the pelvis. There is general pallor and very rapid pulse. The tumour becomes sensitive, and the abdominal wall becomes tender.* (See §§ 550-554).

550. *The pallor increases, the pulse becomes still more rapid; the temperature subnormal;* the face becomes grey, and the voice whispering; face and hands become cold, the sight becomes dim; the pulse flutters and intermits occasionally, when nausea and vomiting recur. It is **Ruptured Tubal Gestation.**

551. *The symptoms become less severe. Shock passes off, the pulse becomes fuller and steadier;* the temperature gradually rises. (See §§ 552-554).

552. There is a boggy, indefinite, or tense swelling to be felt in Douglas' pouch. There is dulness in the flanks, which slowly changes its position with the position of the patient; the outlines of the pelvic organs become indistinct. From above, a hard, irregular wall or line can be made out stretching across the abdomen at a level somewhere between the pubes and the umbilicus; all the parts below being dull on percussion. The uterus is crowded agains the symphysis. There are recurrent attacks of pain and sickness. It is a **Ruptured Tubal Pregnancy,** which has been limited by adhesions between the intestines and the anterior wall, and has produced a **Retro-Uterine Hæmatocele.**

553. The clearly defined outline of the tube can no longer be felt. The upper limit of the swelling formed is convex upwards, and is confined to one side only in the inguinal region. A boggy mass can be felt on one side of the uterus, the limiting outline of which becomes indistinct

behind the pubes ; the mass is fixed, tender, and bulging. The uterus is markedly displaced upwards, and to the opposite side. There may be slight recurrence of pain and nausea, or none at all. It is a **Tubal Pregnancy with Extra-Peritoneal Rupture into the Broad Ligament.**

554. After 4½ months a child can be felt with unusual distinctness beneath the abdominal wall. The uterus can be defined as distinct from the child. It is **Tubo-abdominal Pregnancy.**

Group B.—In Males, or in both Sexes.

The swelling in females is separate from the uterus.

There is discomfort often amounting to pain felt in the pelvis, across the sacrum, and sometimes down one or both thighs. An alteration in the shape of the abdomen may or may not be seen. Vaginal and rectal examination by specula may be entirely without result, but recto-bimanual touch discovers an abnormal mass, or a normal organ abnormally placed in the pelvis.

Hegar's test referred to in this chapter is as follows : The uterus is fixed by a vulsellum forceps. Bi-manually, the mass felt is lifted, whilst the uterus is drawn downwards. If the mass is closely connected with or adherent to the uterus, resistance is at once felt. If attached by a pedicle of any kind, resistance is not so immediate, and the pedicle itself may be felt as a band rendered tense by the manœuvre.

555. *There is a sensation of pain and fulness in the pelvis, but no abnormal discharge of pus or blood. The patient complains of some lumbo-sacral pain. Some cause exists which is not directly connected with the uterus. If in a female this organ is apparently normal.* (See §§ 556-608).

556. *There is a swelling which is closely connected with the bony pelvic wall. It can be outlined as distinct from the visceral contents. Very frequently it can be felt to be behind or to the back of the rectum.* (See §§ 557-565).

557. *It is hard, and has a well-defined outline.* (See §§ 558-560).

558. Slight movement can be imparted to it. It is equally firm in all directions, but not stony. It has no elasticity. It is probably a **Fibroma,*** springing from the periosteum, or it may be the first stage of a **Sarcoma.** Time will distinguish between the two, since in the latter the parts around become gradually infiltrated and the outline ceases to be defined, whilst the whole mass becomes softer. More immediate differentiation may be obtained by microscopic examination of some portion of the growth.

559. The growth is absolutely rigid and stony hard. There is no sensation on manipulation, and the growth is extremely slow. It is an **Osteoma.**

560. The growth is absolutely rigid, but some portions are not quite so hard as others. These points are even slightly elastic. It is probably an **Enchondroma,** which may develop into or become associated with sarcoma.

561. *The swelling is soft.* (See §§ 562-565).

562. It lies along the brim of the pelvis, is elongated and fusiform, has an imperfectly defined outline, and passes from the vertebral column to the crural arch. There is some angularity, or at the least, some loss of elasticity in some portion of the spinal column. The trunk is bent towards the affected side; the thigh is flexed and rotated outwards; it can, however, be still further flexed on the abdomen, thus differing from the condition present in *morbus coxæ,* in which the joint is immoveable. There may be some bulging in the upper part of Scarpa's triangle. If so, pressure on this increases the pelvic swelling and *vice versa.* It is **Psoas Abscess.**

563. *The mass obviously projects through the pelvic walls* at various points on the iliac bones. (See §§ 564-565).

564. There are more than one small, defined, rounded,

* Nelaton, *Gaz. des Hôp,* Feb. 18, 1862; Holmes, *Syst.,* vol. iii. p. 893.

elastic prominences. Around each is a sharp bony edge. Puncture of these prominences yields a watery fluid in which hooklets are found under the microscope. Their growth is always slow. It is **Hydatid of the Pelvic Wall.**

565. There is a mass which has no definitely defined boundaries. It evidently infiltrates the tissues around. Puncture of it yields nothing but blood. It grows slowly at first, but later much more rapidly. It is probably **Sarcoma of the Pelvic Wall.**

566. *In the roof of the vagina, lying on one or both sides of the cervix, is an elongated swelling, passing from before upwards, backwards, and outwards. A finger in the rectum traces this further backwards to the pelvic brim, one and a half inches outside the centre of the sacral promontory. This is, however, moveable laterally over the pelvic wall.* (See §§ 567-572).

567. *The swelling is tube-like; for its whole extent it is firm and resistant. There is pain in one iliac, or inguinal region, extending upwards and backwards towards the ribs. There is frequent and painful micturition. The swelling is sensitive on manipulation. There is some pus in the urine. It never extends lower down than the vesical base.* (See §§ 568-569).

568. The tube is not greatly, but it is evenly swollen. The tube is firm. Urgency is not marked. With the cystoscope the ureteral orifice is seen to be the centre of an area of intense injection, and appears to be raised from the bladder floor, as if seated on the summit of a small truncated cone. This may be surrounded by small papillary eminences, or its mucous lining may be everted. Urine obtained by a ureteral catheter is turbid or purulent. In its sediment no tubercle bacilli are found. It is **Ureteritis,** or **Peri-ureteritis.** In the latter the outline is not as clearly defined as in the former, but they are usually associated.

569. The tube is much and irregularly swollen. The tube is thick and hard. There is usually great and immediate

urgency. With the cystoscope the ureteral orifice is seen to be ulcerated, or surrounded by small tubercular elevations, which are rounded, the size of pins' heads, or larger, and of a lighter tint than the membrane around. The urine obtained by ureteral catheter is pale, milky, and alkaline. Urea is markedly diminished. The urine deposits a flocculent sediment in which tubercle bacilli are found. It is **Tubercular Ureteritis.**

570. *The swelling is a prominent rounded tumour.* (See §§ 571-572).

571. It is quite soft. There is no frequency or urgency in micturition. The swelling is not sensitive or painful on manipulation ; it may extend as low down and forward as a finger's breadth from the meatus. It can easily be pushed upwards, and apparently reduced, but returns again on straining. A bougie passed into the bladder passes over it. With the cystoscope a smooth prominence is seen at the base of the bladder. It is probably an **Occluded Cystic Ureter.**

572. The swelling is stony hard. There is frequency of micturition. There are recurrent attacks of severe pain passing from the loin downwards and inwards to the hypogastrium. There is usually great tenderness on pressure. The swelling never extends lower than the inter-ureteric bar. With the cystoscope sometimes nothing can be seen, but usually the ureteric orifice is more patulous than usual, and more circular, whilst sometimes the end of a foreign body can be seen protruding from it. The swelling can seldom be reduced by pressure, though some movement may be produced. If a flexible ureteral catheter can be introduced coated with wax, this coating is seen to be roughened and scratched on withdrawal. It is an **Impacted Ureteral Calculus.**

573. *There is a sense of pain and fulness, or mere distension without pain in one or both iliac fossæ. The condition has no organic connect on with the pelvic wall.* (See §§ 574-608).

574. *There is dullness on percussion immediately above and continuous with Pouparts' ligament, or the line of the crural fold, and spreading for a variable distance upwards and inwards. Alteration of the position of the patient does not alter the position of the dull area.* (See §§ 575-579).

575. *The superior edge of this dullness is convex upwards. There is no other abnormal area of dullness over the abdomen. There is no bulging into Douglas' pouch. The general temperature is elevated.* (See §§ 576-579).

576. *The swelling felt above does not as a rule enter the true pelvis, nor has it any connection with the uterus.* The most tender point on finger-tip pressure is at a point one and a half inches inwards from the anterior superior spine of the right side along a line drawn towards the umbilicus (Rose and Carless); or to allow for differences in the size and configuration of different patients, at the junction of the outer third with the inner two-thirds of such a line. It never occurs on the left side. The condition may have commenced with a rigor. The mass is firm or slightly elastic. Later, it may be fluctuate. There is frequently a history of previous attacks of a similar character. The right thigh is drawn up and flexed on the abdomen. There is vomiting and constipation, usually. It has a rapid course, hours or days. Leucocytosis is marked and increasing. This differentiates appendicitis from enteric fever, in which leucocytosis does not occur. It is **Appendicitis. Suppuration** is indicated by detection of fluctuation, a rigor, or increased rapidity of pulse whilst the temperature falls. **Rupture into the Peritoneum**, by sudden pain, which may be intense, a rapid fall of temperature with quickened pulse, distention, rigidity of the abdominal muscles, which quickly become tender. It may also be signalized by collapse.

577. *The swelling felt above can be readily detected as entering the true pelvis by a finger in the rectum. The uterus becomes fixed early, though it is plainly outside and at the side*

of the mass. All parts are tender. It may occur on either or both sides. (See §§ 578-579).

578. There are no rigors. The mass is firm, elastic, does not fluctuate. It is **Pelvic Cellulitis**, or **Para-metritis.**

579. There are rigors. The mass is softer in the centre than at the periphery. There is ill-defined or free fluctuation. It is a **Pelvic Abscess.**

580. *The superior edge of the dull area is level or undefined. The area of dullness alters with the position of the patient. There is dullness in the flanks or elsewhere in the abdomen. If the fold of the peritoneum accessible between the upper end of the vagina and the rectum be compressed between opposing fingers, fluid is felt to be present, which is easily displaced.* (See §§ 581 583).

581. Fine nodules can be felt in this peritoneal fold. The temperature is not greatly raised, but is irregular, being highest in the afternoon or evening. Ill-defined masses can be felt in the abdomen, which alter their position between one examination and another. The uterus is fairly movable. It is probably **Tubercular or Encysted Peritonitis.**

582. There are no nodules to be felt in the peritoneal fold. The temperature is normal. There are other causes—cardiac, renal, hepatic—to account for the exudation. There are no ill-defined masses in the abdomen which change their position. The uterus is freely movable, and the tissues are not tender. It is commencing **Simple Ascites.**

583. There are either no nodules or coarse ones to be felt in Douglas' fold. The temperature is normal, or there has been a sudden rise or fall—more probably the latter. A more or less defined mass can be felt on displacing the fluid either in one side of the pelvic cavity, or behind the uterus. The uterus is sometimes fixed, and there may be tenderness. There is a history of some tumour which has altered in shape and size. It is **Hydro-peritoneum** associated

with **Dermoids** (586); **Ovarian Sarcoma** (598), **Carcinoma** (534), **Papilloma** (588), or **Fibroma** (599); **Inflamed** or **Ruptured Ovarian Cyst** (635); **Mild Salpingitis** (504), or **Pelvic Peritonitis** (505); or **Proligerous Papillary Ovarian Cyst** (588).

584. *There is a defined, rounded swelling in one or both iliac fossæ or in Douglas' pouch, which is dull on percussion. Alteration in the position of the patient does not affect this. It is always asymmetrical in position in this the early stage. Later stages are given in Class V. Hegar's test shows a connection more or less intimate with the uterus, but the two are plainly distinct.* (See §§ 585-604, 607-609).

585. *The mass is unequal in consistence.* (See §§ 586-589).

586. The hard portions are very hard; the soft are the consistence of porridge, or even water. Kuster says that the mass tends to float up in front of the uterus. It is often associated with hydro-peritoneum: of slow growth for years, but it may begin to increase in size rapidly. Oftenest seen in children and young women. The surface is smooth; the growth is single, not often larger than a man's head, and is frequently painful on manipulation. It is moveable unless it is, or has been, inflamed. It is probably an **Ovarian Dermoid.**

587. The hard portion is firm, but not very hard. The soft portion is fluctuant. There is never hydro-peritoneum unless the growth is inflamed. The rate of growth is fairly rapid. It is rare in childhood or old age. The surface is bossed, and the tumour most sensitive. It is seen from the size of a hen's egg up to that of a growth filling the entire abdomen. The walls are thick, and the contents give the sensation of being thicker than water. Menstruation may not be affected, or it may be irregular and scanty. There may be no pain, or there may be a dull, dragging, heavy pain, which may be continuous or occur in paroxysms. It is moveable. There are no pressure

symptoms in the early stage. It is a **Proliferating** or **Proligerous Glandular Ovarian Cyst.**

588. There is an irregular, ill-defined, or spherical growth behind the broad ligament, often on both sides. It often yields, infecting the peritoneum, and causing hydro-peritoneum. In such a case excrescences may be felt per vaginam or per rectum. Its growth is slow at first, becoming more rapid. Yielding generally occurs before the tumour has become larger than an adult head. When intact the surface is "bossed" and the tumour not sensitive. It burrows between the layers of the meso-salpinx and those of the broad ligament, thus early becoming fixed itself and restricting the mobility of the uterus. Menstruation may suddenly cease. Pressure symptoms are early developed. It is a **Proliferating Papillary Ovarian Cyst.**

589. There is a perfectly clearly definable mass behind the uterus or bladder, and projecting above the pubes, somewhat to one side of it. The bladder is usually early prevented from emptying itself completely, so that it becomes distended, and the sensation is conveyed to the examining hand of two tumours, both with clear outlines, both soft and elastic, one behind the other. The use of a catheter causes the anterior swelling to disappear. Other similar tumours may be found elsewhere in the abdomen. Fluctuation is present, but is obscure. The base of the tumour is felt from the rectum, and in some cases a distinct thrill can be detected between the finger and the hand placed upon the abdomen. The growth is slow, but urination is greatly interfered with by it. The surface is smooth or very lightly bossed. The tumour is not sensitive. It is fixed, and fixes the uterus. Pressure symptoms, coldness, numbness, œdema, and paralysis of the lower extremity may all be produced. It is probably a **Hydatid of the Pelvic Connective Tissue.**

590. *Bi-manual examination shows that the mass is of equal consistence throughout.* (See §§ 591-604, 607-608).

591. *The mass is elastic. Fluctuation limited by a cyst wall is evident and easily obtained.* (See §§ 592-595).

592. *There is no constitutional disturbance and no tenderness. There is slow enlargement.* (See §§ 593-594).

593. The tumour is freely moveable. It is apparently quite independent of the uterus, though Hegar's test shows that a connection exists between them. The os uteri is in its normal position in the early stage; later it is drawn up (see Class V). Its growth is persistent; it does not disappear and reappear. It is tense. Its surface is smooth and rounded. There are no pressure symptoms in the early stage. It is a **Unilocular Ovarian Cyst.**

594. The tumour is not freely moveable. It is much more closely connected with the uterus. Hegar's test shows this. The os and body of the uterus are often displaced to one side. It may disappear from time to time, such disappearance being followed by a greatly increased flow of urine. It is often flaccid. Its surface is smooth and rounded. The cyst wall is evidently very thin. There are seldom any pressure symptoms. It is probably a **Parovarian Cyst.**

595. *There are the symptoms of* 586-588, 593-594. *Sudden pain is felt, and sudden pallor occurs.* The mass is tender. *There is sudden enlargement.* The tumour may be moveable, but more often becomes fixed. The tumour has become extremely tense. There may be vomiting, syncope, and great constitutional disturbance. The cyst has become **Strangulated by a Twisted Pedicle.**

596. *The mass is firm. It has the shape of the ovary.* (See §§ 597-608).

597. *It is associated with hydro-peritoneum.* (See §§ 598-599).

598. It usually occurs in girls before puberty, but occasionally it has been seen up to forty-five years. The

growth is rapid; the tumour soon reaches a great size, and there is great loss of strength. Both sides are usually affected in children. When occurring in adults it is usually unilateral. The mass is comparatively soft. It early becomes more or less fixed. It is probably **Ovarian Sarcoma.**

599. It occurs usually in elderly people. It is of very slow growth, is always unilateral, and never very large. Patients suffer from dyspepsia, which is intractable. Except for the results of this, there is no marked loss of strength. The mass is hard; it is moveable. Hegar's test shows connection with uterus by a pedicle. The surface is smooth and largely lobed. It is probably an **Ovarian Fibroma, or Myoma.** Microscopical section after removal will determine which.

600. *There is no hydro-peritoneum. There is no great enlargement.* (See §§ 601-608).

601. *There is great pain, increased at the menstrual periods.* (See §§ 602-608).

602. *There are no rigors, and the temperature is not elevated.* (See §§ 603-606).

603. A small oval mass is found behind the uterus, in Douglas' pouch. It is not strictly tender, but it yields a characteristic sickening sensation on pressure. It is extremely mobile, slipping away from the fingers which endeavour to grasp it. It is normal in size. There is no necessary interference with menstruation. It is a **Prolapsed or Dislocated Ovary.**

604. It is moveable, but with some pain. It does not slip about so readily. There is pain for six to ten days before menstruation, becoming easier as the flow proceeds. The period itself is prolonged and excessive. Pain is increased by coition. It is a **Congested Ovary.**

605. *There is no abnormal swelling, but there is intense pain,* which is irregular in its appearance. It is accentuated at the menopause. The pain is complained

of in one or both iliac fossæ, is increased by the pressure of clothes, walking, riding, or any form of exercise; the pain is often increased by menstruation or coition. Pain is usually on the left side, but may be bilateral. Painful points are to be found over the posterior branches of the intercostal and lumbar nerves. The patient is of the neurotic type. She is emotional, suffers from globus hystericus, constriction in the epigastrium, nausea, cardiac palpitation, ringing in the ears, sharp pain in the temples, obscured sight usually on the same side as the ovary complained of, partial or complete unconsciousness. There may be a history of alcoholism or masturbation. There is anæsthesia of the cornea, and possibly of the pharynx. There is a complete absence of objective signs of disease in the pelvis. It is **Ovarian Neuralgia.**

606. *The general temperature is raised.* (See §§ 607-608).

607. There is a history of injury, parturition, abortion, or gonorrhœa, arsenical or phosphoric poisoning, exanthemata, acute rheumatism, or long-continued endometritis. There is a rapid pulse and frequent rigors. The patient is confined to bed; there is intense lancinating pain in one or other, usually the left, inguinal region, and the ovary is extremely tender. There is pain in the breasts. Should a period come on, pain is increased at first, but relieved if the flow is free. It is **Acute Ovaritis,** and is usually associated with acute **Salpingitis** and **Endometritis.**

608. There has been a previous attack of acute ovaritis, or there may have been excessive sexual excitement, suppressed menstruation, or some operation on the cervix. There is dull pain in the inguinal region, usually on the left side, in the breasts, and over the sacrum; the pain is increased by walking, especially on rough ground, by any jolt or slip. It is greatly exaggerated before the monthly period. The menstrual flow is often scanty, in which case the pain is increased. Should the flow be free, the pain

is lessened. This pain extends down the thighs. There is spinal irritation and frequently migraine at the menstrual period. There is usually a more or less convoluted, softish, firm mass behind the cervix, which is displaced forwards. In the centre of this or to one side is a firmer body, which is the shape of the ovary, but somewhat enlarged. This is much more fixed than in 625; it may or may not be tender. There is some pain in coition and defæcation. There are no rigors, and the temperature is but slightly elevated. It is **Chronic Ovaritis**, and is rarely seen except in conjunction with chronic salpingitis and endometritis; if these are present there will be in addition to the other symptoms vaginal discharge.

CLASS V.

SWELLINGS OF PELVIC ORIGIN, WHICH HAVE DEVELOPED INTO THE ABDOMEN.

THE condition is one which has existed and caused discomfort for some time. In the earlier stages there has been no abdominal swelling, thus distinguishing these conditions from those in Class I, although an abnormal pelvic mass may have been previously discovered by bi-manual examination. There may or may not have been abnormal discharges from the rectum or vagina.

The term "longitudinal profile" used in this table refers to the outline of the abdomen seen when the observer, kneeling by the side, brings his eye to the level of the body and looks at it against a plain background, so that the outline of it is clearly seen.

This profile forms a line which either rises abruptly from the level of the pubic symphysis and sternum, or describes a gradual slope upwards from either of these points. It is accordingly specified as "abrupt from pubes," "gradual from pubes," "abrupt from sternum," or "gradual from sternum."

609. *There is a swelling of the abdomen. If the patient lying on the back, attempts to rise into a sitting position without assistance, the tumour becomes less prominent. It is therefore seated in the abdominal cavity* (see Class I). *The hand cannot, even under anæsthesia, be made to penetrate between its lower border and the pubes so as to touch the*

sacrum. There is absolute dullness on percussion down to the pubes, with clear areas in both flanks and above between the upper limit and the epigastrium. The superior outline is rounded. The Trendelenburg, elevated pelvic, and lateral positions do not alter the position of the swelling materially, nor the relative positions of the clear and dull areas. (See §§ 610-645).

610. *There is no fluctuation in the swelling itself; this is solid and hard. The tumour is connected with the uterus. It appears during middle life. There are no fœtal heart sounds. All the outlines are rounded and clearly defined. The longitudinal profile rises abruptly from the pubes. Growth is slow—an affair of years.* (See §§ 611-615).

611. *Movement of the tumour is communicated to the cervix. The vaginal vault is supple. The hard growth can be felt to lie above it. The centre of the arc of any movement of which the tumour is capable is low down in the pelvis.* (See §§ 612-614).

612. The uterus is normally placed, or it is carried downwards, or to one side. The os is lower than normal. The tumour or tumours are evidently part of the enlarged uterus. There is usually much hæmorrhage, especially at the monthly periods. It is an **Interstitial or Intramural Fibromyoma.**

613. All the symptoms of 612, but in addition, a foul offensive discharge, mixed with necrotic shreds. The patient is often emaciated, with sallow, dry skin, and has some of the symptoms of a slow septicæmia. It is a **Sloughing Fibromyoma.**

614. The uterus is carried upwards, it may be in the centre, behind the pubes, or be pushed to one side. The os is higher than normal. The tumour or tumours are at one or both sides of the cervix, and evidently in the broad ligament. There may be hæmorrhage, or but little alteration of the menses. It is **Intra-ligamentous Fibromyoma.**

615. *Movement of the tumour is not communicated to the cervix. The vaginal vault is supple. The mass may not be felt through it. The centre of the arc of movement of the tumour is high up in the pelvis or in the abdomen.* The position of the uterus is very variable. The os is usually lower than normal. The tumour or tumours are connected with the uterus by a pedicle. There is no increase in the amount of blood lost at the menstrual periods. If the tumour and the uterus can be drawn in opposite directions, a finger in the rectum may be able to detect the nature of the connection between them. It is a **Sub-peritoneal, Pedunculated Fibromyoma.** It is often associated with 497-499, 503-505.

616. *There is partial fluctuation. The tumour has both solid and fluid contents. It may or may not be connected with the uterus.* (See §§ 617-640).

617. *The tumour is identical with the uterus. Movements of the tumour are communicated to the cervix. The centre of the arc of any movement possessed by the tumour is at the pelvic brim. The size of the uterus is increased.* (See §§ 618-627).

618. *The breasts may be enlarged and firm. The areola around the nipple is darkened, and enlarged follicles appear in it. There is a darkened line between the umbilicus and the pubes. There is morning sickness. There is amenorrhœa.* (See §§ 619-624).

619. *There is ballottement. The health is normal. The cervix is softened and developed. There is no tenderness. Rhythmic contractions can be felt, and after four and a half months fœtal heart sounds may be heard.* (See §§ 620-621).

620. There is a normal rate of development. Fœtal heart sounds and the placental souffle are easily heard when they are present. The uterus is never extremely large. There is no great breathlessness. Ballottement is not exaggerated. It is **Normal Pregnancy.**

621. There is rapid development at the sixth or seventh

month. The fœtal heart sounds and the placental souffle are muffled. There is a greatly increased size of the abdomen. There is great breathlessness. Ballottement is exaggerated. There is œdema of the legs and vulva. The cervix is obliterated. The os is open, but closed internally by a dense membrane, through which parts of the fœtus may be felt. It is **Hydramnios.**

622. *There is no ballottement. The general health is not good. There is rapid enlargement.* (See §§ 623-624).

623. The uterus is in a central position. It is not very tender. The cervix is developed. There is a free, watery discharge, often yellow and blood-stained, at the third and fourth month. There is a feeling of crepitation on palpation of the uterus. Clusters of vesicles are expelled, and usually entirely discharged before the fifth month. It is a **Hydatidiform Molar Pregnancy,** or **Herpigenous Degeneration of the Chorion.**

624. The swelling is asymmetrically placed. It is acutely tender in later stages. The cervix is not developed. There is constant brownish discharge. If rupture occurs, there is sudden pain and marked collapse. It is **Interstitial Pregnancy.**

625. *There are no signs of pregnancy. There is no ballottement. The menses are increased in quantity. The rate of growth is slow at first, but becomes more rapid. Increase in size often occurs at the menopause.* (See §§ 626-627).

626. The consistence is uneven; some parts are soft, whilst others are hard. It is not tender. The uterus is somewhat moveable. The longitudinal profile is irregular. Any fluid aspirated coagulates spontaneously. It is probably a **Fibro-cystic Uterus.**

627. The base of the tumour is hard. The tumour becomes very tender after the menopause. The uterus becomes fixed early. The longitudinal profile is gradual from pubis. It is probably a **Sarcoma of the Uterus.**

628. *The mass can be defined outside the uterus. The movements of the tumour, if any, are not communicated to the cervix.* (See §§ 630-645).

629. *In early stages the signs of pregnancy* (*q.v.*) (§§ 617-620) *are present. There is amenorrhœa for a month or two, or a period may appear to have been merely postponed. Following this are irregular bloody discharges. The uterus is somewhat enlarged. The os uteri is displaced laterally. There is pain in one thigh. There is a well-marked period of "false" labour, the pains ceasing suddenly. There is fairly rapid enlargement of the abdomen, and the uterine canal is lengthened.* (See §§ 630-631).

630. The fœtal heart sounds are heard much more plainly than usual. The placental souffle is also very plain. There is an elastic mass in Douglas' pouch. The longitudinal profile is acute from pubes. The fœtal movements are unusually plain and painful. The entire uterus is pushed to one side. Dullness is fairly central, with clear areas on both sides. It is moveable. It is a **Tubo-abdominal** or **Ventral Pregnancy** after four and a half months.

631. The fœtal heart sounds are heard with more difficulty than usual. There is a rounded, firm mass in Douglas' pouch or to one side. No fœtal movements are felt. The longitudinal profile is gradual from pubes. There is absolute dullness on one side, starting from Poupart's ligament and spreading upwards to loin, with clear area only on the opposite side. Is immoveable. It is **Sub-peritoneo Abdominal Pregnancy.**

632. *There are no signs of pregnancy. There is no alteration in the menses. The uterus is not enlarged, and is moveable. The os uteri is usually normally placed. There is not usually any pain in the thigh.* (See §§ 633-647).

633. *The parts are tender to touch. The pulse is quickened.* (See §§ 634-635).

634. There is sudden abdominal pain. There is

vomiting, pallor, and resistance, but no rigidity of the abdominal muscles at first. The tumour, present before, suddenly greatly enlarges and becomes tense and painful. Hydro-peritoneum is often present. It is a **Strangulated Tumour** due to twisted pedicle.

635. There is no sudden abdominal pain, but some nausea. The facial colour is heightened. There is rigidity of the abdominal muscles. The tumour is acutely painful. There is no sudden enlargement. Adhesions form. There is fever of a typhoid type, with progressive emaciation. It is an **Inflamed Tumour.**

636. *The tumour is not tender. The pulse is normal. There is no period of false labour, and the uterine canal is of the normal length.* (See §§ 637-640).

637. *The base of the tumour as felt from the vagina or rectum is elastic.* (See §§ 638-639).

638. Occurs also in men. The uterus and bladder—or in men the bladder only—are carried upwards and forwards, forming a double elastic tumour, the one in front of the other. By passing a catheter the anterior tumour disappears. There is no solid portion in the posterior mass, which is felt to lie in the recto-vesical or recto-uterine connective tissue, and is therefore immoveable. There is intense and increasing abdominal pain. Urination is at first frequent, but becomes increasingly difficult, and finally obstructed. Catheterisation becomes more and more difficult. It is a **Pelvic Hydatid Cyst.**

639. Occurs only in women. The os uteri is drawn upwards and forwards. It is relatively large. There are great variations in consistence of the tumour. The solid areas are firm, but not hard, whilst the cystic portions are freely fluctuant within their own limited area. There is rarely much interference with urination. It is a **Multilocular Ovarian Cyst.**

640. *The base of the tumour as felt from the vagina is hard.* The os uteri is displaced laterally. The tumour

is relatively small. The solid portions are very hard, and the softer portions are doughy. The tumour may burst into the bladder, when pus of a cheesy, curdy kind, or mixed with small pellets of fat, or possibly hair, may escape with the urine. Usually latent until about twenty-one. Symptoms appear between twenty-one and forty years of age. It is a **Dermoid Tumour.**

641. *There is complete fluctuation in the tumour, limited only by its walls. The tumour is not connected with the uterus.* (See §§ 624-646).

642. *The tumour can immediately be made to disappear by the passage of a catheter.* It is a **Distended Bladder.**

643. *The passage of a catheter has no effect. The outline is rounded. There are no signs of pregnancy. The uterine canal is normal in length. The base of the tumour as felt from the rectum is elastic. There is slow enlargement—months or years. The tumour is always asymmetrically placed at first. The longitudinal profile is gradual from the pubes. There is no tenderness unless the pedicle of the tumour is twisted or the tumour itself inflamed.* (See §§ 644-645).

644. The uterus is drawn upwards. The base of the tumour can be felt in Douglas' pouch. It is a **Unilocular Ovarian Cyst.**

645. The uterus is displaced to one side. The base of the tumour is felt in one lateral fornix. The large intestine is displaced inwards. The bladder is carried upwards. It is probably a **Papillomatous Extra-peritoneal Cyst.**

646. There is the history of a tumour which has disappeared. The abdomen may become lax or even flaccid for a few days, but quickly becomes re-distended and fuller than before. There is a clear area around the umbilicus, the epigastrium, and the upper part of the hypogastrium. The flanks are dull. If the patient's position is altered, the relative positions of the dull and clear areas are altered likewise, and at once that portion

of the general abdominal cavity which happens to be highest will be also the clearest. It differs from ascites only in its causation, being due to irritation of the peritoneum by the contact with it of the contents of a cyst the wall of which has given way. It is **Hydro-peritoneum** due to the yielding of a cyst.

647. If the patient is placed in the erect position the entire abdomen falls forwards and downwards. Deep sulci are seen at the sides; one especially curves forwards from a point just above the iliac crest downwards to a point one inch above the symphysis pubis in front and again upwards to the opposite iliac crest. The whole abdomen is soft and flabby. The most prominent part of the abdomen is in front of and overhangs the symphysis. It is **Enteroptosis.**

PART III.—DIAGNOSTIC TABLES.

CLASS I.

SWELLINGS ORIGINATING AND DEVELOPING IN THE ABDOMINAL WALL ITSELF.

The patient (male or female) may or may not complain of pain, but his or her attention has been arrested by the discovery of some comparatively superficial swelling in the abdomen — On examination the swelling is found to move over the deeper contents of the abdominal cavity—Tension of the abdominal muscles renders the tumour more prominent.

I.—**Tumour is moveable in the tissues.**—No œdema—No infiltration of parts around—No rise of temperature—No loss of flesh—Dull on percussion, or partly so.

(A) **Contour clearly defined**—Fingers penetrate beneath—No pain—Pressure does not lessen size—Absolutely dull on percussion.

(A) HARD—Not compressible—No dimpling of skin—Growth slow at first, may become more rapid.

1. Fibroma.

(B) SOFT—Compressible—Dimpling of skin over—Growth always slow.

2. Lipoma.

(B) **Contour not clearly defined**—Fingers do not absolutely pass beneath—Some dragging pain—Pressure may decrease size—Soft.

(A) HISTORY OF HERNIA OR OPERATION—Finely nodular or partly smooth—Pressure may entirely reduce—Comes through comparatively large opening in fascia—Usually in or near line of incision or hernia.

3. Omental Hernia or Ventral Hernia.

(B) NO HISTORY OF HERNIA OR OPERATION—Small lobulation—Pressure may decrease but will not reduce—Comes through comparatively small opening in fascia—Position in linea alba or semilunaris.

4. Hernia of Supra-peritoneal Fat.

II.—Tumour is fixed in the tissues.

(A) **No circumjacent infiltration**—No loss of flesh—No rise of temperature—Soft.

(A) Covered by Skin—Indifferent position, usually in line of recti muscles—Dull on percussion—History of neuroses—Pressure produces no sounds—Not reducible—Smooth outline—Fingers will pass beneath at the sides—Disappears under chloroform—Frequently anæsthesia of cornea or pharynx, localised anæsthetic or paræsthetic areas.

5. Phantom Tumour.
Pseudocyesis.

(B) Covered by Skin—Always at umbilicus—Clear in parts on percussion—History of piles, bronchitis, asthma, operation or parturition—Pressure produces gurgling sounds—May be partially or wholly reduced—Outline irregular (usually)—Fingers cannot pass beneath—May or may not be reduced under chloroform or without.

6. Umbilical Hernia.

(c) Covered by Mucous Membrane—Above and between symphysis pubis—A red velvety mass upon which the orifices of the ureters can be seen—Exists from birth—Constantly wet with urine—Scrotum diminutive—Testes usually undeveloped—Penis small, grooved above.

7. Ectopia Vesicæ.

(B) **Infiltration of parts around**—Dull on percussion—Not reducible—Painful.

(A) No Rise of Temperature—Progressive loss of flesh—Growths slow at first, becoming rapid.

(i) Soft—Position varies—Usually history of trauma, previous presence of wart or other skin growth.

8. Sarcoma, Traumatic Malignancy.

(ii) Nodular, Firm—Always at umbilicus—History of or concomitant hepatic carcinoma.

9. Cancer of Umbilicus.

(B) Rise of Temperature, especially at night—Loss of flesh may be slight—Firm at first becoming soft centrally—Occurs in different positions—History of trauma, or presence of foreign bodies — Growth rapid from beginning — Leucocytosis which increases.

10. Abscess in Abdominal Wall.

CLASS II.

CONDITIONS AFFECTING PERINÆUM, EXTERNAL GENITALS, INGUINAL REGION OR SKIN, DISCOVERED BY DIRECT INSPECTION.

Group A.—MALE.

Section I.—THE PENIS.

The patient complains of irritation about the penis.

I.—There is a discharge from the meatus.

(A) **There is acute pain on micturition**—Symptoms have come on suddenly.

(A) THERE IS THE HISTORY OF THE PASSAGE OF A BOUGIE, followed by some bleeding—A catheter passed down is arrested, and if it is forced further, it appears to pass over a rough surface, and is again arrested—It cannot be felt to enter the bladder, and no urine escapes through it—Its handle is deflected from the median line—The urethroscope shows a ragged slit in the urethral wall.

1. False Passage.

(B) THERE IS NO HISTORY OF INSTRUMENTATION, and no bleeding.

(i) THE LIPS OF THE MEATUS ARE SWOLLEN and markedly reddened and everted—There is chordee at night—The organ itself is hotter and stiffer than normal—The discharge is thick, purulent, greenish, and stains and stiffens linen—It begins from two to eight days after a suspicious coition, most usually on the third or fourth day—There is dragging pain over the lumbo-sacral region—In the cells of the discharge the gonococcus is seen.

2. Acute Gonorrhœa.

(ii) THE LIPS OF THE MEATUS ARE BUT SLIGHTLY SWOLLEN or everted—There may be chordee, but it is not severe—The organ is not hotter or stiffer than normal—The discharge is thin, yellow muco-pus—There has been no suspicious coition, but exposure to cold and wet, as by sitting on a damp seat ; or the passage of an instrument or calculus—The patient's wife may suffer from leucorrhœa—No gonococci are found.

3. Simple Urethritis.

Meatus but slightly swollen, continued.

(iii) A similar physical condition is seen, but GONOCOCCI ARE FOUND in the pus cells—The history given may be the same, but is not to be relied upon.

4. Sub-acute Gonorrhœa.

(iv) THERE IS SWELLING, HEAT, AND ACHING of the whole penis, which continues for a long time, and recurs often—There is pain, redness, and a purulent urethral discharge—The glans and anterior portion of the organ are enlarged and tender—There is a history of gout, with turbid urine, but no fever.

5. Acute Gouty Urethritis.

(B) **There is no acute pain on micturition**—The symptoms have appeared gradually—There may or may not be a history of the passage of an instrument—Catheterisation is not very painful, but it may be difficult—The lips of the meatus are not swollen, red, or everted—The discharge is thin muco-pus—The stream of urine is narrow, forked, or twisted—There is a history of gonorrhœa, passage of catheter, exposure to cold, injury, or operation—It takes longer than is normal to empty the bladder, and a few moments after the stream has apparently ceased, a small quantity will dribble out—It becomes more and more difficult to direct the stream—It is some time since the cause (if it is one that acts only at a certain time) was in action.

(A) A BOUGIE LARGE ENOUGH TO FILL THE MEATUS, IS ARRESTED at some point anterior to the prostatic urethra.

(i) A WHITISH LINE CAN BE SEEN with the aero-urethroscope, passing transversely round the urethra, at which point the calibre is narrower than the rest of the tube, the mucous membrane bulging out above it—This may be merely a narrow line, as if a thread had been tied around the tube, or mark the entrance to a narrow portion of the tube, the walls of which are thickened and stiffened—There is often a diminution of the lustre of the distal portions of the tube, showing a loss of epithelium—The opening in the ring thus formed varies from a pin-point to a fairly wide lumen—The orifices of the urethral glands are wider than normal and surrounded by a pink areola (Fenwick)—A bougie large enough to fill the meatus is arrested at the point of constriction—When it has passed this, which it does smoothly, it glides on easily—It can be felt to enter the bladder, and the handle is not deflected from the median line—If a catheter be used, urine issues—No bleeding of any moment follows.

6. Simple Stricture.

(B) A BOUGIE LARGE ENOUGH TO FILL THE MEATUS IS ONLY arrested at the level of the constrictor urethræ, which it passes after a short time.

(i) THE URETHROSCOPE SHOWS PATCHES of congested or granular mucous membrane, darker in colour than the surrounding membrane, often at the peno-scrotal angle, or in the deeper urethra—These patches may be œdematous, and often bleed on touch—There may or may not be an accompanying constriction of the tube—Passage of a bougie is easy if there is no stricture present, but there is often a sensation of pain when the instrument touches the spot—The orifices of the urethral glands are purplish, and are widely open, or they form slightly-raised, opaque pin-head points, placed in double rows along the roof "like so many buttons" (Fenwick)—There is a more or less constant slight muco-purulent discharge, increased by the taking of stimulants.

7. Gleet.
Posterior Urethritis.

(ii) THE URETHROSCOPE SHOWS A SPONGY CONDITION of the deeper urethra, with white patches—The verumontanum is often swollen and deeper in colour than normal—Prostatic threads are seen in the first portion of urine passed.

8. Prostatic Catarrh.

II.—There is no discharge from the meatus.

(A) **There is loss of tissue**—Ulceration.

(A) THE ULCER IS CLEAN CUT—Its base is soft—It is round and superficial—There is a discharge of pus which is not foul—The ulcer is multiple—It infects opposing parts, reproducing itself—There is a history of suspicious coition—If the inguinal glands are affected, they suppurate—The patient is usually young and otherwise healthy.

9. Chancroid.
Soft Chancre—Soft Sore.

(B) THE EDGE IS SLOUGHY—The base is soft—The ulcer is deep and irregular in shape—There is a foul discharge—The ulcer is usually single—It spreads laterally and deeply—There is a history of a previous lesion—The patient is older, debilitated, broken down and unhealthy—If the inguinal glands are affected, they suppurate, or slough.

10. Phagedæna.

(C) THE EDGE IS HARD AND NODULAR—The base is hard and rugged—The ulcer is deep and irregular in shape—There is a foul discharge—The ulcer is usually single—It spreads laterally and deeply—There is a history of prolonged irritation—The

Edge Hard and Nodular, continued.

patient is above 40 years of age, but may be otherwise healthy—If the inguinal glands are affected, they become hard, but do not suppurate.

11. Epitheliomatous Ulcer.

(D) THERE IS AN IRREGULARLY-SHAPED ULCER—The base is cheesy and yellow, with isolated granulations which yield a thin secretion—*The edges are undermined*—The deeper tissues are more affected than the surface (H. Morris).

12. Tubercular Ulceration.

(B) **There is an increase of tissue.**

(A) THE GROWTH IS PEDUNCULATED.

(i) THE PEDICLE IS RELATIVELY LONG—It springs from the meatal lip—The growth is firm and rounded—There is usually no secretion—It is often single.

13. Fibroma.

(ii) THE PEDICLE IS RELATIVELY SHORT—It springs from the coronal sulcus—The growth is soft and dendritic—It is covered by muco-pus—It is always multiple.

14. Warts.
Papilloma—Condyloma.

(B) THE GROWTH IS SESSILE.

(i) THE PATIENT IS YOUNG OR MIDDLE-AGED.

(*a*) **Springing from the corpora cavernosa, often near the glans, is a rounded mass,** which may be deeply seated, and which enlarges rapidly—After some time the skin over it yields, and a spongy, sprouting mass is seen, which bleeds readily—The inguinal glands are enlarged, and are soft and elastic, suggesting the presence of fluid within.

15. Sarcoma.

(*b*) **Small, black or blue, hard spots appear on the glans,** more especially near the meatus, or on some other portion of the penis, which enlarge rapidly—They may be elevated or flat—There is induration around them, and often a hard cord may be felt running along the dorsum of the penis—There is some enlargement of the inguinal glands.

16. Melanotic Sarcoma.

(*c*) **Occasionally in the long prepuce of boys a firm, elastic, rounded mass is felt**—It is clearly defined, globular in shape, and has no surrounding infiltration—On stretching the skin over it the dilated mouth of a gland duct may be found.

17. Sebaceous Cyst.

(*d*) **On the glans,** often near the corona, just within the lips of the meatus, the prepuce, or occasionally on the shaft, is *a*

single, firm, rounded mass, the size of a small button—Its edges are ill-defined, and blend with the tissues around—Its surface may present a small crack or excoriation—It is firm, and beneath it is a still firmer layer which feels like parchment—A very slight serous discharge comes from it—It appears from two to six weeks after a suspicious coition, and disappears in six to eight weeks after—It does not produce others by apposition of surfaces—The glands of the inguinal transverse chain become hard and shotty, and remain so for an indefinite time—Secondary symptoms—an erythematous rash on the chest, loss of hair, and a persistent sore throat.

18. Hard or Hunterian Chancre.

(*c*) **On the prepuce, skin of the penis, glans,** or in the erectile tissue of the corpora cavernosa, certain changes may be seen in the tertiary stage of syphilis—On the external surface are small nodules which ulcerate and slough out, leaving shallow sores covered by crusts—In the corpora cavernosa are nodular bodies nearly always in the posterior third, indolent and painless except during erection, when they may cause chordee.

19. Gummata.

(ii) THE PATIENT IS OVER FORTY YEARS OF AGE.

(*a*) **On the glans,** but especially on the coronal sulcus, is seen *an irregular, papillated growth, which is hard and has a hardened base*—It ulcerates early and breaks down, forming an extensive excavation—The edges of this cavity are hard and everted—There is an offensive, sanious discharge—The prepuce is attacked, infiltrated, and sometimes perforated—The inguinal glands are early affected—They become hard and slowly enlarge.

20. Epithelioma.

(*b*) **There are localised nodules, from the size of a pea to that of a French bean,** *near the surface of the corpora cavernosa*, which are painless on manipulation—There is no enlargement of the inguinal glands—The penis curves on erection—Micturition is not affected unless other conditions are present.

21. Gouty Phlebitis.

Cases by Hennig, *Jahrst. für Kinkerheilk*, N.F., 1868, Bd. 1, p. 101, also *Berl. Klin. Woch.*, 1869.

(*c*) **The organ is much enlarged,** *usually in common with the scrotum and parts adjacent*—The skin is pigmented, cracked, uneven, warty above and below—The erectile tissue may be toughened—The course of the disease is very slow and painless—There are often recurrent attacks of erysipelas—The *filaria hominis* may be present if the patient is a negro or Chinaman, or has lived long abroad.

22. Elephantiasis.

(C) **There is an inflammatory change in the glans penis.**

(A) THE GLANS IS MAINLY AFFECTED and is abnormal in colour—It is tender.

(i) THE GLANS, WHEN UNCOVERED, is redder than normal—THE REDNESS IS EQUALLY DISTRIBUTED OVER THE SURFACE—Often the coronal groove contains pus or cheesy material—There may or may not be some loss of epithelium.

23. Balanitis.

(ii) THERE IS A CERTAIN AMOUNT OF REDNESS DISTRIBUTED IN PATCHES—The patient is past middle life—The corona and meatus are not affected—The surface may be raw and slightly moist, or dry and scaly—The margins of the patches are abruptly outlined—There are evidences of gout in the system.

24. Gouty Balanitis.

(iii) THE SURFACE OF THE GLANS AND PREPUCE IS DARK RED and velvety—There are numerous erosions, with purulent discharge—Mycelium spores are found in the discharges—The patients are usually stout and florid—Sugar is present in the urine.

25. Diabetic Balanitis.

(B) BOTH GLANS AND INTERNAL SURFACE of prepuce are affected.

26. Balano-posthitis.

(C) THE GLANS IS NORMAL IN COLOUR.

(i) It is not tender—There is little or no discharge—There are a number of transparent vesicles, which appear in crops—Each vesicle has a small ring of hyperæmia around it—These vesicles burst, and disclose small superficial ulcers which heal readily and leave no scar.

27. Herpes.

(D) THE GLANS AND PENIS ARE THE SEAT OF MINUTE VESICLES, which are arranged in a more or less unbroken line, following the course of the pudic nerve—If not rubbed, these vesicles dry up, forming small scabs, which, on falling off, show scars—If rubbed, they disclose ulcers which are intensely painful, and are very slow to heal.

28. Herpes Zoster.

(D) **The prepuce is abnormal in position.**

(A) THE GLANS IS BARE—Behind it are a series of reddened œdematous folds of mucous membrane, dry and bleeding or covered with muco-pus, very difficult to draw forward—It is always an acquired condition.

29. Paraphimosis.

(B) THE GLANS CANNOT BE ENTIRELY EXPOSED—The opening in the prepuce is too small to permit of its complete retraction—There is often adhesion of the lining membrane of the prepuce to the glans—There is seldom much discharge—The condition is usually congenital, but may be acquired—*Preputial calculi* may form in the coronal sulcus.

30. Phimosis.

(E) **There is an alteration in the colour of the penis** as a whole, or in patches—The altered colour is livid, purplish—The patches are sometimes dry and shrivelled, more often moist and slimy—The epithelium over these patches loosens and is detached—Occurs in broken down constitutions and usually in elderly men—It may be the result of phagedæna, injury, gout, or spinal disease.

31. Gangrene.

Section II.—THE SCROTUM.

Other conditions affecting the scrotum secondarily, but commencing in the inguinal region, will be found in Group B.

Dull on percussion—Cannot be reduced upwards by pressure—Has defined upper outline, and is not continuous upwards into the abdominal cavity.

I.—Affects tissues of scrotum mainly.

(A) **Inguinal glands enlarged**—Begins as soft tubercle, or wart, near lower anterior surface—Ulcerates early—Skin dusky and dry—Swelling tends to break down—Penis rarely embedded—Temperature normal—No bullæ—Later, attacks testes—Ulcer has sinuous edge—Discharge is thin and bloody—Edge of ulcer is hard and everted—Base indurated, uneven—Occurs in England—Caused by prolonged irritation, especially contact with soot.

32. Epithelioma Scroti.

(B) **Inguinal glands not enlarged**—Begins by repeated attacks of dermatitis, or as hard kernel beneath skin—No ulceration, may be excoriation—Skin dark, hard, thickened, fissured—Bullæ form—Testes unaffected—Occurs endemically in India, China, Egypt—Caused by *filaria sanguinis hominis*.

33. Elephantiasis Scroti.

II.—Affects contents of scrotum primarily and mainly.

(A) Vas deferens unaffected.

(A) TRANSLUCENT—Gradual onset—Relatively light weight—No history of injury—Inguinal glands not affected—Skin normal or shiny—Painless—Smooth—Special testicular sense preserved—Smooth rounded outline.

(i) AFFECTS ENTIRE BULK OF SCROTUM—Contents watery.

34. Hydrocele of Tunica Vaginalis.

(ii) CLOSE TO UPPER END OF EPIDIDYMIS—When large, is irregular and somewhat lobulated—Contents opalescent or limpid.

35. Encysted Hydrocele of Testis.

(B) OPAQUE.

(i) DISTINCT FROM TESTIS—No loss of special sense—Painless.

(*a*) **Mass of very unequal consistence**—Lies between testis and epididymis—Irregular shape—May grow rapidly about puberty—Congenital—Never bilateral—Oily fluid escapes on tapping—Dragging sensation from weight.

36. Dermoid.

(*b*) **Mass of equally firm consistence**—Springs from tunica vaginalis, rete, testis, or cord—Presses upon testis—Largely nodular—Entirely firm, almost hard—Steady slow growth (years)—Not congenital—Occurs in early manhood—May be bilateral—Blood escapes on tapping—Dragging sensation from weight.

37. Fibroma.

Rare: case reported by Harvard, *Path. Soc. Trans. Vol.* 23, *p.* 168.

(*c*) **Mass soft and obscurely fluctuant**—Point of origin not constant—Smooth—Slow growth—Not congenital—Unilateral—Nothing escapes on tapping—No weight.

38. Lipoma.

Case reported by Park, *Trans. Amer. Surg. Ass.*, May, 1886.

(ii) INDISTINGUISHABLE FROM TESTIS.

(*a*) **Special testicular sense lost**—Epididymis distinct—Glands and skin unaffected—Sensation of weight—Not tender to touch—Dragging sensation in groin.

(1) BOSSY WITH LOW ELEVATIONS—Does not ulcerate—Does not suppurate—Age below 30—Probably no history of syphilis.

39. Enchondroma.

Cases by Dauve. *Bull. de la Soc. Chir.* 1861, *p.* 160.

(2) HARD, CRAGGY NODULES, may become softened—May ulcerate—May suppurate—Age above 30. History of syphilis.

40. Gumma.

(3) SMOOTH AND DENSE—Oval—Ulceration very rare—Does not suppurate—Age about 20 to 30—History of syphilis.

41. Syphilitic Orchitis.

(*b*) **Special testicular sense preserved.**

(1) SUDDEN ONSET—SKIN MAY BE ECCHYMOSED—History of injury or of operation (paracentesis)—Soft at first, becoming firmer—Testis discoverable by special sensation on pressure—Blood issues on puncture.

42. Hæmatocele.

(2) SLOW ONSET—SKIN NOT DISCOLOURED.

a. Soft subcutaneous deposits in skin, far from primary growth (Monod and Terillon)—Occurs in young men—May be bilateral—No hydrocele—Very rare—No hernia testis—Yields no fluid on puncture—Testis is enlarged.

43. Lymphadenoma.

b. No alteration of skin.

1. HISTORY OF SYPHILIS—Occurs in middle life—Uniformly firm—Never bilateral—Often accompanied by hydrocele—Fairly common Liable to hernia testis—Yields no fluid on puncture—The epididymis is mainly enlarged.

44. Tertiary Syphilitic Epididymitis.

See Cumston, *Ann. Surg.* 1897, *p.* 307

2. NO HISTORY OF SYPHILIS—Occurs in middle life—Portions softer and more elastic than others—Never bilateral—No hydrocele—Somewhat rare—Yields variously coloured fluids (yellow or brown) on puncture.

45. Cystic Fibroma.

Testicular Adenoma (*Sutton.*)

(B) **Vas deferens is thickened.**

(A) GRADUAL ONSET.

(1) EPIDIDYMIS FIRST AND MAINLY AFFECTED — Swelling nodular—No pain unless abscess forms—Slow course—Not often bilateral—Distinction between testis and epididymis easily felt—Often family history of tubercle—Fairly common—Tends to spread to vesiculæ seminales and prostate—Occurs in young manhood—Special sensibility preserved till late—Tends to form abscesses—Pallor, anæmia, debility ; later wasting and hectic—Hernia testis may occur.

46. Tubercular Epididymitis.

(ii) TESTIS MAINLY AFFECTED.

(*a*) **Fluctuating**—gradual development at first, becoming suddenly larger—Exceedingly rare—Occurs in youth.

47. Myxoma of Testis.

See *Bull. Soc. Anat. Par.* 1878, *p.* 523.

(*b*) **Not fluctuant.**

(1) EPIDIDYMIS OBSCURED—Whole testis enlarged, may be three to four times its normal size—Firm—Tender—Usually unilateral,

Vas thickened, gradual onset, Testis mainly, not fluctuant, continued.

—History of rheumatism, gout, malaria, acute orchitis, injury or gleet—Fairly common—Dull pain—No secondary deposits—Age 30 to 50—Loss of special sense—Hernia testis frequent.

48. Chronic Orchitis.

(2) EPIDIDYMIS NOT OBSCURED—Begins as hard mass in testis—Never large—Stony hard—Always unilateral—History may be entirely negative—Extremely rare (Morris)—Shooting pain—Secondary deposits in glands—Always after 40—Loss of special sense—No hernia testis.

49. Schirrus of Testis.

(B) RAPID ONSET.

(i) INFLAMMATORY—History of injury, use of catheter, gonorrhœa, or parotiditis—Usually occurs in young men or boys—Special sense preserved—No marked loss of flesh—Swelling increases rapidly to a certain point, then decreases—Swelling is tense, hot, painful—General temperature raised—May commence with rigor—May be vomiting, always nausea and anorexia.

(*a*) **Epididymis** mainly affected.

50. Acute Epididymitis.

(*b*) **Testicle** mainly affected.

51. Acute Orchitis.

These two are frequently associated.

(ii) NON-INFLAMMATORY—Swelling never decreases—Early hydrocele—May be history of injury—Epididymis obscured—Often hernia testis—Skin adherent—Not at first tender or very painful—No rigors—Loss of flesh in later stages—Loss of special sense.

(*a*) **Growth persistently rapid**—Elastic and nodular—Always unilateral—Dull pain—Secondary deposits in liver, spine, spinal cord, lungs, bone, but not in skin—irregular outline from commencement.

52. Encephaloid Testis.

(*b*) **Rate of growth varies** at different times, becoming more rapid in later stages—Very unequal consistence—Often bilateral—Painless in early stages—Secondary deposits in liver, bone, and skin—Smooth outline at first, which becomes irregular—Associated with, and developing from enchondroma, myxoma, and fibroma—lumbar glands enlarge by end of first year (Jacobson).

(1) MODERATELY FIRM—Not cystic—Puncture yields only blood.

53. Sarcoma of Testis.

(2) EXTREMELY ELASTIC, WITH MANY SOFTENED SPOTS—Individual cysts small—Veins of cord become varicose—Puncture yields serous, viscid, or blood-stained fluid.

54. Cystic Sarcoma of Testis.

Group B.—BOTH SEXES.

Section I.—SWELLINGS OCCURRING BETWEEN ABDOMEN AND EXTERNAL GENITALS, OR AFFECTING BOTH.

I.—**The swelling is reducible upwards by pressure**—It is increased by straining or other effort—It tends to disappear in the dorsal position, and to reappear when the patient is erect—Coughing produces an impulse, and causes reappearance of the swelling which had previously been reduced.

(A) **After reduction, pressure over the external ring does not prevent return**—*The swelling enlarges from below upwards*—The vas deferens can be easily isolated—There is no gurgling on reduction—Generally occurs in early manhood—The sensation on touch is that of handling a bundle of worms—It lies in and below the base of the scrotum, or in and above the labium majus The pubic spine is felt below and outside.

55. Varicocele.

(B) **After reduction, pressure over external ring or femoral ring prevents return**—*Enlarges from above downwards.*

(A) DULL ON PERCUSSION—No gurgling on reduction.

(i) FLUID — TRANSLUCENT — Perfectly smooth — Returns equably to the last—Usually occurs in childhood—Pubic spine felt below and outside.

56. Congenital Hydrocele.

(ii) SOLID—OPAQUE — Finely nodular outline — Returns without noise—Usually after thirty years—Pubic spine below and outside.

57. Reducible Inguinal Omental Hernia.

(B) CLEAR ON PERCUSSION—Gurgling on reduction—Fluid or mixed contents—Opaque.

(i) PUBIC SPINE INSIDE AND ABOVE neck of swelling—Testis distinct—Gradual enlargement—Appears in adults.

58. Chronic Reducible Femoral Hernia.

(ii) PUBIC SPINE OUTSIDE AND BELOW neck of swelling.

(*a*) **Testis distinct**—Gradual enlargement.

(1) APPEARS IN ADULTS.

59. Chronic Reducible Inguinal Hernia.

(2) USUALLY APPEARS IN CHILDHOOD.

60. Infantile Hernia.

Often the diagnosis between these two cases can only be made during operation for relief. In infantile hernia two layers of peritoneum require division, in ordinary inguinal hernia, only one.

(*b*) **Testis obscured**—Sudden appearance—Usually occurs in childhood.

61. Congenital Hernia.

II.—The swelling is not reducible upwards by pressure.

(A) **Associated with acute inflammation**—Elevated temperature and constitutional disturbance—Acute tenderness on pressure—May give clear or dull note on percussion.

(A) TESTIS NOT PRESENT IN THE SCROTUM—Dull on percussion—Pubic spine below and outside swelling—Some impulse on coughing—May be constipation—Skin red, infiltrated—Congenital history of absence of testis, combined with pressure of truss, or other injury—Rapid enlargement—Extreme pain—Presence of special sense—Vomiting, which is not continuous.

62. Inflamed Undescended or Retained Testicle.

(B) TESTIS PRESENT IN SCROTUM.

(i) DULL ON PERCUSSION—Position of pubic spine may be obscured—No impulse on coughing—Bowels act as before occurrence—Skin reddened, shiny—Fluctuation early—Throbbing pain—No vomiting.

(*a*) **Secondary to tuberculous orchitis**—Cord involved.

63. Acute Tubercular Abscess of Spermatic Cord.

(*b*) **Secondary to trauma of lower extremities,** gonorrhœa, or inflammatory conditions of vulva, penis, or scrotum—Cord not involved.

64. Acute Adenitis.

(ii) CLEAR ON PERCUSSION.

(*a*) **Pubic spine above,** and inside neck of swelling.

(1) IMPULSE ON COUGHING—Constipation not absolute—Skin red, œdematous—History of previous hernia, of ill-fitting truss, or injury—Temperature always elevated—Nausea, possibly vomiting.

65. Inflamed Femoral Hernia.

(2) NO IMPULSE ON COUGHING—Constipation absolute—Skin may be normal, dusky, or red—If red, is not œdematous—History of sudden strain, with (usually) previous hernia—Temperature may be subnormal—Vomiting, which is persistent.

66. Strangulated Femoral Hernia.

(*b*) **Pubic spine below,** and outside neck of swelling.

(1) IMPULSE ON COUGHING—Constipation not absolute—Skin red, œdematous—History of previous hernia, of ill-fitting truss or injury—Temperature always elevated—Nausea, possibly vomiting.

67. Inflamed Inguinal Hernia.

(2) NO IMPULSE ON COUGHING—Constipation absolute—Skin may be normal, dusky, or red, if red, is not œdematous—History of sudden strain, with (usually) previous hernia—Temperature may be subnormal—Vomiting, which is persistent.

68. Strangulated Inguinal Hernia.

(B) **Not Associated with acute inflammation**—No rise of temperature —No acute tenderness—Dull on percussion—No gurgling on pressure.

(A) HAVING SOLID CONTENTS.

(i) FIXED IN TISSUES AROUND.

(*a*) **Connected with the spermatic cord**—Rapid growth—Tends to fungate through skin—Irregular outline—Infiltrating tissues around.

(1) ALWAYS SECONDARY TO DISEASE OF THE TESTIS—Infects lumbar glands.

69. Carcinoma of Spermatic Cord.

(2) MAY BE PRIMARY OR SECONDARY to disease of the testis—Secondary growths will occur in the peritoneum, omentum, or abdominal viscera.

70. Sarcoma of Spermatic Cord.

(*b*) **Connected with lymphatic glands**—Rounded—Distinct from surrounding tissues.

(1) TEND TO BREAK DOWN.

a. Secondary to tubercular testis.

71. Tubercular Adenitis.

b. Secondary to focus of irritation in lower extremities, penis, scrotum, or vulva.

72. Chronic Traumatic Adenitis.

(2) NEVER BREAK DOWN.

a. Often large, generally elastic—Blood examination negative —Found in association with contemporaneously enlarged glands in the axilla, cervical regions, etc.

73. Hodgkin's Disease.

b. Always small—Hard—Eosinophilia and leucocytosis—Secondary to penile or vulval hard chancre.

74. Syphilitic Adenitis.

(ii) MOVEABLE IN TISSUES AROUND—Can be moved by traction upon the spermatic cord, or by pressure, at all events in the early stage, but are never entirely reducible—May at first disappear in the dorsal position, but drop down of their own weight, when the patient stands erect—Opaque—Pubic spine below, and outside—Do not gurgle on attempts at reduction.

(*a*) **Firm — Hard** — Slow growth — Does not recur after removal—Small—May cause aching—Rounded or elongated oval—Testes present in scrotum.

75. Fibroma of Cord.

(*b*) **Elastic**—Does not enlarge—Does not recur if removed—Aches if pressed upon—Comparatively small, but larger than fibroma—Elongated oval—No testis present in scrotum on same side.

76. Retained Testis.

Solid Contents, moveable in tissues, continued.

(*c*) **Soft**—Lobulated—Testes present in scrotum.

(1) SLOW GROWTH—Does not recur after removal—No aching—Comparatively small.

77. Lipoma of Spermatic Cord.

(2) GROWTH SLOW AT FIRST, BECOMING RAPID—Recurs after removal—May ache very much—May attain large size.

78. Myxo-lipoma of Spermatic Cord.

(B) THE SWELLING HAS FLUID CONTENTS.

(i) APPEARS RAPIDLY—HISTORY OF TRAUMATISM—Fluctuation uneven—opaque.

(*a*) **The skin is ecchymosed**—The swelling is boggy—The spermatic cord is obscured—Swelling is diffused—No previous hydrocele—Often of a large size.

79. Diffuse Hæmatocele of Cord.

(*b*) **The skin is not ecchymosed**—The swelling is tense—The spermatic cord can be felt above and below—Swelling is pyriform, the larger end downwards—Often follows previous hydrocele—Relatively small.

80. Encysted Hæmatocele of Cord.

(ii) APPEARS SLOWLY—NO HISTORY OF TRAUMATISM.

(*a*) **Translucent—Perfect fluctuation**—Well defined outline—Cord can be felt below—Painless—Skin freely movable.

(1) ONE OR MORE GLOBULAR SWELLINGS felt in the course of the vas deferens—May pass into the inguinal canal—Tumour pear-shaped—occurs in boys or young men.

81. Encysted Hydrocele of Cord.

(2) SIMPLE ELONGATED SWELLING in the course of the vas deferens—Usually continuous with a second swelling within the abdomen—Tumour cylindrical—Occurs in children.

82. Infantile Hydrocele.

(*b*) **Opaque—Fluctuation incomplete.**

(1) CORD UNIFORMLY enlarged.

83. Diffuse Hydrocele of Cord

(2) CORD IRREGULARLY enlarged.

84. Cavernous Angiomata of Cord

(3) SWELLING AROUND CORD and extending into scrotum.

85. Œdema of Cord

Section II.—PERINÆUM AND ANUS.

I.—There is an abnormal rounded opening in the perinæum.

(A) **Occurs only in men**—There is an opening or openings in or near the median raphè, through which urine escapes—There is the history of some operation on the urethra, or of the formation of an abscess, the cavity of which communicates with the urethra—A probe passed into this strikes a metallic sound passed into the urethra.

86. Urethral Fistula in Men.

(B) **Common to both sexes**—There are one or more openings in the perinæum—A probe passed into any one of them passes upwards in the direction of the rectum—The finger in the rectum and the thumb outside feel a thickened cord-like tract between them, pressure upon which causes a drop of pus to exude.

(A) The finger passed into the rectum FEELS THE FREE END OF THE PROBE in the canal—The opening is found just above the internal sphincter, and below the insertion of the levator ani, about 1 inch from the anus—The probe may pass higher than this, outside the mucous membrane.

87. Ischio-rectal Fistula.

(B) The finger passed into the rectum MAY FEEL THE END OF THE PROBE, but the two are separated by a portion, or the whole of the bowel wall.

(i) THERE MAY BE MORE THAN ONE OPENING externally—These openings are always anterior or lateral to the anus—The edge of skin opening is abrupt, the inner lining of the passage is lined by granulation tissue—No hairs protrude—Discharge is purulent, and does not contain cheesy material or hair.

88. Blind external Fistula.

(ii) IS ALWAYS SINGLE—Is always posterior to the anus—Is funnel shaped, smooth, not abrupt—The inner lining of the passage is formed of skin—Hair frequently protrudes—Discharge consists of cheesy material mixed with hair—May be pus, but not necessarily.

89. Coccygeal Dermoid Fistula.

Case by Henry Morris, *Annals of Surgery*, 1900, *p.* 342.

II.—There is a solution of continuity in the tissues of the female perinæum.

(A) **The normal cleft between the buttocks is unaltered**—The anus is normal in size and position—There is no eversion of it—There is the history of parturition, in which the latter part of the second stage was rapidly completed.

Lesion in Female Perinæum, continued.

(A) ELEVATION OF THE UPPER BUTTOCK DOES NOT CAUSE AIR TO ENTER the vagina in Sims' position—There is no marked gaping—The ring of the sphincter is complete—The skin of the perinæum is torn to a greater or less extent from the fourchette backwards, and the tear may extend upwards in the vagina as far as the posterior column.

90. External superficial Rupture of Perinæum.
Incomplete Rupture of Perinæum.

(B) ELEVATION OF THE UPPER BUTTOCK CAUSES AIR TO ENTER the vagina in Sims' position—There is no marked gaping—The ring of the sphincter may or may not be complete—There is a more or less circular ragged opening midway between the anus and the fourchette, through which vaginal discharges escape—The end of a probe passed through this is felt by a finger in the vagina.

91. Central Laceration of the Perinæum.

(B) **The cleft between the buttocks is flattened out**—The anus is wide, somewhat everted, and displaced backward—The patient being placed in Sims' position, if the upper buttock is raised, air will audibly enter the vagina, the posterior vaginal wall will fall away, leaving a gaping hole in the perinæum—The anterior and posterior walls of the vagina may protrude.

(A) THE ANUS IS INTACT—The ring of the sphincter is complete—The skin of the perinæum is often abnormally long—The levator ani fibres are torn from their rectal attachments on one or both sides—Prolapse of the vaginal walls is common—A slit in the mucosa may extend into one or both vaginal sulci, or there may be no lesion of either mucous membrane or skin—A finger passed into the rectum, and another into the vagina feel between them the ring of the sphincter, but in front of this merely a double layer of skin and mucous membrane—A finger in the vagina finds a deep lateral sulcus between the rectum and the torn-off and retracted fibres of the levator ani—This may be on one or both sides—There is no incontinence of fæces.

92. Internal Rupture of the Perinæum.
Relaxed Outlet (Kelly).

(B) THE ANUS IS WIDENED IN FRONT—The ring of the sphincter is divided in front—The skin of the perinæum is divided in its whole length—The levator ani fibres may be uninjured—Prolapse of the vaginal walls is uncommon—Mucous membrane, skin, and tendon of the transversus perinæi are all torn through—The tear may extend for a variable distance up the recto-vaginal septum—Later a thin line extends transversely across the front of the anal opening, marking the junction of the rectal and vaginal

mucous membranes—Slightly behind each end of this are seen smooth, lightly puckered depressions, which become more marked if the sphincter is made to contract—Patient may be able to retain fæces, but is more often unable to perfectly control them, especially if there is any diarrhœa.

93. Complete Rupture of Perinæum.

III.—There is an apparent increase of tissue over the normal.

(A) **The increase comes from within the rectum**—The ring of the sphincter can be traced around it—There is dull aching pain—There is a tendency to strain at stool.

(a) THE PROTRUSION IS PURPLISH—The surface is unevenly bulged—There is a tendency to bleed—Separate and distinct masses bulge irregularly from one or other or all sides—There is often a central depression with lines radiating outwards between the several masses—The patient is an adult—There is usually some obstruction to the portal circulation—frequently a history of previous indulgence in stimulants.

94. Protruded Internal Hæmorrhoids.

(b) THE PROTRUSION IS THE COLOUR OF NORMAL MUCOUS MEMBRANE—The mass has a smooth, even surface—There is no tendency to bleed.

(i) THE MASS IS ATTACHED TO ONE SIDE ONLY of the anus—There is no central depression—It is comparatively small—There is but slight pain.

95. Prolapse of Rectum.

(ii) THE MASS SURROUNDS THE ENTIRE LUMEN of the gut—There is a central depression—Often occurs in children.

96. Procidentia of Rectum.

(B) **The growth springs from the anus**—It does not pass through it.

(a) THE INCREASE IS FORMED OF TISSUES NORMALLY PRESENT—It is covered by normal skin and mucous membrane.

(i) IT IS SINGLE—Comparatively small—Is placed dorsally, its tip looking towards the anal lumen, its base towards the coccyx—Its substance is firm and has no fluid contents—If lifted up, a small ulcer is discovered beneath lying in the perpendicular plane—There is great burning pain after defæcation, increasing for a few minutes, and then dying away.

97. Sentinel Pile, covering Fissure.

(ii) IT IS MULTIPLE—Comparatively large—Placed indifferently around the anal circumference—The mass evidently contains one or more dilated veins—There is no ulcer beneath.

Growth from Anus, multiple, continued.

(*a*) **Soft**—Compressible—No great pain.

98. External Hæmorrhoids.

(*b*) **Firm**—Not easily compressible—Some dull pain.

99. Thrombosed External Hæmorrhoids.

(*c*) **Soft**—Reddened—Tender—Aching or throbbing pain.

100. Inflamed External Hæmorrhoids.

(B) THERE IS A NEW FORMATION.

(i) THE GROWTH IS SESSILE—Hard—Nodular, the surface irregular—Discharge is always present, and very foul-smelling—it is always attached to, and springs from the muco-cutaneous junction.

101. Epithelioma of Anus.

(ii) THE GROWTH IS PEDUNCULATED—Soft.

(*a*) **Its surface is covered by villous projections**—There is a slight discharge, which is not foul-smelling—It is usually attached to mucous membrane.

102. Papilloma of Anus.

(*b*) **Its surface is evenly rounded or lobed,** and is covered by normal skin—There is no discharge—It is attached to skin.

103. Lipoma of Anus.

IV.—There is a skin disease.

(A) The itching is excessive.

(A) THE ITCHING IS ASSOCIATED WITH A BURNING SENSATION—Lesions tend to group themselves.

(i) BEGINS AS A REDDENED PATCH which at first disappears on pressure—The edge spreads.

(*a*) **Redness always disappears on pressure**—Sub-cutaneous tissue not affected—Pinkish red—Does not exude fluid—Slight constitutional disturbance—No deeper swelling—No tension—Vesicles and bullæ form—No crusts—Sharply defined border—Begins by crop of papules spreading centrifugally, forming tubercles; these may coalesce and form patches, the edge of which is redder than the centre—Patches form rings, which blend and form wavy lines—Fresh crops appear, preceded by a rise of temperature.

104. Erythema Multiforme.

(Called at each successive stage, Erythema papulatum, tuberculatum, annulare, guttatim, marginatum).

Tinea circinata can only be distinguished from this by discovery of the fungus "tricophyton."

(*b*) **Redness does not disappear in later stages**—Deeper layers become thickened—There is increased local heat.

(1) Is dark red—Exudes fluid—No constitutional disturbance—Firm swelling—Tension—Vesicles form—Greyish yellow fatty crusts form—Edge not well defined—Swelling considerable if occuring around female genitals—Affects bathing-drawers area—After removal of crusts, a thin dry glistening epidermis is seen, dotted with small points of deeper red—There is an inflammatory area around crusts—May last for years—Inguinal glands not enlarged.

105. Eczema.

(2) Vivid red—Always dry—Constitutional disturbance—Swelling, which is elastic or brawny—Marked in scrotum or labia—Vesicles not frequent—No crusts—Well defined edge—Raised border—Lasts one to three weeks—Relapses not uncommon—Preceded by chill, *malaise*, headache, some pyrexia for 24 hours.

106. Erysipelas.

(ii) BEGINS AS CLUSTER OF TRANSPARENT VESICLES—Superficial—Always multiple—In men, on prepuce, sulcus, glans, and meatus—In women, on vulva, perinæum, inside of thighs, and mons veneris—Labia and vaginal mucous membrane become swollen and covered with macerated epithelium, which, when removed, reveals an excoriated surface—Does not exude fluid—Vesicles early become opaque, shrivel, and form yellowish brown crusts—Whole process lasts two weeks—Glands not enlarged.

107. Herpes.

(iii) BEGINS AS ONE OR SEVERAL PAPULES which become pustules—Seated deeply in corium—Form in hair follicles—Very painful—Throbbing—Become conical—Deep red—Small whitish spot appears in centre—Points on 3rd to 4th day—Gives way on 8th day, discharging pus and disclosing a white, pulpy slough—Appears on buttocks—Indurated base, surrounded by a raised, red area—Glands generally enlarged.

108. Furunculosis.

(B) THERE IS NO BURNING SENSATION—Isolated lesions not grouped into patches—No spreading edge.

(i) ONLY SEEN ON PARTS COVERED by hair, in pubic region—Produces papules—Small localized hæmorrhages with slight serous exudation—Parasite (crab-louse) found—Steel grey pigmentation (macula cerulea).

109. Pediculosis.

(ii) SEEN IN PERINÆUM, inner sides of thighs, but also, and more frequently, between fingers, or wrists and elbows—Produces papules, vesicles, burrows, pustules—Parasite (acarus scabæi) found—Blackish crusts—Deep red points, scratch lines.

110. Scabies (Itch).

(B) **The itching is not excessive.**

(A) THE LESION IS SMALL—Localised—Well defined.

(i) INGUINAL GLANDS NOT ENLARGED—Consistence that of surrounding skin—Straw or golden yellow with raised red disc around—In gluteal fold or on buttocks—Genital organs unaffected—Like bit of wash-leather let into skin—Multiple—Come out in crops—Connected with glycosuria, azoturia, or albuminuria—Evolves quickly—Has variable stationary periods (months or years), but ultimately entirely disappears.

111. Xanthoma Diabeticorum.*

* Xanthoma Simplex never appears in this region.

(ii) INGUINAL GLANDS ENLARGED.

(*a*) **Inguinal glands suppurate**—Lesion soft—On penis, vulva, or anus—Sharply cut ulcers with grey base—Auto-inoculable—Multiple—Not connected with constitutional disease—Evolves within 24 hours after infection—Spreads until checked—May degenerate into phagedæna, or may develop later, through simultaneous infection with syphilitic poisoning, into Hard Chancre.

112. Soft Chancre.
Soft Sore, Chancroid.

(*b*) **Inguinal glands hard**—Not large—Do not suppurate—Lesion indurated at base—On penis, vulva, mons, or anus—Smooth—Dirty yellowish white, greyish, or colour of muscle—If on penis, has red limiting line—Always single, or at most, double—Not auto-inoculable—Always followed by secondary symptoms, sore throat, alopecia, and rash on thorax and arms—Appears in third or fourth week after infection—Lasts 6-7 weeks.

(1) CUP-SHAPED ULCER—Hollowed—Excavated—Scooped out with puckered edge—Margin stands out in sharp relief—Surface slopes obliquely down to centre, which is yellowish.

113. Hard Chancre—Ulcerative form.

(2) FLAT—papular—Eroded surface—Raised above general surface—Hypertrophied papillæ covered with sodden white epithelium—Papillæ welded into coherent mass through swelling of intervening tissue.

114. Hard Chancre—Papular form.

(B) THE LESION IS COMPARATIVELY WIDE-SPREAD—Inguinal glands do not enlarge—No serious constitutional symptoms.

(i) DISAPPEARS ON PRESSURE—Patch, bright red at first, becomes dull red—Area is not raised and has no well defined edge—There is no exudation.

(*a*) **Redness has no coppery tint**—Is usually confined to perinæum, gluteal folds, or inside of upper part of thigh—Seen at all ages.

115. Erythema Simplex.

(*b*) **Redness has a coppery tint**—Extends down legs to soles of feet—Seen in infants.

116. Erythema of Congenital Syphilis.

(ii) Does not disappear on pressure—Discs or rings, pale pink in centre scattered over by finely divided crust—The prominent edges, covered by scabs, which run together, are white, chalky yellow to bright yellow—Each scab is rounded, regular, with a deep umbilication in the centre—Simple vesico-bullæ filled with yellowish white liquid, which is thick and readily dries—The skin beneath is reddened, but not ulcerated—There is no inflammatory area around the crusts—Always associated with similar lesions on other parts.

117. Impetigo.

(C) **There is no itching.**

(a) Lesion characterised by production of thick scales

(i) The scales are arranged in a conical or pyramidal manner—They are brown—Generally distributed—Usually symmetrical—Are found in late secondary stages of syphilis, in broken down constitutions—Occur from 6 to 12 months after infection—Leave circular scars—Begin as papules, quickly followed by ulcers, the secretion from which dries into crusts, whilst the ulcer spreads at the edges.

118. Rupia.

(ii) The scales are arranged in a nummular fashion—Are flattened—They are chalky or silvery—Attack sacral region, penis, and labia majora—Are also found on knees and elbows—Have no connection with syphilis—Begin as a small papule covered with shining scales—Do not ulcerate—Papules coalesce into patches, which are raised, dry, and have sharply defined border.

119. Psoriasis.

(b) The lesion has few or no scales.

(i) Associated with general coppery rash—Sore throat, and other evidences of secondary syphilis.

(*a*) **Occur over sacrum and nates,** labia majora, and genito-crural fold—Comparatively small—Rounded nodules—Some desquamation.

120. Lichenoid Syphilide (Mracek).

(*b*) **Occur at edges of labia majora,** or at anal folds, on buttocks, and inner surface of thigh—Comparatively large—Elevated lobed masses—No desquamation.

121. Proliferating Papular Syphilide (Mracek).

One form of Condyloma).

Few or no Scales, continued.

(ii) NOT ASSOCIATED WITH ANY SIGNS OF SYPHILIS.

(*a*) **Project markedly from skin**—Small—Partially translucent tumours, which are rounded, or slightly flattened—Size from bead to pea or even orange—Summit marked by yellowish white plug, which can be expressed, leaving small cavity, which bleeds—Usually discrete, but may become fused—Intermediate skin normal—Cleanliness does not get rid of them—Generally distributed.

122. Molluscum Contagiosum.

(*b*) **Not much raised from surrounding skin**—Begins as small spot of erythema or minute nodule, soon capped by small white vesicle—Size from millet seed to lentil—Summit depressed—Become eroded, and ooze slightly—Shallow ulceration which increases—Ulcers covered with thin crusts—Agglomerate into confluent plaques—Intermediate skin irritated—Disappears completely with cleanliness—Seen around anus, on nates, labia majora, commissures, prepuce, thighs, and groins.

123. Vacciniform Infantile Eethyma.

Group C.—FEMALE.

Section I.—AFFECTING CLITORIS.

I.—Do not impede locomotion or coition.

(A) **Abnormalities in size.**

(a) SIZE DECREASED—Sexual desire said to be decreased.

124. Atrophy.

(b) SIZE INCREASED—Sexual desire said to be increased—Part alone enlarged—Skin normal—Congenital—Defined outline.

125. Simple Hypertrophy.

(B) **Normal size**—Ill defined discomfort—Itching—May produce masturbation —Said to be a cause of neurotic paralysis—Increased sexual desire.

126. Adherent Prepuce.

II.—Impede locomotion and coition.

(A) **Inflammatory**—Excoriation—Somewhat enlarged—Painful—Itching—Purulent discharge—Sensation of heat—Prepuce swollen—Tenderness—History of previous attacks.

127. Clitoriditis.

(B) **New growth.**

(a) DEFINED OUTLINE—Not infiltrating—Does not ulcerate—Skin normal colour—No discharges.

(i) ELASTIC—Fluctuating—Prepuce stretched and thinned out over growth.

128. Cystic Disease.

Rare. Case by Kelly, Operat. Gynæc.

(ii) FIRM—Solid—Pedunculated.

129. Fibroma.

Rare. Case by Macnaughton Jones.

(b) OUTLINE NOT DEFINED — Infiltrating — Ulcerates — Skin abnormal.

(i) BEGINS IN GLANS.

(*a*) **Rugged**—Brawny—Lobulated—Fissured—Movable on base—Ulcers have brawny margin—Part of general hypertrophy—May be pruritus—Sour discharges—Fairly rapid growth—No hæmorrhages.

130. Elephantiasis.

Begins in Glans, continued.

(*b*) **Warty**—Becomes fixed early—Resulting ulcer has raised and indurated margin—Not associated with general hypertrophy—Not painful at first, but becomes extremely so—Pruritus—Fœtid discharge—Glands soon involved—Occurs late in life—Often associated with hæmorrhage in later stages, which may be severe.

131. Carcinoma.

(*c*) **Nodular**—Becomes fixed—Resulting ulcer has nodular hard margin—Not associated with general hypertrophy—Hot and burning sensations—Early pruritus—Fœtid discharge—Inguinal glands involved—Occurs after menopause.

132. Epithelioma.

(ii) USUALLY BEGINS IN CRUS—Defined, lobulated outline—Movable on base—Resulting ulcer has softer margin—Not associated with general hypertrophy—Painful—Pruritus not marked—Secondary deposits elsewhere—Enlarges rapidly.

133. Sarcoma (rare).

May be simple, melanotic, or myxo-sarcoma

Section II.—AFFECTING THE LABIA.

I.—General swelling, affecting both labia, but not confined to them.

(A) Skin greatly thickened.

(A) Large, irregular, tubercular nodules fixed on subjacent tissues, and traversed by fistulous tracks—Does not spread up vagina—History of primary infection or of secondary symptoms—Starts in labia—Skin thickened, and hard—Spreads over mons veneris on to abdomen, nates, and thighs—Occurs in Europeans—No *filaria* in blood.

134. Tertiary Syphilitic Hypertrophy.

(B) Brawny induration—Lobulated fissured surface—Cannot be indented by pressure—May be history of syphilis, but often not—Starts in clitoris—Skin coarsely hypertrophied—Spreads first to labia minora, then to labia majora, then to perinæum—Occurs most frequently in Tropics (Bushwomen and Hottentots)—The *filaria sanguinis hominis* is found in the blood.

135. Elephantiasis.

(B) **Skin not thickened**—Tissues doughy—Pressure leaves an indentation—Skin not fixed on adjacent tissues—Skin stretched—No fistulous tracks—History of disease of cardiac, hepatic, or renal origin—May be first noticed in labia—Skin soft, supple.

136. Anasarca.

II.—Swelling mainly confined to the labia.

(A) Affecting skin or mucous membrane only.

(a) The Inguinal Glands are enlarged.

(i) There is a single localised swelling in the labium.

(*a*) **Begins as small painless nodule**—Age 45-60—Rapidly ulcerates—Edges of ulcer are hard, everted, irregular—Base of ulcer hard—Deep infiltration into sub-cutaneous tissue—Bleeds easily—Non-contagious—Spreads by continuity—Has no connection with sore throat or rash—Occurs at line of junction between skin and mucous membrane—Does not disappear—Foul discharge—No itching—Pain.

137. Epithelioma.

(*b*) **Begins as a pimple**—Usually below 40—No definite ulceration—Tends to form broad, flattened mass, with convex upper surface, which may be excoriated—Rests upon circumscribed base, which feels like parchment—Does not easily bleed—Contagious—Does not spread from continuity—Soon followed by rash on chest and flexor surfaces, and persistent sore throat—Occurs indifferently on skin and mucous membrane—Tends to disappear in the course of a month or two—Slight secretion, which is not foul—Slight itching.

138. Hard Chancre.
Hunterian Chancre.

(*c*) **Begins as dark red spot,** gradually rising above the general level—The epithelial layer becomes white, macerated, and easily detached—Great tendency to ulceration—Subcutaneous tissue not affected—Forms flattened patches of soft papillæ—Not much bleeding—Contagious—Fresh patches become blended—Often contemporaneous with chest rash and sore throat—Occurs on mucous surface only—Disappears rapidly with treatment—Muco-purulent secretion—Severe itching.

139. Mucous Tubercles.
Condylomata lata.

(*d*) **Begins as painful, raised, and acuminate nodule,** which softens and becomes yellow in the centre—Becomes tense and bursts—Affects subcutaneous tissue, but not deeply—Forms groups of pustules—No bleeding—Contagious, but not strongly—Individual pustules rarely coalesce—Has no connexion with chest rash or sore throat—Occurs usually on skin—Each pustule lasts only a few days—Itching at first, aching and throbbing later.

140. Furunculi.

(ii) There is general swelling of the labia—Painful locomotion—Pain increased on sitting—No defined contour.

(*a*) **Acute course**—Associated with rise of temperature—Parts tender to touch—Pain on urination.

Swelling of Labia, continued.

(1) MUCOUS MEMBRANE INJECTED, NOT PARTICULARLY SWOLLEN, but puffy at times—Not much pain—Hymen purple—Mucous membrane red, irritable—No sore throat—Discharge yellow, tenacious, not abundant—No formation of papillomata—No urethritis—Rarely Bartholinitis—No vaginitis in children, some in adults—Occurs in weakly and uncleanly persons, usually in children—May be shallow, well defined ulcers.

141. Acute Catarrhal Vulvitis.

(2) MUCOUS MEMBRANE MARKEDLY SWOLLEN—Acute pain—Hymen usually absent.

a. Mucous membrane yellowish red—No sore throat—Discharge greenish, purulent, profuse—Papillomata tend to form around vaginal orifice—Associated with urethritis and Bartholinitis, generally with vaginitis, or pain on urination—History of impure connexion.

142. Gonorrhœal Vulvitis.

b. Mucous membrane covered by patches of greyish yellow membrane—Associated with acutely inflamed throat—Discharge thin, acrid—No pain on urination.

143. Diphtheritic Vulvitis.

(*b*) **Chronic course**—Temperature slightly or not at all raised—Not tender—No pain on urination unless fissures present—Labia thickened and indurated—Often painful fissures—Not much pain unless fissures present—Hymen usually gone; if present, is thickened—No sore throat—Discharge creamy, purulent, abundant—Papillomata tend to form—No urethritis—Always some vaginitis—Rarely Bartholinitis—History of previous acute attack.

144. Chronic Vulvitis.

(B) INGUINAL GLANDS NOT AFFECTED.

(i) SINGLE—NON-INFECTIVE—Usually congenital—No history of gonorrhœa or syphilis—Rose-red raised patch—First seen as star-shaped red patch—No tendency to ulcerate—No pain—No bleeding—No secretion—On skin or mucous membrane.

145. Nævus.

(ii) MULTIPLE—INFECTIVE—Come out in crops—History of gonorrhœa.

(*a*) **Pedunculate**—Dry—Begins as papule, which rises and becomes dendritic—No ulceration—No pain—No bleeding—Very slight secretion—Seated on skin.

146. Warts.

(*b*) **Almost sessile**—Moist—Begins as hyaline granule, gradually becomes dendritic—Tends to ulcerate—Burning, smarting, itching—Bleeds easily—Muco-purulent secretion—Seated on mucous membrane.

147. Condyloma.

Many authors describe the two last as the same thing, differing only in position and in the modifications such position produces.

(B) **Commences in tissues below skin and mucous membrane.**

(A) SOFT—More or less elastic—Deviation of vulval cleft—Convex on affected side.

(i) COVERED BY ABNORMAL SKIN AND MUCOUS MEMBRANE.

(*a*) **Skin or mucous membrane ecchymosed**—Tends to become harder—Seldom œdema—Lies in body of one or both labia majora—Appears suddenly—If air finds entrance, breaks down into abscess—If not, course is chronic—History of sudden pain during parturition, after injury or sudden extreme exertion—No rise of temperature.

148. Hæmatoma.

(*b*) **Skin or mucous membrane reddened**—Inflamed—Tends to soften at centre—Some œdema.

(1) IN LOWER POSTERIOR HALF OF LABIUM MAJUS—Well defined contour—Acute course—History of gonorrhœa—Temperature raised.

149. Bartholinitis.

(2) IN ANY OTHER PART OF LABIUM MAJUS OR MINUS—Contour not defined—Chronic course—History of injury or hæmatoma—Temperature usually normal.

150. Chronic Labial Abscess.

(ii) COVERED BY NORMAL SKIN AND MUCOUS MEMBRANE.

(*a*) **Reducible on pressure.**

(1) GURGLING ON PRESSURE—Last portion returns with sudden "plop"—Opaque—After reduction, returns from within.

a. Rounded tumour in posterior and lower portion of labium majus—Extending under pubic ramus.

151. Post-pudendal Hernia.
(Hernia vaginalis labialis).

b. Rounded elongated tumour extending from external inguinal ring into labium majus—Extending over pubic ramus.

152. Reducible Inguinal Hernia.

2) NO GURGLING ON PRESSURE—Returns gradually and equably.

a. Translucent—When reduced, return can be prevented by pressure over the external ring—Returns from above—Congenital—Rounded, elongated, or moniliform cord extending from inguinal ring into labium majus—Size from that of a string of beads to small sausage.

153. Hydrocele of Canal of Nuck.

b. Opaque—When reduced, pressure over external ring quickens its reappearance—Returns from below—Acquired—Irregular multiple swelling, like bag of worms—Size varies, never very large—Aching sensation.

154. Varicocele.

Covered by normal skin, continued.

(*b*) **Not reducible on pressure.**

(1) AFFECTING LABIUM MINUS—Projecting from inner surface—Slow growth—Fluctuant throughout—Not lobulated—Translucent—No œdema—Multiple—Size of pea to plover's egg.

155. Cyst of Labium Minus.

(2) AFFECTING LABIUM MAJUS.

a. In position of Bartholin's gland—Best seen from mucous surface—Mucous membrane tensely stretched over swelling—Opening of duct visible.

1. Slow growth—Fluctuant throughout—Not lobulated—Fluid contained is gelatinous—Normal colour—No œdema—Size of bean to hen's egg.

156. Cyst of Vulvo-vaginal Gland.

2. Slow at first, then rapid—Uneven fluctuation—Lobulated—Fluid is cheesy and blood-stained—Dark red—Surrounded by œdema—Size of nodule to that of orange.

157. Adeno-carcinoma or **Sarcoma,** of Vulvo-vaginal Gland.

Distinguished only by microscope.

b. Not in position of Bartholin's gland—Seen best from skin surface—Slow growth—Normal colour—No œdema.

1. Indistinctly fluctuant—Lobulated—Contents oily—May be pedunculated.

158. Lipoma.

2. Not fluctuant—Not lobulated—Contents cheesy—Never pedunculated.

159. Sebaceous Cyst.

(B) FIRM.

(i) PEDUNCULATED—Defined outline—No œdema—No history—Pendulous mass, hanging from labium majus—May be multiple—Slow growth—No pain.

160. Fibroid Tumour of Labium. (Molluscum fibrosum).

(ii) NON-PEDUNCULATED.

(*a*) **Defined outline**—Hard—No œdema—No history—Red papule on mucous surface resembling caruncle, but not on meatus—Usually simple—Slow growth—Intensely painful.

161. Neuroma.

Very rare (Hart and Barbour). Case by Sir J. G. Simpson.

(*b*) **Not well defined**—Frequently some œdema—History of parturition or injury—Firm mass in substance of labium, somewhat cylindrical in shape—May be multiple—Rather sudden development—Aching—Always preceded by pain.

162. Thrombus.

CLASS III.

DISEASES AFFECTING THE VAGINA, RECTUM, BLADDER, AND PROSTATE, DIAGNOSABLE BY EXAMINATION WITH SPECULA, TOUCH, CYSTO- AND PROCTO-SCOPES.

There is discomfort in the pelvis, more or less pain, and the condition is usually associated with abnormal discharges from the pelvic canals—On dilatation of rectum or vagina, or examination of urethra or bladder with instruments, a deviation from the healthy condition is recognisable.

Group A.—VAGINA.

Section I.—CHANGES SEEN IN THE VAGINAL WALL ITSELF, IN OR IMMEDIATELY AROUND THE MEATUS URINARIUS.

I.—Distinct outline—Not infiltrating parts around.

(A) **Elastic—Not friable**—Bleeds during coitus—In wall itself—May encircle orifice—Painful—Deep red, or livid bluish-red—Rounded, lobulated, small mass—Occurs in old or young persons, rarely in middle life.

1. Early stage of Sarcoma Urethræ.

(B) **Friable—Easily torn**—Bleeds easily.

(A) SESSILE, ON TIP OF URETHRA—Cannot be drawn forward—Extremely painful to touch—Bright red—Dendritic—Occurs in middle life.

2. Vascular Caruncle.

(B) PROJECTS THROUGH MEATUS—May be drawn forward—Not painful to touch—Pale red—Dendritic—Occurs in middle life.

3. Projecting frond of villous Tumour of Bladder.

(C) **Firm**—Does not bleed—Located at tip of urethra—Pedunculated—Painless—Flesh color—Rounded or pear-shaped.

(A) Occurs in young girls.

4. *Fibroma.

(B) Occurs in Adults.

5. *Myoma.

**Often only distinguishable by microscopic appearances.*

II.—Indistinct outline—Infiltrates tissues around—Associated with discharges—Painful—Bleeds easily—Sessile or seated in urethral wall itself.

(A) **Deep red or livid**—Bluish red—Discharge of bloody watery fluid, without odour—Forms thickened folds, or cockscomb-like mass.

6. Late stage of Sarcoma Urethræ.

Melanotic variety distinguished by black color and microscopic examination.

(B) **Whitish grey**—Foul offensive discharge.

(A) DEVELOPS INSIDE URETHRA—Nodular—Flattened irregular thickening of tissues—Reduces urethra to a rigid hard tube.

7. Peri-Urethral Carcinoma.

(B) AFFECTS MUCOUS MEMBRANE OF ORIFICE—Rugged—Mass projects from urethra—Renders urethral orifice hard and rugged.

8. Urethral Carcinoma.

Section II.—CHANGES SEEN IN THE VAGINAL WALL, NOT AFFECTING THE MEATUS URINARIUS.

I.—Projects from vaginal walls—More or less polypoid—Finger or probe passes between the growth and wall for a certain distance but not entirely—Interferes with coition and parturition.

(A) **Fluctuant—Translucent—Polypoid or sessile**—Rounded—Globular—Tense—Soft—Elastic—Single or in groups—Smooth—Size of pea to hen's egg—Does not bleed or necrose—No pain on micturition—Tissues around normal—Occurs in middle life.

9. Cyst of Vaginal Wall.

(B) **Solid—Opaque—Polypoid.**

(A) ROUNDED—NO PAIN ON MICTURITION—Normal color—Does not bleed easily—Does not tend to necrose—May be tenesmus or irritable bladder, according to position of growth—Occurs after childhood.

10. Fibroma or Myoma of Vagina.

(B) ROUNDED OR IRREGULARLY BERRY-SHAPED—PAIN ON MICTURITION — Bluish red color — Bleeds easily — Tends to necrose—Occurs in children.

11. Sarcoma of Vagina in Childhood.

II.—In or beneath vaginal tissues—Not polypoid.

(A) **Affecting mucosa primarily**—Pruritus—Vaginal discharges.

(a) Symptoms acute—Severe.

(i) Sudden onset—6–9 hours after coitus (Kelly)—Within 3 days (West)—*Œdema of Vulva*—Not associated with similar appearances on other mucous membranes—Greatly increased vascularity—Much swelling of mucous membrane—Profuse discharge of greenish-yellow pus, which may be tinged with blood—Surfaces yellowish-red—Vulva excoriated—Urethra, cervix, and probably vulvo-vaginal gland involved—Great frequency of and smarting on urination—Neisser's gonococcus found in the cells of discharge.

12. Gonorrhœal Vaginitis.

(ii) Gradual onset—No œdema of vulva.

(*a*) **Associated with similar appearances on other mucous membranes**—Symptoms of simple vaginitis (*q.v.*) with the addition of localized patches of ash-coloured membrane, adhering closely to the mucous membrane beneath, which bleeds readily on their removal—May terminate in gangrene of the vagina.

13. Diphtheritic Vaginitis.

(*b*) **Not associated with similar appearances on other mucous membranes.**

(1) Increased vascularity—Congestion—Some swelling of mucous membrane—Discharges of muco-pus—Surface bright-red, shining, hot—Discharge tenacious, not very abundant—May be superficial ulceration—Frequent desire to urinate but without smarting—May terminate in adhesions.

14. Simple Catarrhal Vaginitis.

(2) Papillæ and mucous follicles become hypertrophied—Marked swelling of mucous membrane—Acrid discharge—Surface rough, eroded, dark-red, and fissured—Rugæ enlarged—Discharge thin, purulent, not very abundant—Bleeds readily—Sensation of heat and smarting—External os and cervix engorged and granular—Often follows "Simple Vaginitis"—May terminate in adhesions.

15. Granular Vaginitis.

In some cases collections of gas form in the sub-mucous connective tissue, when the name of "Cystic Vaginitis" has been given to it.

(b) Symptoms sub-acute—Not Severe.

(i) Occurs in stout persons, old maids, or during pregnancy—Slight discharge of whitish fatty clots.

16. Seborrhœic Vaginitis.

Strassman, *N. Amer. Pract.*, March, 1896.

(ii) Occurs during pregnancy—Small white flakes in discharge—White raised patches on reddened vaginal wall, which are not easily wiped off.

17. Aphthous Vaginitis (Kelly).

Symptoms sub-acute, continued.

(iii) Occurs as sequel to acute attacks—Thin purulent discharge—Ulcerated or adherent areas—Labia majora slightly swollen and firm—Labia minora red and slightly tender—Round, thickened, prominent papillæ on vaginal surface.

18. Chronic Vaginitis.

(iv) Occurs in old age.

(*a*) **Slight purulent discharge**—Surface may be adherent, or slightly ulcerated—Vaginal surface smooth, uniformly injected, or spotted with red—Vagina shortened and narrowed.

19. Senile Vaginitis.

(*b*) **Slight watery discharge**—Surface depressed in patches—No actual ulceration—Surfaces abnormally smooth—Patches yellowish or fawn color—Vagina shortened and narrowed—Constant insistent pruritus.

20. Kraurosis Vulvæ.

(B) **Affecting tissues beneath mucosa.**

(a) Gaps in vaginal wall—History of injury, parturition, or operation—Offensive smell.

(i) Fæces pass through vagina—Opening is on posterior wall—Gas passes through vulva—Smell fæcal—Opening between rugæ—Size varies from that of pin's head to large ragged gap—Adhesions in vagina rare.

21. Recto-Vaginal Fistula.

(ii) Urine passes through vagina—Opening is on anterior wall—Vulva sodden—Smell ammoniacal—Opening varies in size—Adhesions in vagina frequent—Edges of opening smooth.

(*a*) **Opening small**—High up in anterior fornix—In front but on one side of cervix—Milk injected into bladder does not escape—Urine escapes in small gushes.

22. Uretero-Vaginal Fistula.

(*b*) **Opening usually small**—Lies in anterior wall within 1½ inches of meatus in the median line—Milk or coloured fluids injected into bladder do not escape at the time, but at the next micturition—Urine escapes in stream during micturition.

23. Urethro-Vaginal Fistula.

(*c*) **Opening comparatively large**—In anterior wall beyond first inch and a half above meatus—Milk injected into bladder escapes at once—Urine is constantly dribbling.

24. Vesico-Vaginal Fistula.

(b) Alteration in position of vaginal walls, or portions of it—Tissues of normal consistence or thinned—Tissues normal in color—No offensive smell.

(i) AFFECTS POSTERIOR WALL—On separating vulval cleft, *posterior mucous membrane is seen to bulge forward*—Limiting line is convex forwards—Perinæum composed of skin and mucous membrane, only sphincter and muscle felt between—Finger in rectum can be felt in mucous protrusion—Flaccid, not fluctuant—Dragging, bearing-down sensation—Occupies lower third of vagina—Can be easily pushed upwards—Nothing escapes, but swelling returns at once on removal of the pressure.

25. Rectocele.

(ii) AFFECTS ANTERIOR WALL—On separating vulval cleft, *anterior mucous membrane bulges forward*—Limiting line is convex backwards.

(*a*) **On pushing the protrusion upwards, turbid urine escapes** per urethram—Circumscribed—Fluctuant tumour lies immediately below urethra—A probe passed through the urethra passes over and above swelling, but if bent and rotated downwards its point may be felt to engage in an opening on the urethral floor, and can then be felt in the swelling.

26. Urethrocele.

(*b*) **On pushing upward no urine escapes**—Not circumscribed—Flaccid—The whole anterior wall bulges—Probe passed into the urethra at once passes backwards and downwards into the protrusion.

27. Cystocele.

(iii) AFFECTS ENTIRE WALL—On separating vulval cleft, vaginal wall lies in circular folds—Uterus usually nearer vulva than normal—Perinæum often thinned or absent—Flaccid—Not circumscribed—Vagina feels lax, loosened from its surroundings, and lies in horizontal folds—Often associated with rectocele and cystocele.

28. Vaginal Prolapse.

(C) NEW FORMATIONS.

(i) TEMPERATURE RAISED—Often rigors at commencement—Fluctuant—Begins as firm, hot swelling, which softens in centre—Circumscribed.

(*a*) **Swelling is situated near vault,** close to cervix, along antero-lateral wall, and at level of posterior urethra—Occupies upper third of vagina—Cannot be reduced—Probe passed into urethra passes by side of swelling, and does not enter it—Severe continuous pain in vulva and vagina.

29. Abscess of Gaertner's Duct.

(*b*) **Swelling immediately below urethra,** in anterior vaginal wall—Occupies lower or middle third of vagina—May sometimes be emptied by pressure—If so, pus and a little blood escape per urethram—Probe will either pass directly above swelling, or if an opening exist, can be made to enter swelling—Pain, especially on and after micturition.

30. Sub-Urethral Abscess.

Temperature raised, continued.

(*c*) **Swelling in posterior wall**—May be anywhere in lower two-thirds, but is most frequent just above sphincter ani—Cannot be emptied by pressure—Finger passed into rectum detects similar swelling, bulging into that canal—Painful, especially during defæcation.

31. Abscess of Recto-Vaginal Septum.

(ii) TEMPERATURE NORMAL—No rigors.

(*a*) **Defined outline**—Fluctuant—No infiltration of surrounding tissues.

(1) SWELLING OCCUPIES ANTERO-LATERAL ANGLE in upper third of vagina—Can be reduced by pressure upwards—Returns on straining—Pain in side, pointing towards renal region of same side.

32. Cystic Dilatation of Occluded Ureter.

Case by Orthmann, quoted by Kelly. Most of these dilatations project into bladder.—*Tangl. Kolicko.*

(2) SWELLING IN VAULT OR EXTENDING DOWN LATERAL WALL—Not reducible—Pain at menstrual periods.

33. Atresia of Rudimentary Uterine Horn.

(*b*) **Indefinite outline**—Solid—Infiltration of surrounding tissues.

(1) DIFFUSED KNOBBED GROWTH—Slight hæmorrhage—Some leucorrhœa—Tends to necrose—May be secondary to uterine sarcoma.

34. Sarcoma of Vagina in Adults.

(2) THREE FORMS—1. Wall rigid and contracted. 2. Fungating mass. 3. Granulating ulcer with everted edge. Free hæmorrhage—Foul discharge—Easily breaks down—Usually associated with cervical carcinoma.

35. Carcinoma of Vagina.

Section III.—PROJECTIONS INTO VAGINA FROM ABOVE.

I.—Tumour contains fluid—Multiple—Usually associated with Endocervicitis—Indefinite pain—General *malaise.*

(A) **Sessile—On lips of cervix uteri**—Small—Pearly—Tense—Sensation to examining finger of small shot embedded—Mucoid discharge.

36. Enlarged Nabothian Follicles.
Cystic Degeneration of Cervix.

(B) **Pedunculate—Hang from cervix**—Resemble small grapes—Up to walnut size—Opaque—Flaccid—Soft—Some leucorrhœa.

37. Racemose Adenomata.
Glandular Polypi of Cervix.

II.—Tumour is solid.

(A) **Fundus uteri much lower than normal**—Tumour may project between lips of vulva.

(A) OPENING OF OS at or near lowest point—Cavity of vagina greatly decreased in length—No openings of Fallopian tubes on either side—Gradual appearance—Finger in rectum finds no pouch in rear of protrusion—Color normal—Surface smooth, or covered with coarse scales—Does not bleed on handling—General aching, dragging *malaise*—No shock—History of repeated parturition, with probably some injury to perinæum.

38. Prolapsus Uteri. When uterus protrudes beyond vulval cleft, this is called **Procidentia.**

(B) NO OPENING OF OS near lowest point—Cavity of vagina not greatly decreased in length—Openings of Fallopian tubes found on either side—Somewhat rapid appearance—Finger in rectum passes forward into cup-shaped depression in rear of protrusion—Protrusion is tense—Colour purplish—Surface velvety—Bleeds on manipulation—Intense, fixed, persistent pain—Often great shock at first—History of recent labour, with some difficulty in removal of placenta, etc.

39. Inversio Uteri.

(B) **Fundus uteri in or near normal position.**

(A) POLYPOID—May become gangrenous from twisted pedicle—Os in normal position, covered by normal mucous membrane—May all interfere with coition or labour—If gangrenous, will all present symptoms of: 1, a foul smell; 2, purulent and blood-stained discharges; 3, constitutional disturbance.

(i) APPEARANCE PRECEDED BY COLICKY PAIN, resembling labour pains—Frequent hæmorrhages, which may be meno- or metro-rrhagic—Pedicle can be traced into cervix—Before expulsion from os, there is usually irritable bladder and tenesmus.

(*a*) **Tumour is firm**—Smooth—Round—Normal colour.

40. Uterine Fibromyoma.
Submucous, become Polypoid.

(*b*) **Tumour is soft**—Smooth—Lobulated—Bluish red.

41. Sarcomatous Uterine Polypus.

(ii) APPEARANCE NOT PRECEDED BY COLICKY PAIN—Seldom much, if any, hæmorrhage—Pedicle attached to, or just within os—Does not affect bladder or rectum, unless it becomes of large size—Tumour firm, smooth, hard.

42. Fibromyoma of Cervix.

III.—Sessile.

(A) **Tissues healthy**—Not fixed—Moveable.

(A) Os NORMAL IN SHAPE—Uterine canal elongated—Lips of os normal—No exposure of cervical mucous membrane—Usually seen in nulliparæ.

43. Elongation of Vaginal Cervix.

(B) Os ALWAYS SPLIT—Uterine canal normal in length or shortened—Lips of os thickened—Cervical mucous membrane exposed—Never seen in nulliparæ.

44. Ectropion of Cervix,
formerly called Cervical Ulceration, or Split Cervix.

(B) **Tissues thickened**—Infiltrated—Parts fixed—Cuts like cheese—Pain slight or none at first, becoming severe—Spreads towards vaginal vault, into broad ligaments, or body of uterus—Hæmorrhage follows coitus.

(A) GENERAL INFILTRATION OF vaginal mucous membrane—Ulcerates early—Hæmorrhage at first at menstrual periods, which are increased, afterwards also between them—Discharge, slight at first, soon becomes offensive—Margins of resulting ulcer sharp, dentated.

45. Ulcerative form of Cervical Epithelioma.

(B) ONE OR MORE NODULES in cervix—Small ulcers which fuse—Hæmorrhage at first at periods, afterwards between them—May be no discharge of pus—Margins of ulcers hard and nodular.

46. Nodular form of Cervical Epithelioma.

(C) PAPILLARY GROWTHS springing from cervix—Hæmorrhage at first at periods, afterwards between them—Seldom ulcerates—Much watery discharge.

47. Cauliflower or Papillary form of Cervical Epithelioma.

(D) CRATER-LIKE EXCAVATION OF CERVIX AND UPPER PORTION OF VAGINA—Pain severe—Deep ulceration—Profuse hæmorrhage at and between periods—Discharge foul, ichorous, mixed with cheesy material and gangrenous shreds—Margins of ulcer hard, everted.

48. Late stage of Cervical Carcinoma.
(All forms.)

Group B.—THE RECTUM.

There are difficulties in defæcation—Sensation of fulness and weight or irritation in the lower bowel—more or less tenesmus.

Section I.—AN ABNORMAL MASS IS PRESENT.

I.—**The mass can be separated entirely** from the rectal walls in every direction, or is penetrating the otherwise normal wall from within—Usually no blood per anum.

49. **Foreign body.**

II.—**The mass is attached at some point by a pedicle**—No change in surrounding mucosa—Sometimes no symptoms unless it is inflamed, or descends within the grip of the sphincter—Usually some loss of blood per anum.

(A) **Escape of hair at stool**—No great amount of bleeding—Is seen 2½ to 3 inches above anus—Mass has uneven consistence—Parts very hard, others very soft.

50. **Dermoid Cyst.**
Teratoma.

(B) **No hair escapes**—Bleeding always present—Parts entirely soft.

(A) BLOOD ESCAPES AS PATIENT WALKS ABOUT—Fleshy mass may protrude at stool.

(i) OCCURS IN CHILDREN—More or less globular or pyriform—Bright red—Has long narrow pedicle—Frequent desire to defæcate—may produce intussusception.

51. **Gelatinous Polypus** (Allingham).
Vascular Polypus (Erichsen).
Rectal Adenoma.

In children who have lived in Africa a similar growth is observed, due to a parasite, the Bilharzia hominis.

(ii) OCCURS IN ADULTS—Lobulated spongy mass covered with dendritic processes—More or less broad pedicle—May be sessile—Frequent desire to defæcate—May produce intussusception—May recur after removal as epithelioma (Allingham).

52. **Villous Tumour** (Curling).
Villous Polypus (Esmarch).
Granular Papilloma (Gosselin).

(B) BLOOD ESCAPES DURING DEFÆCATION—Occurs in Adults.

(i) MULTIPLE—Equally distributed, or in groups—Numerous projections from surface of mucous membrane—Narrow—Isolated—Normal colour—Usually the same width in whole

Blood escapes during defæcation, continued.

length, or slightly knobbed at free extremity—Frequent desire to defæcate—Often family history of similar growths—Stools liquid, or semi-solid, mixed with blood and mucus.

53. Disseminated Rectal Polypi.

(ii) SINGLE.

(*a*) **Almost sessile**—Aggregation of small lobes on central stem about an inch long.

54. Warty Polypus.

(*b*) **Marked pedicle**—Firm pale tuberous mass—Half an inch to two inches long.

55. Fibrous Polypus.
Myomatous Polypus.

(*c*) **More or less pedunculated**—Size varies up to pigeon's egg—Redder than ordinary lipomas—Slightly lobed—Pedicle often hollow.

56. Lipomatous Polypus.

III.—The mass is attached to the rectal or anal walls by a broad base—Blood passes per anum.

(A) **Bulky bluish tumours.**—Do not bleed readily—Seated just above external sphincter—Protrude at stool—May bleed during defæcation.

57. Internal Venous Hæmorrhoids.

(B) **Red, sessile projections.**

(A) LARGE FLESHY TUMOURS—Bleed on touch—Seated high up on rectal wall—Seldom protrude—Bleed during defæcation.

58. Sarcoma.

(B) BRIGHT RED, STRAWBERRY-LIKE—Single—Is always bleeding—Seated above internal sphincter—Never protrudes—Blood escapes at other times as well as at defæcation.

59. Arterial Pile.
Arterial Hæmorrhoid.

Section II.—ALTERATIONS IN RECTAL WALLS.

I.—There is an inflammatory change in the rectal wall itself—The finger passed into the rectum finds it hotter than normal—The mucous membrane is swollen and reddened.

(A) **The condition is local**—Any constitutional disturbance is secondary—There are frequent passages of small quantities of blood and mucus, at first mixed with fæces, later often alone—Vesical irritation—frequently partial prolapse.

(A) THE SPECIFIC GONOCOCCUS FOUND IN DISCHARGES—Severe spasmodic attacks of pain in anus—Often pus also escapes from urethra—Erythema, excoriations and fissures in and around anus—Discharge of thick, greenish muco-pus—May be history available of improper connection.

60. Gonorrhœal Proctitis.

(B) NO GONOCOCCI PRESENT—Attacks of pain not so marked—No contemporaneous pus from urethra—Seldom erythema, excoriations, or fissures—Discharge of muco-pus, which is yellowish and not so thick—History of exposure to cold and damp, as from sitting on a wet seat for some time, cold climate, the presence of foreign bodies, oxyurides, etc.

61. Acute Catarrhal Proctitis.

(B) **The condition is part of a general intestinal inflammation**—Discharge of semi-feculent mucus with or without blood, not incorporated with fæces—Bladder irritable or paralysed—Griping pain in abdomen—Abdomen becomes tumid and tender—Stools extremely offensive and frequent—Stools resemble washed meat, may become serous.

62. Dysenteric Proctitis.

II.—**An ulcer can be seen on the rectal wall**—There is frequent or constant diarrhœa—There are discharges of blood-stained mucus.

(A) **The ulcer is small—Circumscribed.**

(A) THERE IS INTENSE PAIN after defæcation.

(i) SENTINEL PILE seen at anus, beneath this is a triangular ulcer, the base being at the muco-cutaneous line, the apex reaching to the junction of rectum and proctodæum.

(*a*) **Single and dorsal,** from posterior anal edge towards coccyx—History of constipation.

63. Irritable Ulcer.
Fissure.

(*b*) **Multiple**—Spreading in other directions than towards coccyx—History of syphilis.

64. Syphilitic Fissure.

(ii) NO SENTINEL PILE—Defined circular ulcer often close to muco-cutaneous line, but has been seen about 4 cm. above sphincter (Neumann)—Tends to speedily infect opposing surfaces—Greyish white base—Edges defined.

65. Rectal Chancroid.
Soft Chancre.

(B) NO MARKED INCREASE OF PAIN after defæcation—Multiple.

(i) SURFACE OF ULCER BLEEDS—Irregular shape.

Surface of ulcer bleeds, continued.

(*a*) **Seated on congested venous loop**—Symptoms usually continuous—Elevated and irregular margins.

66. Hæmorrhoidal Ulcer.

(*b*) **Seated on smooth longitudinal fold** of mucous membrane—May be intervals of years between symptoms—Very shallow ulcers.

67. Angiomatous Ulcer.
Ulcer of Nævus.

(ii) SURFACE OF ULCER DOES NOT BLEED—Circular shape.

(*a*) Shotty sensation between finger passed into rectum, and thumb outside—Probe passed into one of the sinuses of Morgagni produces intense pain, and sudden spasm of sphincter—History of constipation—Usually single.

68. Ulcer of Sinus of Morgagni.
First stage of Irritable Ulcer.

(*b*) Scattered over rectal walls—Masses of inspissated mucus like boiled sago passed—History of chronic catarrhal proctitis—Ulcers remain distinct and do not infect by apposition.

69. Follicular Ulcers.

(B) **Ulcers are comparatively large and tend to spread.**

(A) BASE OF ULCER INFILTRATED—Thickened.

(i) DISCHARGE OFFENSIVE—Infiltration hard, nodular—Defæcation very painful—Ulcer crateriform—Edges nodular, not undermined—Whole tissues around hardened and fixed—May be family history of cancer.

70. Carcinomatous Ulcer.

(ii) DISCHARGE NOT VERY OFFENSIVE—Infiltration firm, diffused—Some pain in defæcation, not excessive.

(*a*) **Edges of ulcer undermined** and ragged—Only mucous membrane and submucosa infiltrated—Family history of tubercle—Rectal mucus taken from above sphincter contains tubercle bacilli.

71. Tuberculous Ulcer.

(*b*) **Edges not undermined**—History of syphilis.

(1) CAVITY OF ULCER DEEP, scooped out—Rectum becomes a stiff, rigid tube.

72. Gummatous Ulcer.

(2) ULCER SHALLOW but wide spread—Base lowly tuberculated, undulatiug, uneven.

73. Late Tertiary Syphilitic Ulcer.

(B) BASE OF ULCER NOT INFILTRATED.

(i) LONG DURATION (years)—Ulceration extensive—Deep—Begins at muco-cutaneous line and spreads upwards—Affects both bowel and vagina—Base of ulcer greyish white, studded with rosy granulations of irregular form—Forms thin and bluish scars—Spreading edge is sharp, festooned and reddened.

74. Lupus.

(ii) SHORT DURATION (weeks)—Superficial erosions—Often confined to prominent ridges and folds of mucous membrane—Does not spread to vagina—Ridges are dirty grey or black—Intervening parts livid or dark red.

75. Dysenteric Ulcers.

III. **A stricture can be felt in the rectum**—There is a frequent desire to defæcate, which act is not satisfactorily completed—There are colicky pains in the abdomen—Later, the distended colon can be mapped out by sight, touch, or percussion—Later still, there may be meteorism—The stools are not tapelike unless the sphincter is involved, which is not usual—They are more often lumpy, broken, or like sheep droppings.

(A) **Essentially chronic in course** (years)—If polypoid growths are felt, these are attached to the mucous membrane—The entire circumference is affected—No glands are involved—The pain is proportional to the amount of obstruction, and is felt mainly, if at all, at the time of defæcation.

(A) GIVES THE SENSATION TO THE EXAMINER'S FINGER OF A STRING TIED around the gut—Surrounding tissues are supple—History of precedent catarrhal proctitis, traumatism, piles, or of nothing at all—Any concurrent fistulæ have moist walls apparently lined with granulation tissue.

76. Simple Stricture.

(B) SMOOTH CONSTRICTION WHICH IS MORE DIFFUSED—Tissues around are infiltrated and firm, but not rugged—History of syphilis—Any concurrent fistulæ have dry walls, like the holes for earrings.

77. Syphilitic Stricture.

(B) **More rapid in course** (weeks or months)—Any polypoid growths are fixed to the deeper tissues—Tends chiefly to affect one side—Sacral and lumbar glands are early involved—Pain is constantly present, after the earliest stage, and is increasing—Rugged, hard constriction, which is diffused and fixed to tissues beneath—Possibly family history of cancer—Any concurrent fistulæ have had nodular walls composed of similar tissue to that of the growth present.

78. Carcinomatous Stricture.
Cylindroma.

IV.—Changes not inflammatory, and other than ulcer and stricture are present.

(A) **The finger, passed into the rectum, finds two channels, one inside the other**—The finger passes freely for some distance between the two—On the left side it cannot pass so high as on the right, being met by the junction between the two, over which the mucous membrane is continuous—Tenesmus is very marked—There is some mucous discharge, with streaks of blood.

79. Intussusception.

(B) **There are definite alterations in the wall itself which thicken it**—Pain, increased on defæcation—Discharges of pus and blood—Obstruction frequent—Diffuse infiltration.

(A) ATTACKS COMPARATIVELY YOUNG PERSONS (below 40)—Discharges not specially offensive—Infiulltration, which is smooth and firm—Runs a chronic course—Usually affects entire circumference—History of syphilis.

80. Ano-rectal Syphiloma.

(B) USUALLY ATTACKS PERSONS ABOVE 40—Discharges extremely offensive—Infiltration is hard—Course rapid (17 moss Jessop)—Is always more marked on one side.

(i) WART-LIKE MASS—Localised—Very hard—Ulcerates after a time—Cicatrical contraction marked.

81. Warty or Nodular variety of Carcinoma Recti.

(ii) CAULIFLOUR MASS—Early involves whole circumference of rectum—Spongy—Ulcerates early—May not obstruct.

82. Annular variety of Carcinoma Recti.

(C) **There is an opening in the Rectal wall** communicating with tissues outside it—A finger passed into the rectum feels a toughened cord passing outwards from its wall—Fæces are smeared with pus and blood.

(A) OCCURS ONLY IN MEN—Urine escapes per rectum—Fæcal material may and gas usually does pass per urethram—Striped muscular fibre may be found in the urinary sediment—Excoriation of anus—Great irritability of rectum—Cystitis.

83. Recto-vesical Fistula.

(B) OCCURS ONLY IN WOMEN—No urine escapes per rectum—Fæcal material and gas pass per vaginam—No muscular fibre in urine—No excoriation of anus, but often of vulva—No cystitis.

84. Recto-vaginal Fistula.

(C) OCCURS IN BOTH MEN AND WOMEN—No escape of fæcal material or gas by urethra or vagina.

(i) THERE ARE ONE OR MORE EXTERNAL OPENINGS on the skin, adjacent to the anus, or at a distance.

(*a*) **The opening in the wall of the rectum lies above** the attachment of the levator ani—A probe passed into this passes upwards outside the entire wall—The external opening is at some distance from the perinæum.

85. Pelvi-rectal Fistula.

(*b*) **The opening in the wall of the rectum lies below** the attachment of the levator ani—A probe passed into this may pass upwards, but if it does, it passes between mucous membrane and muscular wall—It usually passes downwards and outwards, and projects through the perinæum—External opening is in or near perinæum—The skin around the external opening may be normal, excoriated, or undermined, blue and congested.

86. Ischio-rectal Fistula.

(ii) THERE IS NO EXTERNAL OPENING—The opening in the wall of the rectum lies below the attachment of the levator ani—A probe passed into this passes downwards and outwards—If upwards, between mucous membrane and muscular coat—It usually projects, but does not pass through skin of perinæum—Boggy swelling felt at some part of anal circumference, usually in one or other ischio-rectal fossa.

87. Blind internal Fistula.
Internal rectal Sinus (Ball).

Group C.—BLADDER AND PROSTATE: There is some abnormality in Micturition.

Section I.—THE INITIAL AND MORE MARKED SYMPTOM IS INCREASED FREQUENCY.

I.—The onset is sudden—No rise of temperature—Prostate not enlarged.

(A) Associated mainly with hæmorrhage.

(a) URINE CLEAR AT FIRST—Contains no pus—Is acid—There is a burning sensation at peno-scrotal angle or in glans penis—After a few hours or days, blood appears in urine—Frequently this is at first diurnal—After a while, nocturnal also—Frequency at night increased by lying on affected side—Much straining and spasm—If the pain is increased, frequency occurs *pari passu*—Bleeding is apparently causeless—Exercise increases pain and frequency—Finger pressure from rectum over site is extremely painful—With the cystoscope, a rounded depression is seen on the inner side of the ureteric orifice, like the impact of a bullet on a target—Its edges are upraised and a little thickened—Its base is uneven and sloughy—It is shallow—The muscle fibres beneath are not clearly dissected—In women, a second ulcer may appear on opposed surface—Both are then usually covered by phosphatic deposit.

(i) STARTS WITH SENSATION OF PENO-SCROTAL BURNING, followed by gush of blood and extreme penile pain, then some frequency—There is no feeling of nodulation in epididymis, prostate, or vesiculæ seminalis—No history of tubercle—Without constitutional symptoms—Remains indolent for months or years—Usually single.

88. Simple Solitary Ulcer (Fenwick).

(ii) STARTS SUDDENLY WITH FREQUENCY, then hæmorrhage—There is a nodule to be felt in the epididymis, prostate, or vesiculæ seminalis—There may have been marked tubercular disease of the epididymis, with formation of abscesses and fistulæ—Tubercle bacillus may be found in urine.

89. Solitary Tubercular Ulcer.

(B) **Associated mainly with pain.**

(A) URINE CLEAR AT FIRST—Contains no pus—Is acid.

(i) ALWAYS CLEAR except for lithates or oxalates—Pain resembles the passage of a hot wire along the urethra—No bleeding—Cystoscope shows healthy interior of bladder—Occurs in weakly, neurotic persons, and after mental strain.

90. Neuralgia.

(ii) URINE CONTAINS SMALL WHITE FLAKES—Pain in or near the glans after urination—Blood appears late (weeks) after onset, and only a few drops at the end of micturition—Symptoms may entirely cease for a time and then reappear—Cystoscope shows broad stripe crossing surface, or dull red patches, fading at the edges, the surface of each patch being flecked with white—Ulcers form on patches—The orifice of the ureter attacked changes in colour, its lips thicken, and it becomes caked and patulous.

91. Diffuse Tubercular infiltration.

(B) URINE CONTAINS PUS—Is neutral or alkaline. Pain, caused by micturition, is worse at the beginning and end of the act—Pain felt behind pubes, along urethra, in testes, and lumbar region—In very acute cases blood appears—Urine then resembles prune juice—Symptoms progressively increase—Pain and tenderness on pressure over trigone, intensified by counter pressure over pubes—Passage of cystoscope intensely painful when beak enters vesical neck—Sheen of bladder lost—Whole surface red, injected—Smeared with pus—Minute extravasations beneath mucosa.

92. Acute Cystitis.

II.—The onset is slow and insidious.

(A) **Finger in rectum finds an enlargement above and to one side of the Prostate**—Temperature not raised.

(A) SEMEN STAINED WITH BLOOD—Swelling often merges into prostate—Pain during and after emission—Aching in perinæum, loins, and testes—May be bleeding before or after micturition—Affects young men—Usually follows tubercle in epididymis or prostate—Nodule hardish, may be doughy and plastic, or soft and fluctuating—May or may not be tender—Tubercle bacilli found—Abscesses may form, discharging into rectum, or through perineum—Sexual erythism.

93. Tubercle of Vesicula Seminalis.

(B) SEMEN NOT STAINED WITH BLOOD—Prostate distinct from swelling—Not marked pain after coition—Aching in perinæum and loins—No blood before or after micturition—Any age—Has

Semen not stained with Blood, continued.

no connexion with epididymis—Elastic—Not tender—No bacilli found—Abscesses very rare—If they occur, small round cysts escape—Some difficulty in defæcation, with tenesmus—Swelling above pubis, which gives sensation of two tumors, one in front of the other: the anterior disappears on catheterisation—The posterior felt to be continuous with that felt per rectum.

94. Pelvic Hydatids.

(B) **Finger in rectum feels enlargement of Prostate itself** — Not hot or tumid.

(A) NO DISCHARGES FROM MEATUS AT FIRST—No prostatic threads in urine—Some fulness and sense of weight in perinæum —No blood after micturition—Affects elderly men—May be felt bimanually as a large firm mass, often lobed—Passage of catheter not painful, but difficult, requiring a longer tube than usual, with a larger curve, and often causing the instrument to be deflected to one side—Abscesses very rare—Epididymis and seminal vesicles not affected—Difficulty in starting, and gradually diminishing power in projecting stream—Increased effort produces increased difficulty—Micturition does not give sense of complete evacuation —Increased nocturnal frequency—Later, dribbling of urine, at first during sleep, later becoming constant—Urine may become ammoniacal and offensive—Contains triple phosphate—Pain sometimes, not severe, at end of penis, which is increased by exercise—Residual urine.

95. Prostatic Hypertrophy.

(B) SLIGHT DISCHARGE OF MUCO-PUS FROM MEATUS — Urine contains "prostatic threads," most marked in first portion—Aching pain in loins, groins, and thighs—Occasional drop of blood at end of micturition—Affects young and middle-aged adults—Often preceded by gonorrhœa.

(i) PROSTATE EVENLY AND FIRMLY ENLARGED, indurated—Passage of catheter elicits sensitiveness in passing through prostatic portion of urethra, and "creaking" as of passage over wet leather—Finger in rectum elicits sensitiveness—If an abscess forms, a fistula, usually single, is produced—Epididymis and vesiculæ seminalis unaffected.

96. Chronic Prostatitis.

(ii) PROSTATE IRREGULARLY ENLARGED, with soft flaccid spots—Or soft nodules, or sensation of grains of rice embedded in it—Pain and tenesmus during defæcation—Strings of muco-pus, which may be blood-stained—Tubercle bacilli found—

Defæcation often followed by burning pain—Slow formation of abscesses followed by multiple fistulæ—Epididymis and vesiculæ are hard, knotty.

97. Tubercle of Prostate.

(C) **Finger in rectum finds no enlargement of Prostate.**

(A) ASSOCIATED WITH PAIN—Pus and blood usually present in urine.

(i) SOUND DETECTS FOREIGN BODY—Frequency most marked in day time—Pain in glans during micturition, and especially at *end of act*—Transient perinæal pain increased by micturition—Small amount of pus mixed with blood cells, and diffused through urine—Urine usually acid—Lumbar pain, hæmaturia, and renal colic often precede—Frequency and pain increased by exercise, relieved by rest—Often tenesmus—Urinary stream may be suddenly stopped with great pain, and will be started again by a change in the position of the patient—Such stoppage always obviated by urination whilst lying down.

98. Vesical Calculus.

(ii) SOUND FINDS NO FOREIGN BODY—Bladder is sensitive to touch of sound—Pain in glans *before* micturition—Transient diffused supra-pubic pain, relieved by micturition—Pus in urine is greenish yellow, tenacious, stringy—Most abundant at commencement and end of act—Urine alkaline with strong offensive odour—Pus settles, is not diffused—Little or no fever—Frequency and pain are not markedly relieved by rest—Urinary stream is not suddenly arrested.

99. Chronic Sub-acute Cystitis.

(B) ASSOCIATED WITH DIFFICULTY IN URINATION—*Pus may be present in first portion of urine, not in the later*—Sound finds obstruction in the urethra at some point before reaching the prostatic segment—Bladder is not sensitive—No pain in glans—May be a feeling of distension, which is relieved by micturition—Pus is thin muco-pus—Urine acid—No offensive odour, unless fistulæ present, then there is a persistent ammoniacal odour about patient—Pus settles, is not diffused—No fever—Rest has no effect—Urinary stream not suddenly arrested.

100. Urethral Stricture.

Section II.—PAIN IS THE INITIAL SYMPTOM—FREQUENCY RAPIDLY ASSOCIATED.

I.—**Onset is sudden**—Apparent stoppage of secretion of urine—Catheter finds but little urine in the bladder—Constant wish to micturate.

(A) **Paroxysmal pain, starting in the renal region,** *and passing downwards in the course of the ureter—May be arrested at a definite and constant point—Actual passage of urine per urethram is not painful—Amount of urine varies—May be suppressed*—After attack passes off, amount of urine may be suddenly increased—Easiest position is lying upon affected side—Urine may contain blood cells and crystals—A small mass is felt somewhere along the course of the ureter, which is slightly movable laterally, but not upwards and downwards—If low down, may be detected recto-bimanually—No history of injury to the lower abdomen.

101. Ureteral Calculus.

(B) **Intense constant pain in hypogastrium, umbilicus, and inguinal regions**—Nothing passed, or very small quantity of urine mixed with blood—History of immediately preceding injury to lower abdomen.

(A) THERE IS MORE OR LESS DEFINED SWELLING felt between umbilicus and pubes, or in the recto-vesical cul-de-sac—Injection of warm saline solution through the urethra produces a sensation of warmth in the groins and abdomen—On the passage of a catheter, its point at first on entering the bladder appear fixed, and no urine escapes—On manipulation, the catheter suddenly passes onward with ease, and fluid escapes in considerable quantity—Peritonitis sets in about the third day.

102. Intra-peritoneal Rupture of Bladder.

(B) THERE IS A DOUGHY, ASYMMETRICAL SWELLING above the symphysis pubis, or between the bladder and the rectum to one side, or infiltration of the abdominal wall, spreading into iliac fossæ, scrotum, and thighs—There is pain in the perinæum, about rectum, neck of bladder, groins, hypogastrium, and thighs—If warm saline fluid is injected into the urethra, the doughy swelling is increased, and the same amount of fluid does not return—There is no possibility of passing a catheter so as to drain off any quantity.

103. Extra-peritoneal Rupture of Bladder.

II.—**Onset is not absolutely sudden**—*It is more gradual*—Some difficulty in micturition, especially in starting—Sensation of weight and aching in perinæum—May be passage of blood or pus before the act—Rectal tenesmus, with difficulty and pain in defæcation.

(A) **Finger in the rectum finds an obscurely fluctuating mass passing up and out from the lateral lobe of the prostate,** about the size of a finger, the upper limit being beyond reach—It is hot and tender—The prostate can be outlined below—The urethral sound is somewhat deflected to one side—Pain is increased by micturition and defæcation—There are shooting pains in perinæum, hypogastrium, and anus—There is often pain in the hip-joint, and sacro-iliac articulation on the same side, running down the outside of the leg—There is a history of gonorrhœa—There are frequent, persistent erections, with painful emission of blood-stained semen—Frequent straining—Painful micturition.

104. Acute Vesiculitis.

(B) **Finger in the rectum finds the prostate itself hot and tumid**—The prostate is of uniform consistence, or there are points in it softer than normal—The urethral sound has some difficulty in passing, but does not produce "creaking" sounds—There is pain especially at the end of micturition—Frequency is increased—The anus is swollen and prominent—Passage of a catheter is very painful—Passage of a finger into the rectum is very painful—The prostate is extremely tender and prominent.

(a) THE OUTLINE OF THE GLAND IS LOST—There is a doughy, ill-defined mass in its place.

105. Acute Peri-Prostatitis.

(b) THE OUTLINE OF THE GLAND IS PLAINLY MARKED and prominent.

(i) THERE ARE NO RIGORS—Swelling is firm and elastic—The temperature is persistently high—There is no pus in the urine.

106. Acute Prostatitis.

(ii) RIGORS OCCUR—Pain becomes throbbing in character—Swelling fluctuates—There is an irregular temperature with evening rises—Pus may pass in urine—If so, it is at the commencement of micturition, the stream afterwards being clear.

107. Prostatic Abscess.

(C) **Finger in the rectum feels the prostate to be of normal temperature**—The prostate feels harder in certain points than others—A creaking sound is produced by this manipulation—The urethral sound grates on passing.

108. Prostatic Calculi.

Section III.—HÆMORRHAGE IS THE INITIAL AND MOST PROMINENT SYMPTOM.

May be passage in the urine of irregularly shaped, eroded clots—Many epithelial cells, usually vesical—Absence of fragmentation or decolorisation of red corpuscles—Absence of renal cells or casts—Bands of oxyhæmoglobin in spectrum—Successive appearance of single symptoms—Hæmorrhage not influenced by rest.

I.—**Hæmorrhage transient**—Does not recur if particular food or drug is discontinued.

(A) **Associated with strangury.**

109. Use of Cantharides, or Turpentine.

(B) Without strangury.

110. Use in certain persons of garden rhubarb, gooseberries, unripe apples, sorrel, some kinds of strawberries—Increased, if hard water is drunk at the same time.

II.—**Hæmorrhage lasting for a long period,** without frequency and pain—Amount slight—Intermittent.

(A) **A tumour in, or at one side of the bladder** can be felt bimanually—Possible passage per urethram of hair or cheesy friable material.

111. Vesical Dermoid Cyst.

(B) **No tumour can be felt** on bimanual examination—Presence of frequency, obstruction, or pain due rather to position than to character of growth—If pedunculated, hæmorrhage occurs early and is not affected by exercise—Frequency late—If sessile, hæmorrhage occurs late, but may be influenced slightly by exercise—With the cystoscope the following differences can be detected.

(A) FINE, PINKISH FRONDS, which are dendritic, often clavate at extremities—Influenced by urinary currents, set up by the ureteral jets—Multiple—Always pedunculate—Soft.

112. Villous Papilloma of Bladder.

(B) GENERALLY SMALL ROUNDED MASS, the size of a pea to a walnut—Villous surface—Firm consistence—May be pedunculate, more often sessile—Single or multiple.

113. Fibroma, or Fibrous Papilloma.

(C) NODULES, encapsuled in sub-mucosa.

114. Myoma.

(D) GENERALLY ROUNDED—Size of pea to walnut—Surface smooth or slightly villous—Soft—Pedunculated—Multiple—Seated near neck of bladder.

115. Myxoma.

The last three can often only be differentiated by microscopical examination after removal.

III.—**Hæmorrhage, fairly quickly followed by pain and frequency**—Amount large—At first intermittent, later continuous—Base of tumour present may sometimes be felt per rectum, or bimanually—The time of appearance of pain, frequency, or obstruction is due rather to position of growth than to its character—Hæmorrhage usually begins after some slight injury or strain, which would otherwise be insufficient to induce bleeding—Discharge acquires the appearance and smell of flesh-washings—Later becomes foul—When pain begins it is usually intense.

(A) **Defæcation soon becomes painful and difficult**—Occurs before 10 and after 50 years of age—Hard, irregular, nodular growth in situation of prostate gland—Tends to infiltrate surrounding tissues—Pain in rectum, scrotum, hypogastrium, and inner surfaces of thighs—Great tenesmus—Urination soon becomes painful and difficult—May cause thrombosis and consequent œdema of lower limbs—Blood may escape unmixed with urine—May be insensitive to touch—Rapid general emaciation.

116. Prostatic Carcinoma.

(B) **Defæcation usually not interfered with.**

(A) MOST OFTEN OCCURS IN CHILDREN—Usually a rounded mass projecting into vesical cavity—Bladder wall may be infiltrated, but not usually—Pain not so marked as in carcinoma.

117. Vesical Sarcoma.

(B) MOST OFTEN OCCURS IN MEN over 50 years of age—Irregular, hard, nodular masses, surrounded by indurated infiltration—Bladder wall hardened, felt per rectum—Pain, which is most intense if the growth is situated in the vesical neck—Pain reflected to hypogastrium, anus, testes, penis, and down thighs——Usually sessile—Vesical surface uneven, often ulcerated—May be covered by villous projections—Usually starts in the neighbourhood of the trigone, but may affect any part of the bladder.

118. Vesical Carcinoma.

CLASS IV.

PELVIC DISORDERS DISCOVERABLE BY BI-MANUAL EXAMINATION.

Group A.—FEMALES: the Uterus continuous or closely connected with condition.

Section I.—CHANGE IN POSITION OF THE UTERUS.

Pozzi's syndroma not present in uncomplicated cases—Size of uterus not materially altered—There is a change in the position of the fundus with reference to the diameter of the pelvis—There is not necessarily any abnormal discharge.

I.—There is a change in the relative position of the fundus with reference to the cervix—the two are approximated to one another—The uterus is folded upon itself—There is some *malaise*—There is usually some aching referred to the sacrum.

(A) THE FUNDUS IS CARRIED BACKWARDS and downwards—There is frequency in urination and some difficulty—There may be difficulty in defæcation.

1. Retroflexion.

(B) THE FUNDUS IS CARRIED FORWARDS and downwards—There is frequency without difficulty in micturition—There is no difficulty in defæcation.

2. Anteflexion.

II.—There is no change in the relative position of the fundus with reference to the cervix—The whole organ remaining straight, is swung backward or forwards upon a pivot formed by the broad ligaments—Urination and defæcation are usually unaffected.

(A) THE FUNDUS IS CARRIED BACKWARDS.

3. Retroversion.

(B) THE FUNDUS IS CARRIED FORWARDS.

4. Anteversion.

Section II.—POZZI'S SYNDROMA PRESENT.

(Syndroma means a constant association of certain symptoms.)

Pozzi's syndroma; pain, leucorrhœa, dysmenorrhœa, menorrhagia, also symptoms referable to surrounding organs (bladder and rectum), and symptoms referable to distant organs (digestive canal, nerves).

I.—Losses of blood are the most prominent symptom—The menses are at first excessive in quantity—Later, blood appears between the regular periods—Often repeated miscarriages—Anæmia—Dyspnœa—Cardiac palpitation—Bearing-down pain and sense of weight—Sacralgia—Difficulty in locomotion.

(A) **The uterus is permanently enlarged**, the outlines of the irregularities being firm and definite—Brown atrophy, or fatty degeneration of the heart, in advanced cases—A tumour can be felt.

(A) THE PAIN IS LIKE LABOUR PAIN (expulsive and paroxysmal) the flow of blood is profuse—The os is open—There is constant leucorrhœa.

(i) A TUMOUR MAY BE FELT protruding from the os uteri—Evidently pedunculated—springing from the interior of the uterus—No sound on auscultation—No pressure symptoms.

(*a*) **Soft—Flaccid**—Pear-shaped—Greyish color—Marked peduncle.

5. Mucous or Glandular Polypus.

(*b*) **Firm—Rounded**—Flesh colour—Almost or entirely sessile.

6. Fibroid Polypus.

(ii) NO TUMOUR CAN BE FELT in the vagina, but on dilatation of the cervix, sessile, firm, rounded projections can be felt in the uterine canal. A sound encounters a convex obstruction to its passage—No sound on auscultation—Seldom any pressure symptoms.

7. Submucous Fibromyoma.

(B) THERE IS NO MARKED PAIN—The flow is free, but not so profuse as in the preceeding section—The os is closed—There is leucorrhœa, but this is often not constant—Leucorrhœa is most marked after each period.

(i) THE BODY OF THE UTERUS CAN BE DEFINED as almost or quite distinct from tumour—The uterus is carried upwards

Body of Uterus distinct from tumour, continued.

or to one side—The growth is persistently slow—No sound on auscultation—Pressure symptoms (œdema of legs, retention of urine, early enlargement of abdominal veins) early present—Difficulty in urination sometimes—Difficulty in defæcation sometimes.

8. Intra-Ligamentous Fibromyoma.
Broad Ligament Fibromyoma.

(ii) THE UTERUS IS BLENDED WITH the tumour—Tumour bossed.

(*a*) **The growth is persistently slow**—Tumour uniformly hard—No sound on auscultation—Pressure symptoms late in appearance.

9. Interstitial Fibromyoma.
Intramural Fibroid.

(*b*) **Growth slow at first, becoming more rapid**, often at or about the menopause—Part of tumor is hard, but there are soft, even fluctuant patches—often a loud, venous hum, synchronous with the pulse, is present a few days before menstruation, disasppearing on occurrence of the flow—Pressure symptoms late.

10. Fibro-cystic Tumour of Uterus.
Myxomatous or Œdematous degeneration of Fibroid.

(B) **The uterus is uniformly enlarged**—*Seldom or never any cardiac changes*—Seldom acute pain—Flow of blood increased, but seldom profuse—Os uteri open—Persistent muco-purulent discharge—Surface smooth—Does not increase in size, or but very slightly—Uterine walls are soft—No sound on auscultation—No pressure symptoms—History of precedent parturition—Uterus heavy—Somewhat lower than usual—Fundus felt above pubes or in posterior fornix.

(A) CASE YIELDS TO REST and chlorate or citrate of potash—Curette finds smooth internal surface.

11. Uterine Subinvolution.

(B) CASE DOES NOT YIELD TO REST and salts of potash—Curette finds foreign soft body adherent to internal surface.

12. Subinvolution with retained remnants of Pregnancy.

II.—Leucorrhœa and pain the most marked symptoms.

(A) **There is a rise of temperature**—There is a quickened pulse rate —Pain increased before, relieved by menstruation.

(A) ATTACK COMMENCES WITH A RIGOR—Pain and tenderness in the hypogastrium—Cervix and os are swollen, dark red—Viscid muco-pus issuing—Recti muscles rigid in lower segments—Rigidity may sometimes be overcome by patient manipulation—All four conditions usually associated.

(i) UTERUS ITSELF IS HOT, HEAVY, AND TENDER—Retroversion common, never retroflexion—Softer than normal—it is movable, but movement causes great pain.

12. Acute Metritis or Acute Endometritis.

(ii) BEHIND, OR BEHIND AND TO ONE SIDE OF THE UTERUS is a soft, elastic, firm mass, which is intensely tender—Its outline is that of a cylinder, bent abruptly at one or two points—It can be traced to possess an attachment to one upper corner of the fundus.

13. Acute Salpingitis.

(iii) BEHIND OR TO ONE SIDE OF THE UTERUS is a soft, firm mass, which is intensely tender—Its outline is rounded—It may be attached to the uterus behind, or lie free in Douglas' pouch—There is intense lancinating pain in iliac fossæ—Sharp pain in mammæ.

14. Acute Ovaritis.

(iv) THERE IS SUDDEN ACUTE PAIN in the lower pelvis—Faintness—Rigidity of lower abdominal muscles—Great tenderness—All outlines tend to become less defined—Tissues and organs become more fixed and adherent, especially behind in Douglas' pouch.

15. Acute Pelvic Peritonitis.

(B) THERE IS NO INITIAL RIGOR—Temperature only moderately raised—There is pain and tenderness in the hypogastrium, over sacrum, in iliac fossæ, and down the thighs—The cervix and os are swollen—There is a bright red excoriated area around the opening—Viscid muco-pus issuing, which may be tinged with blood—The recti muscles are not strongly contracted—Menstruation is irregular and usually painful.

(i) THE CONDITION OCCURS IN YOUTH, or during the child-bearing period—The uterus is enlarged and tender on palpation—Pain is more or less continuous, but is always exacerbated at the menstrual periods.

Condition occurs in Youth, continued.

(*a*) **The disease occurs in childhood**, or in young women about puberty—The tubercle bacillus is found in the discharges—Patient is often apparently in good health—Temperature rises towards evening—Associated encysted peritonitis.

(1) OFTEN FOLLOWS LABOUR OR MISCARRIAGE—May occur in persons too young for such cause—Discharge usually purulent and persistent—Ovaries slightly enlarged and sensitive—Convoluted mass behind or to one side of uterus—Painful micturition often present—Extensive adhesions around.

16. Tubercular Salpingitis.

(2) HAS RARELY ANY CONNEXION WITH PARTURITION—Discharges are curdy, cheesy—Usually tubercular lesions are found elsewhere (lungs or bones)—Uterus slightly enlarged, finely nodular.

17. Tubercular Endometritis.
Uterine Tubercle.

(*b*) **Disease always dates** from some parturition, miscarriage, abortion, or some suspicious coition—It therefore occurs during child-bearing period of life—Tubercle bacilli absent—Various other micro-organisms found—Locomotion is painful, railway travelling or jolting increases pain—Act of sitting down is deliberate—Defæcation infrequent and painful—Micturition frequent—Much weakness—Expression denotes suffering.

(1) Uterus itself is enlarged and tender, often retroflexed—If this is the case, the rounded mass behind the cervix is firm, resistant, and gives the sensation of a solid body directly continuous with the cervix—No fundus can be felt in front over the bladder—The uterine cavity is lengthened—Pain increased before menstruation, always relieved by flow.

18. Chronic Metritis.
Chronic Endometritis.
Chronic Endocervicitis.

(2) Uterus itself often enlarged and tender, but there is a moniliform rounded mass behind in Douglas' pouch, which is tense and resistant, or somewhat lax, but always giving the sensation of a body containing fluid—It is not continuous with the cervix—The fundus uteri can be felt above and in front or to one side—History of precedent purulent vaginal discharge, or of recurrent attacks for years previously—Tenderness and aching in the side before and during whole time of period—Not greatly relieved by flow.

19. Pyosalpinx.
Tubo-Ovarian Abscess.

(3) Uterus itself usually large and tender, but there is a firm smooth, resistant, retort-like body, lying behind or to one side of the uterus, and connected with it—Just at this connexion there

is a marked decrease in its size—There is a firm, small, irregular mass, closely surrounded by the coiling body, which is extremely tender—Pain is always much increased before and during the first day of menstruation.

20. Salpingo-Ovaritis.
Chronic Salpingitis.

(ii) THE CONDITION USUALLY OCCURS AFTER THE MENOPAUSE—It therefore occurs in elderly persons—It is often associated with cancer of the cervix, fibroids, or obliterative endocervicitis—Locomotion and jolting increase pain—Defæcation is infrequent and painful—Micturition is often unaffected, but this will depend upon the causative condition and its stage—The uterus is enlarged, globular, tender, elastic, and tense—There is dribbling of fœtid pus, occurring when walking—Pain is paroxysmal, but intense if menses occur—The amount of pus is greatest in the morning on rising from bed.

21. Pyometria.

(B) **There is no rise of temperature**—The pulse rate is not necessarily quickened—There is a flow of ill-smelling watery discharge.

(A) THE UTERUS IS NOT MUCH ENLARGED—There is no tense distension of the internal wall—There is a mass behind or to one side of the uterus.

(i) THERE IS AN ACCOMPANYING EFFUSION (hydro-peritoneum) in the peritoneal cavity.

(*a*) **General strength much impaired**—Marasmus—Early œdema of feet and ankles—Marked distension of abdomen—Soft, compressible, or nodular masses to be felt in Douglas' pouch—Rapid growth—Metastases.

22. Carcinoma of Ovary.

(*b*) **General health fair**—No marasmus—No œdema of feet or ankles—Some abdominal distension—Firm swelling of tube, with narrowed area between this and uterus—Sometimes hydrothorax—No metastases unless upon peritoneum—Usually before 45.

23. Papilloma of Fallopian Tube.

(ii) MAY BE NO ACCOMPANYING EFFUSION (hydro-peritoneum) of fluid in the peritoneal cavity—General strength impaired—Marasmus—History of previous chronic inflammation, the symptoms of which suddenly become intensified—Firm swelling of tube, with narrowed area between this and uterus.

24. Carcinoma of Fallopian Tube

No rise of temperature, continued.

(B) THE UTERUS IS ENLARGED, but not above mid-line between umbilicus and pubes—There is great deterioration in health—Rapid loss of flesh—Tense distension of the uterine wall—Paroxysmal, recurring, labour-like pains, or boring, bearing-down pain in lumbo-sacral region, radiating into lower abdomen and down legs.

(i) IN EARLY OR MIDDLE LIFE—Often follows recent labour or abortion—Vaginal vault is very hard—Uterus fixed early—Passage of clots—Discharge of blood profuse and frequently recurring—Secondary nodules found in thoracic and abdominal viscera, occasionally in bones—A lobulated smooth mass may project from cervical canal—A rapid increase in size of a previously slow-growing tumor—Os usually closed unless a polypoid mass is descending.

25. Uterine Sarcoma.

(ii) VERY RARE BEFORE 45 YEARS—Almost always occurs after the menopause.

(*a*) **Vaginal vault supple at first but soon becomes firm and resistant—Uterus fixed early**—Passage of sloughs in discharges—Discharge of watery, ichorous pus—Secondary growths in lumbar glands—rarely any protrusion from cervical canal, except necrotic masses—Comparatively slow—Cervix partly open.

26. Cancer of Uterine Body.

(*b*) **Vaginal vault always supple—Uterus usually mobile**—Passage of "fleshy" pieces in discharges—Discharge thin, slimy, copious, reddened, and watery—Seldom any secondary growths; if any, in broad ligaments—Fleshy, soft mass may project from cervical canal—Slow course (5 years, Kelly).

27. Adeno-Carcinoma.
Adenoma Malignum.

In the early stages of the last three, the main symptoms will be a more or less stained pertistent discharge without definite cause, with some lumbo-sacral discomfort, and apart from the indication afforded by the age of the patient, they may only be distinguishable from endometritis, or from each other, by the microscopical examination of fragments removed by the curette.

Section III.—THERE IS AMENORRHŒA AT FIRST, OR FROM FIRST TO LAST.

I.—There is Amenorrhœa throughout—There is marked uterine enlargement.

(A) **The menses have never appeared**—The patient is just at or beyond puberty—There is no pigmentation of nipples or pubo-umbilical line—There is some nausea—There is increasing pain, which is greatly accentuated at the monthly periods—There is occlusion of the cervix—The uterus is round, elastic, and tense—The lower abdomen is tender to touch—There is vesical irritability—There is pain and difficulty in defæcation.

28. Hæmatometria.

(B) **The menses have been regular** up to a certain time, when they ceased—The patient is at the child-bearing age—There is pigmentation of the pubo-umbilical line—There is an areola around the nipples—Follicles develop in this areola—There is morning vomiting—The breasts are enlarged and firm—Milk can sometimes be expressed from nipples—The general health is good—The cervix is softened (3rd month)—There are slight recognisable rhythmical contractions (4 months)—Fœtal heart sounds may be heard ($4\frac{1}{2}$ months)—There is a violet tinge of the vaginal mucous membrane.

(A) THERE IS LITTLE OR NO PAIN—Tumor is not tense—Vomiting is only in the morning—The bladder is not distended—There is no vesical retention—The cervix is in its normal position, turned towards the hollow of the sacrum—Fundus can be felt anteriorly—There is no mass in Douglas' pouch, behind cervix—There is but slight leucorrhœa, and no other discharges—Uterus increases in size at a normal rate—Uterus is pear-shaped—Os closed—If at any time the fœtal outlines appear unduly distinct, manipulation causes them to be replaced by a firm arched wall, which obscures them—Uterus cannot be felt distinct from child.

29. Pregnancy.

(B) THERE IS OFTEN DIFFUSED PAIN—Tumor is more tense—Vomiting only in mornings—Vesical irritability with distension, often retention—Cervix lies behind pubes—Fundus cannot be felt anteriorly—There is a rounded elastic body in the pouch of Douglas, continuous with cervix—There is slight leucorrhœa, but no other discharges—Uterus increases, but at apparently a slower rate—Uterus is curved upon itself—Os closed.

30. Retroflexion of Gravid Uterus.

Menses have been regular, continued.

(C) THERE IS MARKED SACRO-LUMBAR PAIN—The lower segment of the tumor is tense—There is uncontrollable vomiting—Some vesical irritability—Cervix in normal position—Fundus prominent anteriorly—No mass to be felt in Douglas' pouch—Discharge of grape-like masses per vaginam—Uterus increases rapidly—Uterus globular—Os open.

31. Myxoma of Chorion.
Hydatidiform Mole.

II.—One or two periods have been missed or delayed, followed by irregular discharges of blood—Previous to this, there has usually been exceptionally good health—There is some uterine enlargement, but not much—Symptoms of commencing pregnancy are present.

(A) **The uterus alone is enlarged—There is no lateral or posterior mass**—The uterus is central in position—The os is open—The cervix is soft—A mass projects from the os which is thick and organised—No markedly pulsating vessels are felt in the lateral or posterior fornices—There is no pain in the iliac fossæ, or down one thigh.

32. Abortion.
Miscarriage.

(B) **A swelling is to be felt behind, in front, or by the side of, and closely applied to the Uterus**—The uterus is pushed out of its central position, upwards, backwards, laterally, or downwards—The os is patulous—The cervix is firm, and can be traced to the fundus past the swelling—There is a discharge of dark blood, moderate in amount, with shreds, or an entire cast of the interior of the uterus—These shreds, under the microsope, slow decidual cells—The patient describes its character as unusual, "The period has not come on properly"—There is usually pain in one or both iliac fossæ and down one thigh—Pulsating vessel is felt in one fornix.

(A) AMENORRHŒA HAS NOT LASTED for 12 weeks—There has been no sudden pain or syncope—The tumour is moveable and insensitive—It lies in the line of the Fallopian tube, but is sharply marked off from that portion of the tube which is undistended—It is elastic and yielding—Abdomen not tender.

33. Unruptured Tubal Gestation.

(B) THE AMENORRHŒA HAS LASTED FOR 12 WEEKS OR MORE (the time may be less)—There is sharp, sudden pain, with vomit-

ing and syncope—There is a sudden sensation of something giving way in the pelvis—There is general pallor and rapid pulse —Tumour becomes sensitive—Abdomen becomes tender.

(i) PALLOR INCREASES—RAPIDITY OF PULSE INCREASES—Voice becomes whispering—Temperature subnormal—Face becomes grey—Face and hands becomes cold—Sight becomes dim—Pulse flutters occasionally, when nausea and vomiting recur—Erythrocytes much decreased in number.

34. Ruptured Tubal Gestation,
ending in rapid death.

(ii) SYMPTOMS BECOME LESS SEVERE—Shock passes off—Pulse becomes fuller and steadier—Temperature gradually rises.

(*a*) **Boggy, indefinite, or tense swelling** felt in Douglas' pouch —Dulness in flanks, and immediately above pubes, which *slowly* changes its position with position of patient—Outlines of pelvic organs become indefinite—May be felt from above as hard irregular wall or line stretching across abdomen, the parts below being firm and dull—Recurrent attacks of pain and sickness—Uterus crowded against pubes.

35. Ruptured Tubal Pregnancy,
producing **Retro-uterine Hæmatocele.**

(*b*) **Clearly defined outline of tubal mass lost**—Upper limit of swelling which forms is in one inguinal region, is convex upwards, and continuous with a boggy mass felt through vagina at one side of uterus—This is fixed, tender, bulging— Ends fade away behind pubis on one side, towards ilium on the other—Marked displacement of uterus upwards, and to the opposite side—May be slight or no recurrence of pain and sickness.

36. Extra-peritoneal Rupture.
producing **Broad Ligament Pregnancy.**

(*c*) **After 4½ months a child can be felt** with unusual distinctness beneath the abdominal wall—At no time do the outlines of the fœtus disappear to be replaced by a rounded arched wall—The fœtal heart can be heard with unusual clearness—The movement of fœtal limbs may be seen—Uterus can be felt bimanually to be comparatively small, and distinct from child.

37. Tubo-abdominal Pregnancy,
following **Rupture into Abdominal Cavity.**

Group B.—COMMON TO BOTH SEXES—Condition distinct from Uterus.

Sensation of pain and fulness in the Pelvis, with lumbo-sacral pain.

Section I.—SWELLING CLOSELY CONNECTED WITH PELVIC WALL.

There is a swelling closely connected with wall of pelvis—Can be outlined as distinct from viscera—Usually best felt through rectum.

I.—Hard, defined outline.

(A) VERY SLIGHT MOVEMENT—Equally firm, but not hard, in all directions—No elasticity.

38. Fibroma of Pelvic Wall.

(B) ABSOLUTELY RIGID.

(i) STONY HARD IN ALL DIRECTIONS.

39. Osteoma.

(ii) PORTIONS SLIGHTLY SOFTER THAN OTHERS—Slightly elastic at certain points—Often associated with, and then following course of (43).

40. Enchondroma.

II.—Soft consistence.

(A) LIES ALONG LATERAL BRIM of true pelvis—An elongated, fusiform tumour felt by deep pressure in the iliac region—Imperfectly defined outline—Passes from vertebral column to crural arch—Associated with loss of elasticity in some part of spine—Trunk is bent towards affected side—Thigh is flexed and rotated outwards—It can be still further flexed—May be some bulging in Scarpa's triangle.

41. Psoas Abscess.

(B) OBVIOUSLY PROJECTING FROM SOME PART OF THE PELVIC WALL.

(i) SMALL, DEFINED ELASTIC PROJECTIONS—Sharp edge of perforated bone around each—Puncture yields watery fluids containing hooklets—Slow growth throughout.

42. Hydatids of Pelvic Wall.

(ii) MASS WHICH INFILTRATES the parts around—Has no defined bony edge around—Puncture yields blood—Grows slowly at first, then rapidly.

43. Sarcoma of Pelvic Wall.

Section II.—SWELLING IN ANTERIOR LATERAL WALL OF RECTUM.

At a point in the anterio-lateral wall of the rectum is a swelling passing upwards, backwards, and outwards towards the pelvic brim at a point 1¼ inch outside the sacral promontory—Cannot be moved upwards and downwards, but is capable of some lateral movement.

I.—The swelling is tubular—The swelling for its whole extent is firm and resistant—There is pain in one iliac region extending into the corresponding loin—Frequent and painful micturition—Pus in urine—Swelling is sensitive to pressure.

(A) TUBE IS NOT VERY GREATLY SWOLLEN—Tube is firm—Urgency of micturition not greatly marked—With the cystoscope, ureteral orifice is seen to be the centre of an area of intense injection, on a truncated cone—The ureteral orifice may be surrounded by small papillæ or markedly everted—Urine obtained by ureteral catheter or segregator is turbid or purulent—No tubercle bacillus found.

44. Ureteritis.

(B) TUBE IS GREATLY SWOLLEN—Tube is thick and hard—There is great and immediate urgency—With the cystoscope, the ureteral orifice is seen to be ulcerated, or surrounded by scattered tubercles—The urine obtained by ureteral catheter or segregator is pale, milky, and alkaline—Urea is markedly diminished—Urine deposits flocculent sediment in which tubercle bacilli may be found.

45. Tubercular Ureteritis.

II.—There is a prominent rounded swelling.

(A) THE SWELLING IS SOFT—There is no urinary frequency, or pain in micturition—Not sensitive to pressure—Swelling may extend as low as a finger's breadth from the meatus in women—With the cystoscope, a smooth prominence is seen at the base of the bladder—Swelling can be easily pushed up and reduced, but returns on straining—No urine can be obtained with the ureteral catheter on the same side.

46. Occluded Cystic Ureter.

(B) THE SWELLING IS STONY HARD—There is frequency—There are recurrent attacks of severe pain passing from loin to hypogastrium, into penis or vulva, and sometimes down the thighs—There is great tenderness on pressure—The swelling never

A prominent, hard rounded Swelling, continued.

extends lower than the base of the bladder—With the cystoscope, the rough end of a foreign body may be seen in the dilated ureteral orifice—Swelling cannot be reduced by pressure.

47. Ureteral Calculus
impacted in vesical end of Ureter.

Section III.—NO ORGANIC CONNECTION WITH THE PELVIC WALL.

There is a sensation of pain and fulness in one or both iliac fossæ —The condition has no organic connection with the pelvic wall.

I.—There is dullness on percussion continuous with Poupart's ligament, and spreading upwards and inwards for a variable distance.

(A) **The superior surface is convex upwards**—The area of dullness does *not* alter with position of the patient—The general temperature is elevated—There is no other abnormally dull area in the abdomen—The pouch of Douglas does not bulge—There is marked leucocytosis, increasing in proportion to the formation of pus, and the resistant vitality of the patient.

(i) THE SWELLING FELT ABOVE DOES NOT ENTER THE TRUE PELVIS, nor has it any connexion whatever with the uterus—The most tender point to finger pressure is at the middle of a line drawn from the umbilicus to the anterior superior iliac spine on the right side (McBurney's point) (Deaver)—Has no connexion with parturition or operation—Rigors may occur—Mass is firm or elastic—May fluctuate—Never occurs on left side—Frequently a history of previous attacks—Vomiting—Rapid pulse—Right thigh may be flexed on abdomen.

48. Appendicitis.

(ii) THE SWELLING FELT ABOVE PASSES WELL INTO THE TRUE PELVIS and fixes the uterus—Can be equally felt per rectum or per vaginam, although plainly outside both—Swelling is tender all over—Follows abortion, parturition, or operations upon the uterus.

(1) THERE ARE NO RIGORS—Mass is firm, elastic—Does not fluctuate—May occur on either side

49. Pelvic Cellulitis.
Parametritis.

(2) RIGORS OCCUR—The mass is centrally softened—Fluctuates —May occur on either side.

50. Pelvic Abscess.

(B) **The superior surface is level or undefined**—The area of dullness alters with the position of the patient—There are other abnormally dull areas elsewhere in the abdomen—If the fold of peritoneum in Douglas' pouch bulges, it can be compressed by opposing fingers in the rectum and vagina—There is no leucocytosis.

(i) NO NODULES ARE FELT on compressing the fold of peritoneum in Douglas' pouch—Temperature is normal—There are causes (hepatic, renal, cardiac) to account for the exudation—There is no definite resistant mass to be found in either iliac fossæ or in Douglas' pouch—Not tender on manipulation—Uterus freely moveable—Alteration in position of dullness immediate on altered position of patient.

51. Ascites.

(ii) FINE NODULES MAY BE FELT on compressing the fold of peritoneum in Douglas' pouch—Temperature is irregular—Ill-defined masses may be felt in other parts of the abdomen, which alter their position—Not tender on manipulation—Uterus less freely moveable—Alteration in position of dullness on altered position of patient is somewhat sluggish.

52. Tubercular Peritonitis.
Encysted Peritonitis.

(iii) EITHER NO NODULES OR COMPARATIVELY LARGE ONES are to be felt on compressing the fold of peritoneum in Douglas' pouch—Temperature is normal, or there has been a sudden rise and fall—A more or less defined mass may sometimes be felt on displacing the fluid either in one pelvic fossa, or behind the uterus—Sometimes tender on manipulation—Uterus may be fixed.

53. Hydro-peritoneum.

Associated with—Dermoids
Ovarian Sarcoma
Ovarian Papilloma
Ovarian Fibroma
Ovarian Carcinoma
Papilloma of Fallopian Tube
Inflamed or burst Ovarian Cyst
Mild Salpingitis or Pelvic Peritonitis.
Refer to each.

II.—**The dulness is not continuous with Poupart's Ligament**—There is a defined rounded swelling in one or both iliac fossæ, or in Douglas' pouch, which is dull on percussion, but is not continuous with Poupart's ligament—Alteration in the position of the patient may affect the area of dullness—always asymmetrical in early stage.

(A) **Bimanual examination shows that the mass is of unequal consistence.**

(i) HARD PORTION OF MASS IS VERY HARD—Soft portion is doughy or mushy—often associated with free fluid in peritoneal cavity—Slow growth, but may later become rapid—Occurs most often in children and young women—Surface smooth—Often painful.

54. Ovarian Dermoid.

(ii) HARD PORTION IS FIRM, BUT NOT VERY HARD—Soft portion is fluctuant—Never associated with free fluid in peritoneal cavity unless inflamed—Fairly rapid growth—Rare in children or in old age—Surface bossed—Painless.

55. Early stage of Glandular Proliferating Ovarian Cyst.
Multilocular Ovarian Cyst.

(iii) NO PART IS HARD, but there are differences in degrees of softness—Never associated with free fluid in peritoneal cavity—Slow growth—Surface smooth or small bosses—Only painful when size interferes with surrounding parts, or if inflamed.

56. Pelvic Hydatids.

(B) **Bi-manual examination shows that the mass is of equal consistence** throughout.

(A) THE MASS IS ELASTIC.

(i) NO CONSTITUTIONAL DISTURBANCE—No tenderness—Slow enlargement—Fluctuation, limited by a cyst-wall, is easily obtained.

(*a*) **Freely moveable**—Tumour independent of cervix—Os uteri is in normal position, or drawn upwards—Does not disappear—Is tense—Hegar's method determines an organic connexion between mass and broad ligament in the shape of a more or less narrow cord.

57. Early stage of Ovarian Unilocular Cyst.

(*b*) **Fixed in broad ligament**—Closely associated with side of supra-vaginal cervix, though clearly distinct from it—Os uteri displaced to opposite side—May be intermittent, disappearing from time to time, such disappearance being followed by a free flow of urine—Is often flaccid—No cord can be felt by Hegar's method—Uterus and tumour move together.

58. Early stage of Parovarian Cyst.

(ii) SUDDEN PAIN, PALLOR, OFTEN SYNCOPE—MASS IS TENDER—SUDDEN ENLARGEMENT—may be moveable, but often not—Free from cervix—Os uteri drawn up—Persistent increase—Extremely tense—Co d is felt by Hegar's method between tumor and broad ligament—Vomiting—May be intestinal paralysis.

59. Strangulated Ovarian Cyst—
Due to twisted pedicle.

(B) THE MASS IS FIRM—The mass has the shape of an ovary.

(i) ASSOCIATED WITH HYDRO-PERITONEUM.

(*a*) **Rapid growth**—Occurs in girls below the age of puberty—May occasionally appear up to 45 years—Usually affects both sides—Reaches large size—Loss of strength.

60. Ovarian Sarcoma.

(*b*) **Slow growth**—Occurs in middle age and in elderly people—Only on one side—Never very large—No marked loss of strength.

61. Ovarian Fibroma.

(ii) NOT ASSOCIATED WITH HYDRO-PERITONEUM—Not much enlargement.

(*a*) **Not tender**, but yielding peculiar subjective sensation on pressure—Normal size—Slips away from fingers—Freely moveable—No necessary interference with menstruation—Coition not painful—Small oval mass found in Douglas' pouch.

62. Prolapsed Ovary.

(*b*) **Tender to touch**—In normal position or in Douglas' pouch—Somewhat enlarged—Does not slip so easily—Moveable, but with pain—Pain for 6-10 days before a period, becoming easier as flow proceeds—Flow prolonged and increased—Pain increased by coition.

63. Congested Ovary.

CLASS V.

SWELLINGS OF PELVIC ORIGIN WHICH DISTEND THE ABDOMEN.

Limited dullness on percussion down to pubes—Clear areas in both flanks and above between upper limit of tumour and epigastrium —Superior outline is rounded—Trendelenburg and other positions do not alter the positions of the growth materially, or affect the relative positions of dull and clear areas—Jenner's test shows that the tumour has not an abdominal origin—Later stages of previously described growths.

I.—**There is no fluctuation in the tumour**—Tumour is solid—Hard —Tumour is connected with uterus—Occurs during middle life —No fœtal heart sounds—All outlines defined, rounded—Slow growth (years)—Longitudinal profile rises abruptly from pubes —Vaginal vault supple.

(A) **Movement of tumour communicated to cervix**—Hard mass felt through vaginal vault—Centre of arc of movement seated low down in pelvis.

Early Stage, Class IV, **9**.

(i) UTERUS NORMALLY PLACED, or carried downwards, or to one side—Os uteri lower than normal—Tumour or tumours are evidently part of the uterus—usually much hæmorrhage, especially at the monthly periods.

1. Interstitial Fibromyoma.
May be associated with No. 3.

Early Stage, Class IV, **8**.

(ii) UTERUS CARRIED UPWARDS—May be in central line behind pubes, or on one side—Os higher than normal—Tumour or tumours are at one side or both sides of the cervix, and evidently in the broad ligament—May be very little alteration in amount of blood lost at menstrual periods.

2. Intra-ligamentous Fibromyoma.
Broad Ligament Fibroid.

(B) **Movement of tumour not communicated to cervix**—Mass may not be felt through vaginal vault—Centre of arc of movement in abdomen—Position of uterus varies—Os usually lower than normal—Tumour or tumours connected with uterus by pedicle, shown by Hegar's test—No increase in menstrual flow.

3. Sub-peritoneal Fibromyoma.
Often associated with No. 1.

II. There is partial fluctuation in the tumour—Tumour has both solid and fluid contents—Tumour may or may not be connected with the uterus.

(A) **Tumour is identical with the uterus**—Movements of tumour are communicated to cervix—Arc of movements has centre low down in pelvis.

(i) BREASTS ENLARGED—Darkened areolæ around nipples—development of follicles in this area—Pigmentation of pubo-umbilical line—Morning sickness—Amenorrhœa.

(*a*) **Ballottement**—Rhythmic contractions—No tenderness—Normal health—Fœtal heart sounds after 4½ months—Cervix softened and developed.

Early Stage, Class IV, **29.**

(1) NORMAL RATE OF DEVELOPMENT THROUGHOUT—Fœtal heart sounds and placental souffle well marked after 4½ months—Uterus not extremely enlarged—No marked breathlessness—Ballottement not unduly marked—Os closed.

4. Normal Pregnancy.

(2) RAPID DEVELOPMENT AT 6TH OR 7TH MONTH—Heart sounds and placental souffle muffled—Greatly increased size—Marked breathlessness—Ballottement unusually marked—Œdema of legs and vulva—Cervix obliterated—Os open, but occluded by dense membrane through which parts of the fœtus can be felt.

5. Hydramnios.

(*b*) **No ballottement**—Health impaired—Rapid enlargement.

(1) CENTRAL POSITION OF UTERUS—Not very tender—Cervix developed—Free watery discharge, often yellow and blood-stained at 3rd or 4th month—Base of tumour soft—Longitudinal profile gradual from pubes—Feeling of crepitation—Clusters of vesicles expelled from vagina—Usually entirely discharged before 5th month.

6. Hydatiform Mole.
Herpigenous degeneration of Chorion.

(2) ASYMMETRICAL POSITION OF UTERUS—Acutely tender in late stage—Cervix not developed—Constant brownish discharge—Base of tumor not felt from vagina—Longitudinal profile abrupt from pubes—Rarely lasts long enough for fœtal heart sounds to be heard—if rupture into peritoneum occurs, there is intense pain and marked collapse.

7. Interstitial Pregnancy.

(ii) NO SIGNS OF PREGNANCY—No ballottement—Menses increased in quantity—Rate of growth slow at first, becoming more rapid—Increase in size often occurs at menopause.

(*a*) **Whilst some portions of the tumour fluctuate, others are hard**—Not tender—Uterus moveable to some extent—Longitudinal profile irregular—Fluid drawn off by aspirator coagulates spontaneously.

8. Fibrocystic Uterus.
Œdematous Fibromyoma.

No signs of Pregnancy, continued.

Early Stage, Class IV, **25.**

(*b*) **Base of tumour very hard**—Becomes excessively tender after menopause—Uterus soon becomes immoveable—Longitudinal profile even and gradual—Bloody discharges from os—Aspirator only obtains blood, if any fluid at all.

9. Sarcoma Uteri.

(B) **Uterus can be defined outside tumour**—Movements of tumour, if any, are not communicated to the cervix.

(A) IN EARLY STAGES THE SIGNS OF PREGNANCY ARE PRESENT—Amenorrhœa for one or two months, followed by irregular bloody discharges—Uterus somewhat enlarged—Os uteri displaced laterally—Pain in thigh to knee—Well marked period of false labour—Pains cease somewhat suddenly—Fairly rapid enlargement—Uterine canal lengthened.

Early Stage, Class IV, **37.**

(i) FŒTAL HEART MUCH MORE PLAINLY HEARD than normally—Placental souffle very plain—Elastic swelling in pouch of Douglas—Longitudinal profile abrupt from pubes—Fœtal movements unusually painful—Uterus pushed to one side.

10. Ventral or Abdominal Pregnancy after 4 months.

Early Stage, Class IV, **36.**

(ii) FŒTAL HEART CAN BE HEARD WITH DIFFICULTY—Placental souffle may be heard—Rounded tense mass on one side projecting into Douglas' pouch—Longitudinal profile gradual from pubes—Fœtal movements not felt by observer.

11. Sub-peritoneal Abdominal Pregnancy after 4 months.

(B) NO SIGNS OF PREGNANCY.

(i) TENDER TO TOUCH—Pulse quickened.

(*a*) **No sudden abdominal pain**—Some nausea—Colour increased—No sudden enlargement—Tumour not acutely painful—Rigidity of abdominal muscles——Adhesions form—Fever of typhoid type—Progressive emaciation.

12. Inflamed Tumour.

(*b*) **Sudden abdominal pain**—Vomiting—Pallor—Sudden enlargement—Tumor tense and painful—Hydro-peritoneum may occur—Not necessarily rigidity of abdominal muscles.

13. Strangulated Tumour due to twisted pedicle.

(ii) NOT TENDER—If in women no alteration in menses—*Pulse normal*—Uterus moveable, not enlarged—Os uteri may be displaced—Not usually pain in thigh—No period of false labour—Uterine canal normal length.

(*a*) **Base of tumour felt from vagina or rectum is elastic.**

(1) OCCURS ALSO IN MEN—Uterus and bladder, or in men bladder only, carried upwards and forwards, forming a double

Early Stage, Class IV, **56.**

tumour, one before the other—No solid portion, but variations in soft consistence—Base felt in recto-vesical or recto-uterine fold—Urination at first frequent, becomes increasingly difficult, finally obstructed—Catherisation increasingly difficult—Thrill sometimes.

14. Pelvic Hydatids.

Early Stage, Class IV, **55.**

(2) ONLY OCCURS IN WOMEN—Os uteri drawn up or pressed forward against pubes—Relatively large—Solid portions of tumour are firm—Not hard, and fluid portions are freely fluctuant—Rarely much interference with urination.

15. Multilocular Ovarian Cyst.

Early Stage, Class IV, **54.**

(*b*) **Base of tumour felt from vagina to rectum is hard**—Os uteri displaced laterally—Relatively small—Solid portions are very hard, and softer portions are doughy—May open into bladder or rectum, when pus and possibly hair may be found in urine or fæces.

16. Pelvic Dermoid Tumour.

III. **There is complete fluctuation in the tumour**—Tumour only contains fluid—No connexion with uterus.

(A) **Tumour entirely disappears** on the passage of catheter.

17. Distended Urinary Bladder.

(B) **The passage of a catheter has no effect**—Outline is rounded—No signs of pregnancy—Uterine canal is normal length—Base of tumour, felt in vaginal vault, is elastic—Slow enlargement (months or years) always asymmetrical at first—Longitudinal profile gradual—No tenderness unless inflamed or pedicle twisted.

(ii) UTERUS DRAWN UP—Base of tumour felt in Douglas pouch—No alteration in position of large intestine—Bladder unaffected.

18. Unilocular Ovarian Cyst.

Early Stage, Class IV, **57.**

(ii) UTERUS DISPLACED TO OPPOSITE SIDE—Base of tumour felt in lateral fornix—Large intestine displaced inwards—Bladder displaced upwards.

19. Papillomatous Extra-peritoneal Cyst.

IV.—**There is a history of a tumour which has disappeared**—The abdomen may become less for a few days, but quickly becomes re-distended and fuller than before—Clear area on percussion is now found near umbilicus, epigastrium and upper part of hypogastrium, whilst the flanks, which were clear, are now dull—By variation of the position of the patient, the relative position of dull and clear areas are made to alter at once, that portion of the cavity which is highest being always the clearest.

20. Hydro-peritoneum.
following the yielding of a Pelvic Cyst

Part IV.—Illustrative Cases.

In order to demonstrate the manner in which it is intended that the foregoing *Lines of Diagnosis* and *Tables* should be used, a few cases are here given.

It is scarcely necessary, nor would it be specially instructive to adduce many of those which fall into the first or second classes. Such cases are to be diagnosed with fair ease by any competent observer, and little more than the points emphasised in the paragraphs are necessary to differentiate them.

But it is often not quite so straightforward a proceeding with regard to those which present the symptoms detailed in the last three classes. These very often require all the power, not only of observation, but of logical reasoning of which the observer is possessed, in order to estimate the relative force or insignificance of any one sign in the various combinations they present. Cases 5 to 10 are therefore given in full detail, and whilst they also are traced, some by the *Lines of Diagnosis*, and some by the *Tables*, the various symptoms are also discussed, and the reasons given for the diagnosis made. Each of these cases is an actual one occuring in the author's practice, and the correctness of the result was proved, either by operation or post-mortem examination.

Case I.—Traced by "Lines of Diagnosis."

M. I., male, æt. 63. Has been ill for several months: he cannot fix the date of commencement of this illness, but during the last six weeks he has noticed an abdominal swelling very near the umbilicus. He has had several attacks of jaundice, and whilst at first the colour used to improve, if not entirely disappear, since the last time the colour has become deeper, and he is now greenish yellow. These attacks have been associated with some pain higher up, nearer the ribs than the point at which the swelling for which he seeks advice is

situated. On baring the abdomen it is found to be somewhat distended, greenish yellow, with a bluntly acuminated mass which involves the upper and right-hand side of the umbilicus. Percussion shows increased dullness over the liver, the edge of which is irregularly knobbed, and to a certain extent in both flanks. When he lies flat on the back and attempts to rise without using his hands, the swelling becomes more prominent.

The case therefore is included in Class I, and will obviously be found amongst §§ 3-21.

The mass is fixed in the tissues of the wall, and cannot be made to move in them. It therefore lies between §§ 12-21.

The mass is covered by skin. It is therefore under either §§ 14-15, or 17-21. There is circumferential infiltration. The mass is dull on percussion, not reducible by pressure, and painful. It therefore lies between §§ 18 and 21.

There is no rise of temperature. There is progressive loss of flesh. Hence it is either § 19 or 20. And § 19 contains all the remaining points observable in the case. It is therefore UMBILICAL CARCINOMA.

The same process can be followed out in the *Diagnostic Tables*. As the tumour is not moveable in the tissues, it cannot be in the first section. As there is circumjacent infiltration, it cannot be in Subsection (A) of Section 2. It must therefore be in Subsection (B). There is no rise of temperature, therefore it is in Group (A) of Subsection (B), and No. (ii) will agree with the remaining symptoms.

Case II.—Traced by "Diagnostic Tables."

T. J., male, æt. 26, complains of some enlargement of the scrotum. He has never been a strong man; and one of his sisters has died of phthisis. His father is living and well. His mother died before she was thirty, but he is not sure of her age, and does not know the cause of her death, as it occurred when he was very young.

For some months—he cannot fix the date—he has had an aching sensation in the right inguinal region; there has never been acute pain, but the scrotum has felt heavier than natural. One morning, about a month since, he noticed that the testicle on one side felt different from that on the other, that it was larger and more lumpy. He believes that one of the lumps has increased in size since its first discovery.

On examination, the patient is a thin man, who looks as if he had overgrown his strength. His face is not expressive of pain, the skin is sallow, the hair is thin, straight, and reddish in colour. When the scrotum is exposed, it does not at first sight appear enlarged. The left testis is perfectly normal, but small. The right testis is similar in size, but behind it is a nodular mass, nearly as large; connected with it is a thickened vas deferens, which is equally thick and firm as

far as it can be felt over the edge of the pubis. On examining the pelvic rectum bimanually, the prostate can be felt normal in size and shape, but above it and on the right side is a soft enlargement The mass felt in the scrotum is dull on percussion, and cannot be pushed upwards into the abdomen. It is evidently closely attached to, and moves with the testis. It has no connection with the scrotal wall, but moves freely within it.

Such a case will fall into Class II. Male cases fall into Group A, and of this group Section II deals with scrotal affections.

In common with all conditions in this section, the mass found in the scrotum is dull on percussion; it cannot be reduced upwards into the abdominal cavity by pressure. It has a defined upper outline, and is not continuous upwards into the abdominal cavity.

It does not affect the tissues of the scrotum mainly. It evidently lies within their walls, therefore it is not in Subsection I, but in Subsection II. The vas deferens is distinctly thickened, therefore it will be found under (B).

The swelling has been of slow and gradual commencement. It will therefore be found under Subsection (A) of (B).

The epididymis was first and is mainly affected. It is therefcre in Division i., where all the other symptoms to be noted in the case will be found detailed, and the case will be one of TUBERCULAR EPIDIDYMITIS.

Case III.—Traced by "Diagnostic Tables."

A woman, æt. 35, complains of intense pain on urination, or coition.

On examination, a small growth is seen at the meatus urinarius. It will fall into Group (A) of Class III, diseases affecting the Vagina, and of this group, it will be in Section I, changes seen in or immediately around the meatus. It has a distinct outline, and does not infiltrate surrounding parts. It is therefore in the first division. It is friable in texture, bleeds easily, is sessile on the tip of the urethra. It cannot be drawn forward; any attempt to do this only tears the growth; it is extremely painful to touch; it is bright red in colour, dendritic in growth, and the patient is in middle life. All these later points are to be found over No. 2, VASCULAR CARUNCLE, which is therefore the diagnosis arrived at.

Case IV.—Traced by "Diagnostic Tables."

A man, æt. 25, comes for examination with a swelling in the inguinal region. The man evidently is in pain. He walks with difficulty, bending slightly. He complains chiefly that he cannot straighten his right leg, and that in the groin there is a painful swelling. When this is exposed, a reddened swollen condition is

seen, lying obliquely downwards and inwards in the fold of the groin, following the line occupied by Poupart's ligament. The redness is greatest over the centre of the mass, and dies away gradually into the normal tint of the skin in all directions. The parts are very tender to touch, but careful palpation elicits the fact that the thickening is rounded, composed of two or three main portions, which are each rounded, and situated above the deep fascia, upon which they can be moved to a very slight but appreciable extent. They cannot be reduced by pressure. The pubic spine lies below and internal to the inner extremity. The part feels hotter than the surrounding tissues, although these are themselves above the normal temperature. The man himself complains of feeling chilly. His appetite and digestion are poor, and have been for several days. He is tired, and disinclined for any exertion. On being questioned, he admits that just before noticing the swelling, he had had a discharge from the penis, which made the end of it very sore and swollen. This discharge has, since the swelling in the groin had appeared, become much less, has indeed almost disappeared. He had a suspicious connexion with some unknown woman a fortnight before examination.

This is evidently a condition affecting the inguinal region, and discovered by direct inspection. It therefore should be found in Class II, in Group B, which contains conditions common to both sexes; and in Section I.

It is not reducible upwards into the abdomen by pressure. It falls therefore into sub-section II.

It is associated with acute inflammation. There is a rise in the general temperature of the body, and the general constitutional disturbance is marked. The parts are acutely tender. It is therefore included in (A). The testes are both present in the scrotum. It must therefore be in Division (B). It is quite dull on percussion, so it must be found in Subdivision (i). As the cord is not involved, and there is at the same time a history of a discharge lately from the urethra, it is evidently No. 64, an ACUTE ADENITIS, probably secondary to the irritation of the mucous covering of the prepuce in gonorrhœa.

These cases will probably be sufficient to show the general scheme upon which these *Tables* have been constructed, and to enable the student to use them in others. The remaining cases deal with some of the difficulties encountered in abdominal practice, and whilst they also illustrate the use of the tables and lines laid down, are intended to emphasise the necessity of judgment in estimating the relative value and force of symptoms.

Case V.—Traced by "Diagnostic Tables."

Mrs. E. J., æt. 36. Married at 19. 11 children. One miscarriage between first and second child. Eldest child 17 years old, youngest 6 months old; this was suckled until its death four months later. Has menstruated twice since, her last period being six weeks ago. When this period began there was great pain in the right sacro-lumbar region, which is unusual with her; this period may have been a day or two later than normal, but she has often been irregular as to time, even before marriage. The pain passed off as the flow became established, but whilst it lasted it was also felt in both thighs nearly to the knees, and was as severe there as in the back. She had never had such an attack before. Had not suffered from indigestion, and had never been jaundiced; there had never been renal pain, or any blood in the urine or in the fæces. She has had pain in urination, but not lately. For the last month she has had a sensation every day of impending menstruation, which, however, has not occurred; this sensation was more intense than but not wave-like like labour pain. There has never been pain around the right lower ribs, on the the right shoulder, or over the right scapula.

Four days previous to examination she felt well on rising, and began to do her housework, when suddenly, about noon, an intense pain was felt in the epigastrium, and she fell down and fainted. On recovering from the syncope, she felt cold, with cold perspiration; she felt sick, but did not vomit. The pain, not so severe as at first, was still felt, and had continued ever since, always in the epigastrium, but occasionally passing into the right iliac region, never into the left. Whenever the pain passed into the right side she became faint, and had cold perspiration. There was some swelling of the abdomen on the first day after her sudden attack. The patient was very white, and had a rapid, shallow pulse. The abdomen was much distended; there was some dulness in the right inguinal region down to Poupart's ligament. There had been absolute constipation since the day after the severe pain. There was a trace of milk in the breasts. Patient herself thought that she was pregnant.

Vaginal examination with the speculum showed an open os, but this was also split on the left side; there was little or no discharge from it. The vagina was slightly violet in colour. Bimanually the uterus could be felt, but its outline was obscured by some thick material in Douglas' pouch. It was somewhat enlarged, not tender to touch; the os was soft, on either side the Fallopian tubes could be felt, the right being somewhat thicker and more resistant than the left, but neither could be easily outlined, owing to the presence of the effusion around. There was no lump or mass with any definite outline to be felt in the pelvis. What is the case?

The patient is a woman in the child-bearing period of life. She

had a sudden attack of intense pain, followed by syncope, but there was nothing to be seen or felt by external examination. The case would evidently belong to Class IV, and being a woman, to Group A.

None of the symptoms present answer to the headings of the first and second sections, but there was delay in menstruation, which would place it in Section 3. There was not amenorrhœa throughout the case, nor marked uterine enlargement. It cannot therefore be included in Subsection I.

Such an attack as she described might be due to the giving way of an ulcer in the stomach, or duodenum ; to the bursting of an appendical ulcer or abscess ; to the passage of a gall-stone down the biliary duct, or a renal calculus down the ureter ; or to the rupture of an ectopic pregnancy all of which might be possible at her age. The white, pallid appearance of the patient, and the quickened, shallow pulse only proved the intensity of the shock. To a certain extent also they suggested loss of blood : but they might be present in any of the other conditions mentioned above, where no actual loss of blood to any great extent occurs. They do not lead far in assisting differentiation, although valuable as showing the stage arrived at, and by their increase or decrease throwing much light upon Prognosis.

The pain at the time appeared to be in the epigastrium, with occasional attacks located in the right iliac fossa. This at first sight would suggest the giving way of an ulcer in the stomach, allowing the contents of that viscus to run down into the iliac fossa ; each fresh effusion accentuating the irritation thus produced in that part. But the force of this suggestion is greatly diminished by the fact that all irritation of the peritoneum is first referred to the solar plexus, and is therefore felt as though it originated over this nerve centre, which is located beneath the epigastric region. Pain also had been previously felt in the right iliac fossa, and posteriorly at the same level, before the epigastric pain appeared, which evidently marked the time of the catastrophe rather than the exact location of it. Against duodenal or gastric ulcer also is the fact that no dyspepsia or gastric trouble of any kind preceded the sudden pain. Gastric ulcer does not perforate as soon as formed ; there is usually a more or less lengthened period of discomfort before or after food, and frequently some vomiting of blood, even if only in small quantity. There is no such history here. In duodenal ulcer, although vomiting of blood is rare, and pain is not so closely connected with the taking of food, or the rubbing together of bare gastric surfaces when the stomach is empty, yet there is usually a history of pain, when, some time after the ingestion of food, the pylorus relaxes, and permits the acid contents of the stomach to flow over the ulcerated surface ; whilst blood does ooze from the raw surface, and though prevented in most cases from finding its way into the stomach, it

passes downwards, mixing with the fæces, and shows itself in the thereby blackened stools. Anything of the sort was expressly denied by the patient. Duodenal and gastric ulcers may therefore be almost certainly eliminated from consideration.

The passage of an ureteral calculus must be considered, especially as at one time she complained of dysuria. It may, however, be ruled out; as there has never been any renal pain, blood or crystals in the urine, nor had the pain been made worse by exercise.

There is nothing to point to hepatic calculus, and much negative evidence to disprove it. Jaundice might or might not have been present—if a calculus was in the cystic duct, no jaundice would be produced; but the total absence of pain in the hepatic region, or the right shoulder, or around the lower ribs, is strongly against it. The absence of previous attacks, the absence of disturbance of digestion, together with these, practically eliminate its possibility.

The pain has been in the right iliac fossa, and passing down the thighs: as well as posteriorly at the same level. On the right side we have the appendix, the cæcum, and the right ovary and Fallopian tube.

In former times, the cæcum was believed to be liable to the occurrence of stercoral ulcers—ulcers produced by the prolonged contact with its mucous membrane of hard fæcal masses. In consequence of the irritation so produced, the cæcum became inflamed, and conditions known as typhilitis and perityphlitis produced. Without denying the possibility of such occurrences, it is now known that in the immense majority of instances the mischief is not seated in the cæcum, but in the appendix. Therefore, practically, the diagnosis now lies between appendicitis with rupture, and ectopic pregnancy also ruptured.

Physical examination after rupture does not assist very much. Still it does assist to some extent. Pressure over McBurney's point, *i.e.*, a point midway between the umbilicus and the anterior superior iliac spine, may in both cases elicit tenderness, or it may not. It is not at this stage of much help. A dull percussion note over the abdominal wall above Poupart's ligament on the right side is of great importance before rupture of an appendical abscess, but is usually absent and replaced by a clear sound after that event has taken place. Dullness above the brim of the pelvis extending to both sides is seen in both ruptured ectopic pregnancy and ruptured appendical abscess, if the effused fluid is sufficient in quantity to more than fill the true pelvis, but that may not be the case, and then there is no dullness at all in this region. Bimanual examination through the rectum or vagina is of immense assistance before rupture, because then, in the case of an ectopic pregnancy, a firm tender mass can be felt in connection with, but not absolutely one with the uterus, in the line of one or other Fallopian tube; but when this has burst it is next to

impossible to recognise its remains by the sense of touch. A violet coloration of the vagina, a softened, open os, would point to ectopic pregnancy, were the patient a nullipara, or even had she only had one child, and that an easy labor. This woman has had eleven, not counting the miscarriage, and her os is split; a split os must necessarily be somewhat open, and the softness of it may be due to changes which occur after repeated pregnancies. No vagina after repeated labors will have the clear rosy tint of a virgin canal, and it would be extremely difficult to fix the exact amount of coloration which is due to them, or to a fresh pregnancy. The fact that the outlines of the uterus are difficult to define, and that Douglas' pouch appears to contain some thick material, is in favor of ectopic pregnancy, rather than appendical disease, since the fluid effused is in the first case, mainly blood which clots, and gives a firmer sensation, more like that of thick mud, than the pus which escapes from an appendical abscess. To distinguish between the two, however, especially in a few hours after the occurrence, before much clotting has taken place, requires a keener sense of touch than can be expected in the student. The fact that the uterus is enlarged to some extent, points to ectopic pregnancy, but a woman who has had eleven children will very probably have some amount of subinvolution, especially as her last child is only six months old. In some cases, the uterus appears to require a long time to return to its normal size; so it is evident that this sign also may be misleading.

As physical examination is of so little use in this case, it is necessary to pay more attention to the history. She has menstruated since the last child was born, and then has missed one period. This is very suggestive indeed of ectopic pregnancy, but suggests nothing of appendicitis. Besides this, the previous period was a day or two late. This is still more indicative of pregnancy, but its force and that of the actually missed period is depreciated by the fact that she has often been irregular before, even before marriage, when pregnancy was out of the question That she has never had a similar attack previously, is more convincing, since this is usually the case in ectopic pregnancy, but very seldom in a ruptured appendical abscess. Such an abscess takes time to form; is almost always the consequence of a previous appendical ulcer, which yields gradually, and permits the escape of septic materials in small quantity at first, setting up protective adhesions around; and every step in this process is more or less painful after once the ulcer has reached its peritoneal covering.

The history, it will be seen, is gradually preponderating towards a diagnosis of ruptured ectopic pregnancy, and this becomes still more probable, when the facts of milk in the breasts, and pain down the thighs are added to the list. My own experience, based upon a large number of cases, is that pain in the thigh is rare in appendicitis, but

extremely common in ectopics; this is worth noting, partly because it is the very opposite to what might have been expected. That the pain was intensified at the commencement of the last menstruation and passed off as the flow became established is in favor of the pregnancy, but is not conclusive, since during the period *immediately* before menstruation all the pelvic viscera become somewhat congested, but the genital organs mainly. The absolute constipation since the attack is common to so many conditions involving an irritated peritoneum, that it simply points to that one factor in the case.

The case has already been traced by the *Tables* to Section III; and the second division, which is headed "One or two periods have been missed or delayed," should be most likely to include it. The subdivision (B) contains most of the other symptoms described, and this in its turn is subdivided. In (*b*) the most striking symptoms are included; the sharp, sudden pain, with syncope, general pallor, and rapid pulse, whilst (ii. *a*) completes the differentiation. It is then probably No. 35, RUPTURED TUBAL PREGNANCY; producing retro-uterine hæmatocele; and this diagnosis was proved to be correct by operation.

It will be noted how important in the process has been the *absence* of certain symptoms. In some points this is of greater importance than the *presence* of others.

Case VI.—Traced by "Lines of Diagnosis."

Mrs. T. æt. 65, married 43 years. Has had seven children and two miscarriages, the first miscarriage occurring five months after marriage, the second brought on by fright five years after marriage. First child 41 years, last child 27 years ago, all severe confinements, terminated by instruments; the last being the most difficult of all.

Menstruation commenced at 19 years of age, after an attack of anæmia; was quite regular up to the time of marriage, but each period was painful. Menstruation ceased at 60 years of age. When 54 years old she was perfectly regular, then became irregular in time and amount, finally ceasing six years later. When 56 years old pain over the sacrum and the hypogastrium developed; this pain was paroxysmal, and was associated with leucorrhœa, and irregular, but fairly profuse losses of blood. These symptoms continued with varying intensity for a year, when a polypus was removed through the vagina, the pedicle of which passed through the os uteri. After the operation she improved for some weeks, when the pain again returned, with similar discharges from the vagina, and has continued more or less ever since. The pain was always worse during urination. During the last five years the discharges have become very offensive; this would occasionally improve under the use of disinfectants, but never for very long.

The family history was negative. Her mother died of bronchitis at 69 years of age ; the father and two sisters are dead, but in neither instance was the cause of death clear.

On physical examination, the patient looked fully her age, the face was deeply wrinkled, and had an expression of prolonged suffering. The body was emaciated, the subcutaneous fat almost all absorbed, the skin very sallow, the ribs prominent. The abdomen was supple, with thin walls, flattened and retracted near the ribs ; in the lower half of the abdomen the wall was raised and made prominent over an irregular mass, which was firm, centrally placed, dull on percussion ; the dullness extending to the pubes, and ending above and at each side in a line, composed of several curves which intersected each other, and were convex outwards. The sky line rose abruptly from the pubes, was irregular, and ended abruptly above, about two inches above the umbilicus. Placed in the Trendelenburg position, no lower limit could be felt from the front, nor any pulsation in the hypogastrium. The position of the tumour is not materially altered.

Per vaginam.—The perinæum was almost non-existent, but the sphincter ani was complete. There was no protrusion of vaginal mucous membrane between the labia, which were shrivelled and flaccid. A brownish red discharge issued from the vulva ; there was a markedly offensive smell.

The os uteri was widely dilated. Foul-smelling, cheesy-looking *débris* in which were necrotic shreds issued from it, but its ring was complete, and its epithelial covering intact. Along with this *débris* was a brownish watery fluid. The vagina and the skin about the vulva were excoriated, and there was a small bedsore over the lower end of the sacrum.

Recto-bimanual examination.—The uterus was greatly and irregularly enlarged ; the mass felt in front being continuous with it. It could be outlined on all sides, and there was no infiltration in either broad ligament, or in front, between it and the bladder. The Fallopian tubes were supple, and apparently not enlarged. Each of the bossed hard enlargements felt on the uterine surface had smooth defined outlines, the surrounding tissues being perfectly distinct. The parts were not tender to touch.

There was a persistent cough, without expectoration, the tongue was dry, and the general temperature 102·6. Chest sounds were clear. What was the nature of the case ?

The patient was a woman, past the menopause, with foul offensive vaginal discharge, and a history of repeated losses of blood through the same canal. She had a prominent mass in the abdomen, which was visible and palpable from without, and which by Jenner's test was proved to have a pelvic origin. It should therefore be found in Class V. § 609 gives the main physical outlines, and refers to the

succeeding paragraphs 610–645, amongst which it should be found. The succeeding paragraph also agrees with the foregoing description of the case, and refers again to the group 611–615. Par. 611 again divides into 612, 613, and 614. Paragraph 613 completes the description, and the case resolves itself into SLOUGHING FIBROMYOMA.

Such a concurrence of symptoms indeed could only be due to two conditions, viz.: Carcinoma, affecting the body of the uterus, and Sloughing Uterine Fibromyoma. It is necessary to distinguish between these two.

In favour of Carcinoma there is the great emaciation, the age of the patient, the foul smell, and the cheesy discharge. These symptoms are all those of Carcinoma; but their diagnostic force is unequal, and it is necessary to consider each somewhat critically, before undue reliance is placed upon them.

The age of the patient—65 years—is very suggestive of cancerous change, but it is *only* suggestive. Whilst it makes such change possible, even probable, it does not exclude many other changes.

The emaciation of the patient is of precisely similar value. Emaciation is caused by cancer, but it is also caused by other things; such as tuberculosis, for example, or slow absorption of septic products, so that whilst it also suggests Carcinoma, it does not exclude other causes.

The foul smell of the discharge. Many men pride themselves upon being able to recognise the presence of cancer by the unpleasant odour involved from the discharges alone; and in this instance two practitioners had already pronounced the case to be one of uterine cancer, without attempting any physical examination, relying solely upon this fact. The odour was penetrating enough, but it must be remembered that such an odour is a complex one, made up, first and mainly of the results of the decomposition of gangrenous shreds, in a warm, moist cavity, in contact with, and irritating living tissues around, which are thereby stimulated to pour out increased amounts of their normal secretions, which contain fatty acids. These secretions in their turn decompose, and liberate butyric and other acids, which are offensive. The smell perceived merely shows that sloughing is present, whatever may be its cause; it is not therefore *pathognomonic* of cancer.

The cheesy blood-stained discharge can equally be derived from any raw, suppurating surface which involves the glands of the cervix, and is not in itself characteristic of anything further.

Against the diagnosis of cancer is the length of time during which these symptoms have lasted. Carcinoma uteri, according to West,* has an average duration of 15 months. Out of 17 cases the longest he

* West, *Diseases of Women*, 1856, vol. i, p. 381.

could find lasted $3\frac{1}{4}$ years ; but Tait* has pointed out that its duration varies very much. He instanced one case which lasted nearly four years, and another which died within two months from the first appearance of the disease, so that whilst the fact that foul discharge has been coming away for five years does not absolutely negative the possibility of cancer, it yet renders it much more unlikely.

Another fact which, in conjunction with the above, is almost decisive, is *the clearly defined outline* of the enlargement itself. All malignant growths tend to infiltrate the tissues around ; the outlines become blurred, and anything like a smooth surface bounding the mass in all directions is scarcely ever seen. Of course, even a malignant growth will not invade surrounding tissues in all directions equally, and one side may be smooth whilst another is rugged, or has an indefinite outline ; but in this case *all* the surfaces are smooth.

Therefore, the diagnosis made was that of SLOUGHING FIBROMYOMA, which an operation confirmed.

Case VII.—Traced by "Diagnostic Tables."

T. W., male, æt. 30, mechanic. In perfect health until two days ago. Was at work in the early morning; when he was struck forcibly on the lower part of the abdomen by a heavy steel pulley. After a few minutes, he recovered, and went on with his work, feeling sore, but in no great pain. Five or six hours later, he felt acute pain in the abdomen, which increased. He went home, and to bed : the pain increased, and he was seen by a doctor. He complained of not being able to urinate. So far as he could remember, he had not passed urine for over twenty hours. A catheter was passed, and two ounces of urine evacuated, containing no blood. Pain was great over the hypogastrium, and some swelling was observed there. The muscles of the abdomen were rigid, especially over this region. There was no ecchymosis or discoloration of the skin. Unfortunately the condition was not recognised, and he was not sent to hospital until the evening of the third day. The catheter had however, been used several times, as his desire to urinate increased, but each time only two or three ounces of fairly clear urine was evacuated. The swelling in the hypogastrium and the pain had steadily increased. No stool or flatus had passed since the accident.

On admission, he was seen to be a strong man in the prime of life. His expression was apathetic, and no clear account of his condition or of the accident could be obtained from him : the account given above was obtained from his friends. On uncovering the abdomen, it was found to be distended, especially in the hypogastrium. The

* Tait, *Diseases of Women and Abdominal Surgery*, 1889, vol i. p. 118.

abdominal wall was rigid, especially over the lower recti, which region was extremely tender to touch. Percussion showed limited dulness from the pubes upwards to the level of the umbilicus, with a rounded outline, like that of an over-distended bladder. The renal, epigastric, and hypochondriac regions were clear, and whilst the dullness extended on the left side to the iliac fossa and down to Poupart's ligament, on the right side these corresponding regions gave a clearer percussion note. There was no swelling or œdema of the penis, scrotum, perinæum, groins, or thighs. A catheter drew off two ounces of urine which contained no blood, but which was foul, and cloudy. Eight ounces of boracic acid solution were injected into the bladder; of which only one ounce could be again drawn off. An enema brought away a formed stool. What was the condition present?

The essential points are, an injury over the hypogastrium in a previously healthy man, followed by inability to urinate, with great and recurring desire, unrelieved by catheterisation; also associated with absolute constipation and abdominal distension. A sudden stoppage to the fæcal circulation with concomitant abdominal distension is a symptom which is common to a great number of conditions, all associated with one factor, viz., peritonitis, of widespread or very limited extent.

Other symptoms which demonstrate the existence of peritonitis in this case are the abdominal tenderness, and especially the muscular rigidity of the abdominal wall, which I have shown elsewhere is necessarily and automatically present in every case: at all events in the earlier stages. Sudden stoppage of the outward passage of the intestinal contents, differs from the same thing occurring slowly and gradually, in this frequent association with peritoniti·. Gradual stoppage may be due to stricture,—cancerous, or other,—chronic intususception, etc., and has seldom any peritonitic complication. From what has been said, it follows, that if there is any other symptom which points definitely to one abdominal organ, which may at the same time be associated with peritonitis, this symptom becomes of far greater importance for the purpose of differentiation.

In this case, such a symptom is the inability to properly empty the bladder. This points definitely to the urinary bladder as the damaged organ: and although peritonitis affecting the vesical wall might render the act of micturition painful and somewhat difficult, it would not prevent it, and it would certainly not prevent the evacuation of the bladder by means of a catheter. The secretion of urine varies according to the condition of a patient, his mental state, the amount of fluid taken into the body, and other considerations, but after twenty hours, there should certainly be more than two ounces, and when whatever has been in the bladder has been removed, the

desire to urinate should be relieved. All these considerations indicate a rupture of the bladder.

Having arrived at this conclusion, the *position* of this rupture must be determined, at least so far as to decide whether it is intra- or extra-peritoneal. The bladder is only partially covered by this membrane, over its posterior and superior surfaces. All the rest is in direct contact with loose connective tissue, which is capable of taking into its meshes a very large amount of fluid. The fact of concurrent peritonitis is almost conclusive of a rupture into the peritoneum, and, therefore somewhere on the posterior or superior wall: but there is certain negative evidence which is almost as important. If a rupture occurs into the connective tissue covering the anterior or external surfaces of the bladder, the fluid so effused will make its way to the subcutaneous tissue of the perinæum, scrotum, penis and upwards over the abdominal wall, often also into that covering the inner upper surfaces of the thighs. These regions will be swollen, and œdematous, pitting on pressure. In this case, the absence of any such condition has already been noted. Therefore it may be considered certain that the rupture is intraperitoneal.

These are one or two facts which still further assist in the localisation of the lesion. At the periods when the catheter was passed, twice daily. a certain amount of urine, although smaller than normal, was found and removed. The first amounts were clear, not mixed with lymph. No blood was at any time found. If the bladder had been ruptured at or near the base, the bladder would have been rendered totally ineffective as a reservoir; the urine would at once have passed into the peritoneal cavity as soon as secreted. Consequently, either no urine would have been obtained at all through the catheter, or if the opening were wide enough to allow of reflux from the cavity without, the urine obtained would have been mixed with some of the lymph at once thrown out by the peritoneum in order to localise the effusion, and would not have been clear. The blood supply of the bladder is greatest, and the vessels are largest near the base, so that it would have been far more likely that some blood would have been seen, than if the rupture were near the fundus, where the vessels are sparsely set, and comparatively much smaller; the evidence therefore all goes to show that the lesion is comparatively high up on the posterior wall, or on its superior surface.

Traced by the *Tables*, this condition will be found in Group C. of Class III, which deals with affections of the Bladder and Prostate. In this group, Section II embraces all cases in which pain is the initial symptom, with increased frequency of desire to micturate. Division 1 contains those in which the onset is sudden, with apparent stoppage of the secretion, the catheter finding but little urine in the bladder; Sub-division (B) contains cases like the one under consideration, in which intense constant pain in the hypogastrium is present.

with a history of immediately preceding injury to the lower abdomen. Of its two included paragraphs, the first (A) most nearly resembles the case in point. All these paragraphs are necessarily made as typical as possible, so that, as in the present instance, some subordinate points may differ in a given case from the type. That is unavoidable, and it is indeed an illustration of the necessity for well balanced consideration of the relative value of these symptoms. In the explanations given above, the reasons for the variation will be seen.

The abdomen was opened, giving exit to a large amount of urine, mixed with flakes and masses of lymph. A large cavity existed on the left side of the hypogastrium, bounded above by coils of intestine, united together by lymph, behind by the posterior abdominal wall, in front by the anterior wall, below by the bladder, and on the right side by other intestinal coils, similarly connected. The entire cavity was lined by a sloughy layer of lymph. The bladder was contracted, and at the angle formed by its posterior and superior wall was a ragged opening, about $\frac{1}{4}$ inch in diameter, through which urine issued.

Case VIII.—Traced by "Lines of Diagnosis."

Mrs. P., æt. 35, married 13 years. No children or miscarriages. Has had pain in the left side of the abdomen, ever since she was 13 or 14 years old. This pain has been more or less continuous with exacerbations, and has been worse since marriage. When 22 years old, the attacks of pain became more frequent and severe, and there was suppression of urine. She went into hospital, where some operation was done, the nature of which is not clear: after this, for some weeks she was free from pain, but it recurred again, and had persisted more or less ever since. The pain had always pursued a fairly definite course. Commencing below the left ribs, it might remain there, in which case it was bearable: should it shift, it passed downwards to the pubes, shooting also into the left leg: from the pubes, it appeared to return to a point behind and below the tip of the eleventh rib, when it became unbearable. The pain was always worse during menstruation.

Menstruation commenced at 15 years of age, was regular always as to time of occurrence and amount of flow.

The amount of urine passed sometimes became scanty before an attack of pain; and always ceased when the pain was most severe. During the attack of pain, there was a constant desire to urinate. When the pain disappeared, the flow of urine returned almost simultaneously; sometimes however, its passage caused a good deal of pain, rendering her afraid to micturate, even when she felt that it was once more possible. When the power to urinate returned, she could

sometimes pass a fair amount as often as four or five times in half an hour. This always meant ease. Urination was not followed by any burning sensation in the urethra. The patient was then able to go about again, and would expect to be free from pain for a week or two, after which time it would again recur. Occasionally, if she lay down at once, a threatened attack would pass off. Nine months previously to examination, she had consulted another surgeon, who diagnosed sclerotic ovaries, and removed them both by abdominal section. The pain was relieved for five weeks after this operation, but recurred again before she was allowed to get up, and had been, if anything, more severe since the operation than before. Seven days since, she had the most prolonged attack of pain she had ever experienced, lasting for three days and nights.

There was pain and tenderness on pressure over the left kidney, but none over the right. Jordan Lloyd's test, which consists in supporting the flank with one hand, whilst suddenly and forcibly digging the fingers beneath the ribs in front, elicited sharp pain. The patient found lying upon the back to be the easiest position; the most uncomfortable was that of lying upon the right side.

The bowels were freely and regularly moved without pain. The urine contained calcium oxalate crystals, some albumin, and pus cells. Its specific gravity was 1015. It was acid. There was no sugar. The pulse was 88, respirations 20, temp. 98·4.

Recto-bimanual examination showed that the uterus was small, and moveable. The broad ligaments were free, and supple. By the side of the uterus, and near the base of the bladder on the left side was a stony hard, olive shaped body, like a small damson; slightly moveable laterally, but in no other direction.

What was the case? It was sent to me with the idea that the operation performed nine months previously, in which the ovaries had been removed, had stopped short of success because some nerve fibre had been enclosed in the pedicle formed, and which had been tied: It was suggested that if the ligature were removed, the pain would cease.

This was a woman in middle life who was in constant pain, with frequent greatly increased attacks, which had abated after removal of her ovaries, but had since returned with increased force. The pain was located on one side, the same side as before, had been increased at the menstrual periods, and was associated with difficulties in micturition.

Difficulty in micturition may be reflex, due to spasm, excited by irritation in neighbouring viscera; and in women especially by irritation of the internal generative organs; or it may be due to mechanical causes, such as the presence of ulceration at the neck of the bladder, an intravesical growth, calculus, or lastly by the irritating character of the urine itself.

To the two facts, first, that the patient had never had any children or miscarriages, although she had been married for 13 years, and second, that the pain was always intensified at the menstrual periods, had evidently been attributed great weight in the mind of the surgeon who had operated upon her nine months before my examination ; and the third fact that the operation itself had been followed by cessation of pain for five weeks, had obviously greatly influenced the opinion expressed by the physician, who advised removal of the ligature encircling the pedicle of the left ovary. Had undue importance been attached to these points, and was there, after all, some other cause which had been overlooked?

A review of the history shows that whatever was the cause of the pain had been in existence before menstruation commenced ; since the first attack of pain occurred when the patient was 13 years old, whilst the menses first appeared at 15 years of age, fully two years later Menstruation itself whilst it lasted, had, with the exception of pain, been normal in character and in rhythm. It is a well known fact, that all the pelvic organs are fuller of blood during the period of menstruation, and immediately before, than at any other time ; thus producing increased tension of all these structures : therefore pain produced by any other cause, especially by a mechanical one, will be almost certainly intensified. The force of this factor is evidently thereby greatly diminished.

An operation, and especially one of the severity of a laparotomy with removal of ovaries, will necessitate the dorsal position for some time : If we suppose that the cause, whatever it was, was most effective in the upright position, as many are, then prolonged rest in bed would be certain to give relief, at all events for some time.

Ovarian pain is often most felt on the left side, but when it has continued for so long a time as in this case, is rarely *confined* to that side.

If the return and intensification of the pain after removal of the ovaries were due to the inclusion of nerve fibre in the ligature which encircled the pedicle, how is it that this does not occur after every ovariotomy, in which precisely the same tissues are ligatured, and therefore the same nerve or nerves must be compressed?

These considerations threw considerable doubt upon the previous diagnosis ; and the other symptoms in the case, viz., those not connected with the generative organs, obviously gained in importance. When these were reviewed, it was impossible to avoid seeing that they pointed most strongly to some interference with the urinary function, which might be the result of a direct cause, and not of a reflex one, as had been assumed.

The pain started always from one renal region : from this point, it passed downwards in the line normally occupied by the ureter ; then, it often returned once more to the renal region and became

unbearable. Whilst most intense, the patient would make violent efforts to empty the bladder, in spite of the fact that urination itself caused pain, evidently not so great as that which she suffered when no urine would pass. During the acme of pain, no urine appeared —a catheter passed into the bladder gave exit to none. The block, if it was a block, was evidently above that viscus: After a varying period, urine was voided, and coincidently with this the pain disappeared.

So far it appeared probable that some mechanical block, as a calculus, or growth, was present, which acted intermittently as a ball valve in the urinary canal, somewhere above the bladder. This might be situated in the (renal) pelvis, or anywhere along the ureter. A growth might certainly be present in the kidney, but growths in the ureter are so exceedingly rare, that if the block were found there, it would almost certainly be a calculus. If in the ureter, observation has shown that there are three points in its course where such calculi are likely to be found: first, at the renal entrance; second, at the pelvic brim; and third, at the vesical opening. Such a mass could be felt in this position, occupying the site of the vesical end of the ureter.

Jordan Lloyd's test is said to indicate the presence of a renal calculus if sudden pressure brought to bear upon the kidney elicits sharp pain, since the impact of the sensitive and already irritated renal substance against the unyielding stone produces this; but it is evident that if the renal pelvis is tightly distended by fluid, a similar condition is produced. The renal substance is rendered equally sensitive by the distension brought about, while tense fluid under pressure is almost as unyielding as any solid body. Besides in this case, a hard, firm body was clearly felt at the lower end of the ureter.

This case might fall into either Class III, Group C, as there was interference with micturition, or into Class IV, since an abnormal mass was felt bimanually.

In Class III, Group C, the symptoms noted do not coincide with either §§ 449, or 456, italicised dividing paragraphs—but § 467 agrees with the main symptoms, "Frequency and pain are the two dominant symptoms." This further refers to §§ 468—476 inclusive, and in one of these, § 474, is found the remainder of the clinical picture presented.

In Class IV, it could not be included in Group A, since the swelling found did not involve the uterus. In Group B, which includes both sexes, and in which the swelling, if in females, is separate from the uterus, it might be found. It might be included in § 555, an italicised paragraph which includes all §§ 556-608. It is not closely connected with the bony pelvic wall, so that all §§ from 557 to 565 may be excluded. Turning to § 566, the next subdividing

paragraph, it is likely to be included in the succeeding §§ 567-572 to which this refers; § 567 would not contain it, since the swelling observed was not tube-like, therefore §§ 568 and 569 are excluded, since this paragraph refers to both. § 570 would fit the description, and includes §§ 571 and 572, the latter of which answers in every way to the details of the case.

Both these final paragraphs, § 474 and § 572, it will be seen, describe the same thing—An IMPACTED URETERAL CALCULUS.

Supra-pubic cystotomy was performed, and a calcic oxalate calculus was removed. All the symptoms disappeared promptly.

Case IX.—Traced by "Diagnostic Tables."

Mrs. R., æt. 30, married 6 years, one child 5 years old, no miscarriage. Confinement was severe, necessitating the use of instruments, and she believed that there was some difficulty with the placenta, but was not sure, as she fainted at the time, and was ill for several weeks afterwards.

Before marriage, she had always been regular, free from pain during menstruation, and was plump, and healthy. Ever since her confinement, she has had more or less pain in the hypogastrium, usually in the left iliac fossa; this increased, and was associated with pain over the sacrum during the periods, which at the time of examination were somewhat irregular. She had previously to that time amenorrhœa, having been three or four months without any appearance of menses. She had lost flesh, was worn-looking, and her pulse was very thin and weak.

Since the confinement she had been frequently sick, and had vomited a great deal. It had been especially difficult to feed her during the last five or six months, owing to this tendency to reject all food taken by the mouth. During this six months there had been complete amenorrhœa. A swelling had developed in the hypogastrium; this she had felt for the previous two months only. It was, however, large enough to reach the umbilicus. It was perfectly dull on percussion down to the pubes, and extended equally on both sides of the mesial line well into each iliac fossa. The percussion note was clear around, and above each Poupart's ligament. The mass was continuous with the cervix below. It was movable from side to side, and its movements were transmitted to the cervix. It was perfectly even and smooth in contour. The vagina was violet in colour, the os was large and soft; the broad ligaments were free, easily palpable, and there was no fulness or mass in Douglas' pouch. There was pigmentation of the umbilico-pubic line, and the nipples of the breasts were large, elastic, and serous fluid could be expressed from the nipples; the veins over these structures were enlarged.

There were rhythmic contractions in the mass, which alternately became soft and then firm. A loud souffle could be heard over the left superior quadrant. No fœtal heart sounds could be heard. Her husband did not think that she could be pregnant, and the patient herself said that her sensations were totally different from those of her first pregnancy.

She had always been costive, but had rather more difficulty than usual at the time of examination in defæcation. Urination was not painful, but she passed less urine than formerly. The urine itself was normal.

What was the case?

The patient was a woman in the child-bearing period of life. She had amenorrhœa of at least five months' duration, but she had had this before. She had a swelling in the hypogastrium, evidently an enlarged uterus, in which a placental souffle could be heard. This swelling was equivalent in size to a five months' pregnancy, and there were concomitant signs of pregnancy, but no fœtal heart sounds could be detected. She had previously had amenorrhœa. This in itself would suggest anæmia, or some other blood dyscrasia, but she had never before had a swelling in the hypogastrium. These two symptoms together might mean retained menses—hæmatometria, &c. But there were as well three symptoms which would not be present were the menses simply unable to find their way out through the cervix—these are colouration of the vagina, umbilico-pubic line and nipples, fluid capable of expression in the mammary tubules, and placental souffle. All these taken together point unmistakeably to pregnancy.

But if this patient was simply pregnant, why had she such constant and increasing pain? Why was she always vomiting, not merely in the morning, but all day? Why had she lost flesh? If she were pregnant, and her pregnancy dated back to five months ago, why were not fœtal cardiac sounds heard?

The answer to the first two questions is the same, and is to be found in the history of the case. The first confinement was a very severe one, involving much manual interference. It took place five or six years ago, when the necessity for perfect asepsis was perhaps not so well understood as at present. The possibility of a septic infection at the time is very great; and that it actually occurred, and produced the usual results in a marked manner, is evidenced by the prolonged illness which followed immediately after the confinement, and by the persistent recurring pain and sickness, which have continued ever since. Septic pelvic peritonitis produces adhesions between uterus, tubes, ovaries, and pelvic peritoneum on the one hand, and omentum, and sometimes intestines, on the other. If the ovaries become covered with lymph a tough membrane would be produced which would render the monthly swelling of these organs

when they become fuller of blood than at other times, intensely painful. Not only so, but by pressure upon and tension of the sympathetic nerve filaments a reflex irritation would be transmitted to all the abdominal organs, including the stomach ; and vomiting is often thereby produced. Vomiting may be produced in another way, also as a result of the pelvic peritonitis. Adhesions forming between the pelvic organs and the great omentum, which is attached to the greater curvature of the stomach, will pull upon this organ, if any movement of the former viscera takes place. The rectum and bladder are in more or less constant movement, due to the functions they have to perform. Pain and vomiting are therefore likely to be results of a previous pelvic peritonitis which has produced such unnatural unions. And both symptoms are bound to be intensified greatly, when the distension produced by a pregnancy comes to act upon a uterus so bound down.

The loss of flesh is equally a natural and necessary result of the persistent rejection of food. Not sufficient nourishment can enter the blood, if before digestion is complete the material from which that fluid is to be replenished is thrown out of the body. It is not necessary to invoke the presence of any blood dyscrasia, or of any malignant disease, to explain the loss of flesh. The patient is simply being slowly starved.

But why, if the pregnancy were five months old, were no cardiac sounds heard? There appeared to be several possible reasons. First, it is always possible that the examiner's ear may not be sufficiently keen. Secondly, there is the reason, which I believe to be the true one in this case, that the child being poorly nourished, by a mother who has scarcely blood enough for her own needs, has so faintly beating a heart that it is impossible for the sounds to be perceptible to any listener. Third, it is possible that the date of commencement of pregnancy is incorrect, and that only four months have elapsed since it began. Women are often enough mistaken on this point, and in this particular instance the patient gave two different months as the date of commencement of amenorrhœa. With regard to the apparent size of the uterus, I do not believe that it is possible to be dogmatic as to the exact size of any uterus at a given period of pregnancy, though I am aware that many men claim to be justified in being so. Lastly, it is just possible, though very improbable, that it may be a molar pregnancy : improbable, since no discharges from the vagina have at any time occurred during its progress. The opinion of the husband was based upon his having taken certain so-called precautions, which amounts to very little, and the wife had only one previous pregnancy with which to compare this, and as that took place when no adhesions were present in her pelvis and between her pelvic organs, it would be very surprising if she did not recognise a great difference between that and the present pregnancy.

I did not believe that the child was actually dead; since the placental souffle could be plainly heard, and as there is no inter-placental circulation of any moment, if blood passed in any quantity it must pass through the child's body; therefore, the child must be living.

The pain and vomiting persisting, and emaciation increasing, a miscarriage was induced, and results proved the previous diagnosis to be correct.

Traced by the *Tables*, such a case would fall into Class V., being a swelling of pelvic origin which was distending the abdomen, and into Group 2, since there was partial fluctuation in the tumour. Into Division (A) of this group, since the tumour could be identified with the uterus, and into sub-division (i), since the breasts were enlarged, after which the clinical picture differs from all the types given, for the reasons above explained. Of all these types, however, it most nearly resembles No. 4, NORMAL PREGNANCY.

Case X.—Traced by "Lines of Diagnosis."

A. S., male, æt. 33. Strong-looking man, but has sallow, unhealthy color. Brought to Hospital in an ambulance.

Has had fourteen days' illness, commencing with absolute constipation and vomiting, the latter symptom only lasting for the first two days. There was also abdominal pain, which was general at first, but at the end of a week was localised in the right iliac fossa. There had been no previous similar attack, and previous to the present illness he had not suffered from dyspepsia. When first seen by a doctor at that time there had been pain on pressure over McBurney's point, and some dulness in the right iliac region, continuous with Poupart's ligament on that side. The abdomen had been slightly distended, but not rigid. The tongue had been dry, the temperature 99°, pulse 96, r. 24. Belladonna was applied to the abdomen, and he was given half a grain of calomel with $\frac{1}{8}$th gr. of Ext. Belladonna. The day after he vomited again, the vomitus containing bile; the bowels were slightly moved. Nutrient enemata were given, and nothing was taken by the mouth except a few sips of water. He expressed himself as feeling much easier. Two days later the bowels were moved seven times in the twenty-four hours, and one action was unconsciously passed. On this day the pulse rose from 76 to 84; the respirations, however, were only 20, and the temperature went down to 97·8. There was marked leucocytosis. Was brought to hospital.

At this time there was dulness above the right Poupart's ligament extending for about 1 in. above this line. The dulness ended in a curved line, convex upwards. The abdomen was moderately distended, with a clear note on percussion everywhere else. The

abdominal wall was supple, except over the dull area; and generally the right rectus, and especially its lower end, was more resistant than normal. There was some pain on the right side generally, but the patient was very apathetic, and his mental faculties were decidedly blunted. Blood count shows leucocytes to be 18,000.

During the next night he complained of great pain, slept very little, and constantly desired to use the bed-pan. He declared himself unable to urinate, but the bed was constantly wet, and had a urinous odour. The bladder was not distended. The pulse next morning was 112 and the respirations 28. The temperature was 97·6. Leucocytosis had fallen to normal. At 12 noon he complained of great pain on the left side, became much flushed in the face, and his extremities became cold. The abdomen was much more distended, but rigidity had disappeared. He also had no longer dulness in the right iliac fossa. He died in a few hours.

What was the case?

The patient was a middle aged man, having had previous good health, who was attacked with abdominal pain and vomiting, followed by marked constipation, which was however not absolute. The pain was general at first, later becoming localised in the right iliac fossa, where it was associated with dulness and local rigidity. During the attack the blood showed an increase of leucocytes. Later on, and not long before death, this increase in the white blood-cells disappeared, concurrently with a renewed generalisation of the pain, increased distension of the abdomen, and loss of rigidity.

In the chapter on Pain, it has been already shown that generalised abdominal pain does not mean that the whole cavity is affected, still less that any general peritonitis is present. Such pain merely means that a focus of irritation exists somewhere in the abdomen or pelvis; and it is necessary to wait, unless some other localising and urgent symptom is found contemporaneously with this (such as difficulty in urination in Case 7), until the pain becomes localised. When this happens it becomes a very valuable guide. In this case the pain became limited in a few days to the right iliac fossa. If this patient had been a woman it would be necessary to examine the appendages on this side. Being a man, such an examination is not necessary. In this region the pain was elicited by pressure over McBurney's point. Although such a symptom is extremely suggestive of inflammation in the appendix, this structure does not lie here. McBurney's point is situated much more commonly over the ileo-cæcal valve; and my own observations have found the ileo-colic connection to lie between this and another point three-quarters of an inch vertically below. Addison* gives the root of the appendix at a

* *Journ Anat. and Phys.*, Vol. 35, 1900, p. 288

point in the right lateral line one inch below a line drawn from the anterior superior spine to the umbilicus, but these anatomical facts do not diminish the clinical value of the sign.

When to this symptom is added the fact of dullness extending upwards from Poupart's ligament, and some local rigidity of the overlying muscles, the picture of appendicitis is fairly complete.

But if there was inflammation of the appendix, or of it and the parts around, why was there no greater rise of temperature than 99°?

The temperature in abdominal inflammation is never a symptom of much value. Associated with any such changes, there is a great tendency to septic absorption. The bacillus coli, which, whilst the intestine is healthy, is rigidly confined to the lumen of the gut, appears to be able to pass with fair ease through an inflamed wall. Its toxins, and those of other septic organisms which accompany it, are rapidly absorbed, and appear to counteract the thermic effect which inflammation elsewhere usually produces. In peritonitis it is a common experience that the temperature may fall below normal. The presence of an excess of white blood corpuscles in the blood is a far safer indication, and this increases so long as the vital powers are not overwhelmed by too great or too sudden a bacterial invasion. If once such a cataclysmal invasion occurs, however, the leucocytosis ceases, as it did in the later stage of the present case. It appears to register, to accompany, and to increase with the intensity of the fight between the vital forces and their enemies, the septic micro-organisms, and their poisonous products.

The attack commenced with temporary obstruction to the fæcal circulation, which was not complete, and which passed away. Increased experience in peritoneal affections has convinced me that one of the first results of peritoneal inflammation is a rigidity of all muscular structures which produce movement between the intestines and their containing wall. We see this in the immediate rigidity of the abdominal muscular wall in acute peritonitis. It is less observable directly in the muscular wall of the intestines themselves; but that it also occurs there is fairly evident in the absolute constipation which results in that disease, and the minor instances of it which such a case as this presents. If the peritonitis is local and confined to but a small segment, as for instance the appendix, the rigidity is local, and its effects not wide-reaching or persistent. If, on the contrary, it is general, the rigidity also is general, and total and persistent obstruction results until the vital forces are overpowered. Then we often get a passive diarrhœa, or excessively frequent stools, which precede, and by the exhaustion produced, often seem to hasten the fatal termination.

The same cause will account for the initial vomiting. The contents of the stomach, no longer able to pass along the rigid intestinal tube, are rejected when it contracts to expel them, since this viscus

is under the control of the pneumogastric and phrenic nerves, whose connections with the sympathetic system of the abdomen are not so immediate and direct as is that of the motor nerves of the intestines themselves, and therefore its power to act does not cease so soon.

All the symptoms therefore point to an INFLAMMATION OF THE APPENDIX, with an accumulation around it of septic fluid, which was at first strictly limited by adhesions.

During the last night of the case four definite changes occurred. Pain became more intense and general, the limited dullness disappeared, the abdomen became rapidly larger, and leucocytosis disappeared. What did these occurrences show?

The renewed generalisation of the pain might be caused by a fresh but still localised impression upon the sympathetic system of nerves; but when taken with the other symptoms would point in the same direction as they did—therefore the other symptoms are of more importance for diagnostic purposes. Disappearance of limited dullness, if *gradual*, might be due to absorption of the contents of the cavity around the appendix—this, however, could never be sudden. *Sudden* disappearance could only be produced in one of three ways. Either the material must have found its way to the surface, and bursting through the skin have been thrown out of the system; or a second and larger opening having been produced by ulceration into the intestine, probably the cæcum, the fluid distending the cavity previously formed around the appendix might escape through this into the intestine itself, a very rare occurrence indeed; or lastly, the adhesions formed in the peritoneal cavity itself, which had previously limited the area of effusion, must have given way, and permitted the septic fluid free entrance into the general peritoneum. The first explanation was evidently not possible. There was no breach visible in the abdominal wall. Which of the two latter was to be accepted as the truth was decided by the two final symptoms—the sudden distension and the equally sudden disappearance of leucocytosis. The disappearance of leucocytosis means the giving up of the fight. One or other of the combatants—micro-organisms or leucocytes—are overpowered. Which of the two has gained the mastery? The abdominal distension shows. This distension is not due to a rapid filling of the peritoneum with fluid. Percussion shows a clear note everywhere, which would not be the case if the distension were caused by anything but air. All the intestines are filled by gas, and are rapidly becoming fuller; this means paralysis of their walls, and can only be due under these circumstances to general peritonitis, which in its turn is only explainable by sudden and complete infection with septic material derived from the appendical collection.

Post-mortem examination showed pus all over the peritoneum. The appendix was found lying behind the cæcum in an abscess cavity, remnants of the walls of which could be seen around. The appendix itself was elongated, dilated, with very thin walls, and containing a concretion at the end of a narrowed proximal portion. Midway between this and its top was a ragged aperture, communicating with its lumen.

This case is somewhat difficult to trace by *Lines of Diagnosis*. It falls, however, into Class IV, "Swellings in pelvis felt bimanually," and of this class into Group B, "Occurring in both sexes." § 555 would include it, and refers to §§ 556—608. The next paragraph would not include it, since the condition cannot be outlined as distinct from the visceral contents. §§ 557—565 are therefore excluded from discussion. The next dividing paragraph, § 566, does not include it, as the swelling cannot be traced over the sacral wall, and therefore §§ 567—572 are also to be missed. The next dividing paragraph, § 573, would include it, as there is a sense of pain and fulness in one iliac fossa; and the condition has no organic connexion with the pelvic wall. Next §§ 574—608 are to be consulted. § 574 still further limits the numbers to be examined to those lying between 575 and 579 inclusive, as it contains signs, all of which are to be noted in the case. § 575 is consistent with the case, although elevation of temperature is mentioned. In the case there was a slight elevation, viz., to 99°, so that this does not take it out of the paragraphs included in §§ 576—579, and § 576 contains all the remaining signs found. It is therefore APPENDICITIS.

APPENDIX.

EXAMINATION OF THE BLOOD.

For diagnostic purposes the most important points to note in the examination of the blood are the number of corpuscles in a given quantity of it, and the amount of hæmoglobin present, as well as the appearance and staining capacity of the corpuscles as studied in stained films.

The corpuscles present are of two main kinds, viz., red corpuscles (*erythrocytes* or *chromocytes*) and white corpuscles (*leucocytes*).

The enumeration of the red and white corpuscles may be most readily effected by Gowers' hæmacytometer. The lobe of the ear is pricked, and 5 c.mm. of blood are sucked up into the appropriate measuring pipette. This is blown out into and thoroughly mixed with 995 c.mm. of a diluting solution, which is measured out in the larger pipette of the apparatus. The diluting solution employed has the composition :—

Sodium sulphate	104 grains.
Acetic acid	1 drachm.
Distilled water	4 ounces.

In order to render detection of the leucocytes more easy, one or two drops of saturated solution of gentian violet may be added.

A drop of the mixture of blood and fluid is deposited upon the centre of the ruled slide, and the coverslip gently placed upon it and fixed by the clips. After waiting a few minutes for the corpuscles to subside on to the ruled surface of the slide, it is examined with the high power of the microscope,

and the number of *red corpuscles* in ten squares is counted. This number multiplied by 10,000 will give the number present in one cubic millimetre of blood. The *leucocytes*, which stain blue with the above diluting fluid, are much fewer, and for their enumeration a much larger portion of the ruled area is to be passed in review, it being usually advisable to count the number in 500 squares. The number thus counted, multiplied by 200, will give the number of leucocytes in the cubic millimetre of blood.

In using the Thoma-Zeiss instrument, blood is sucked up to the mark 0·5, and then the rest of the pipette up to the mark 101 is filled with the diluting fluid, a dilution of 1 in 200 being thus obtained. The two are thoroughly mixed in the bulb by shaking the pipette, and a drop of the mixture is blown out on to the ruled surface of the counting slide, and the coverslip applied, the first few drops which are blown out being neglected, since these simply represent the unmixed diluting fluid which has been drawn into the capillary portion of the pipette. The corpuscles are allowed to settle and the number counted in, preferably, not less than 100 small squares. The total, multiplied by 800,000, and divided by the number of squares counted, yields the number in one cubic millimetre. In counting the leucocytes the ruled area on the slide is too small to give reliable results if the same dilution (1 in 200) be employed. A special pipette therefore is used in which the blood is sucked up to the mark 0·5, and diluting fluid—a 3 per cent solution of glacial acetic acid tinged with methyl green being used—up to mark 11. A mixture of 1 in 20 is thus obtained, and the effect of the acetic acid is to render the red corpuscles practically invisible, whilst the leucocytes stand out distinctly stained. The leucocytes are then counted in a large number of squares, and the number so obtained multiplied by 80,000 and divided by the number of squares counted will give the number of leucocytes in the cubic millimetre.

The *hæmoglobin* is estimated by Gowers' hæmoglobinometer. This consists of two glass cylinders placed vertically side by side on a small stand. One contains a tinted solution equal to a 1 % watery solution of blood, the other, open at the top, is graduated in 10ths up to 120. A capillary pipette measuring 20 c.mm. and a small drop bottle, complete the apparatus. In use a few drops of water—preferably distilled—are placed in the graduated cylinder, and into this 20 c.mm. of blood, measured in the capillary pipette, are blown. The blood and water are mixed, and water is

added, drop by drop, until the tint in the two tubes, as seen against a sheet of white paper, is equal. The percentage of hæmoglobin is then directly read off from the level on the scale on the graduated cylinder at which the mixture of blood and water stands.

In Haldane's modification of this method (*Journ. of Physiol.* xxvi., 1901, p. 497) a sealed up 1 per cent solution of Hb.Co. is employed for the comparison cylinder. The blood is drawn and mixed with a few drops of water as in Gowers' instrument, and then a piece of rubber tubing attached to a gas burner is introduced into the cylinder to near the level of the mixture, and gas allowed to pass for a few seconds. As the tube is withdrawn (with the gas still passing) the end is closed with the finger, and the mixture made to pass up and down in the cylinder at least a dozen times, so as to saturate the hæmoglobin with CO. Water is now added drop by drop, until the point is reached at which the tints of the liquids in the cylinders are both equal. The level is read off on the graduated cylinders after half a minute has elapsed since the last drop added was mixed by inverting. The observation is repeated after the addition of another drop of water, and if necessary, another, until the point is reached when the tints are again unequal. The true result is the mean of the readings giving equality.*

In the *preparation of blood films* for staining, it is of utmost importance that the coverslips on which they are made should be perfectly cleaned by immersion for some hours in concentrated nitric acid. A drop of blood is taken up from the lobe of the ear on a clean, dry coverslip, and this is allowed to fall upon a second coverslip in such a way that the drop spreads out between the two. After waiting a second or two, the slips are drawn apart by a rapid gliding action, and the thin films thus obtained rapidly dry in the air. When dry they are ready for staining, and among the number of methods employed one of the most generally useful is that devised by Jenner. The staining solution is a mixture of methylene blue and eosin, dissolved in pure methyl alcohol. The coverslip is floated film downwards on a few drops of the stain in a watch glass for 1½ to 2

* Gowers' and Haldane's instruments are made by Hawksley, of 357, Oxford Street, London, W.

minutes, a second watch glass being inverted over it meanwhile. It is then thoroughly rinsed in distilled water, dried, and mounted in Canada balsam. A similar result may be obtained by fixing the dried film by exposure to saturated formalin vapour in a closed vessel for three minutes, then staining with ½ to ¾ % aqueous solution of eosin for two minutes, washing, and staining for one minute in ½ % watery solution of methylene blue; wash, dry and mount, as above.*

The *red corpuscles* number in health about five millions in the cubic millimetre, the *leucocytes* 6,500 to 7,000, though numbers up to 10,000 are not considered abnormal. When more than 10,000 in the cubic millimetre are found, some degree of leucocytosis is said to be present. Several conditions must be taken into consideration in drawing conclusions from the blood count, allowance being made for age, period of digestion, congestion of part from which blood is drawn, and for any condition in which the blood is temporarily diluted or concentrated.

Age.—At birth the red corpuscles average 5,750,000 per c.mm., and this number steadily decreases until at the end of the first year there is practically no difference from the normal adult count. The leucocytes are increased during the first few hours of life, and may be as high as 20,000 per c.mm., gradually falling as the child grows older, so that after the second year the number has fallen below 10,000.

Period of Digestion.—From one to two hours after a meal the leucocyte count rises by about 33 %. The best time, therefore, for examination, is before a meal. Fasting for any length of time reduces the count.

Congestion of part—general or local—produces increase in all blood cells.

Temporary conditions of dilution or concentration.—Any

* Staining agents may be obtained, accurately prepared and ready made up, from R. Kanthack, 18, Berners Street, London, W.

squeezing of tissues from which a drop of blood is obtained dilutes the blood by mixing it with tissue lymph. *Transfusion of saline solution* dilutes the blood. Severe *diarrhœa* in which much fluid is lost from the bowels, may lead to *concentration of the blood.*

Living in *high altitudes* markedly increases the number of red cells.

Menstruation, *parturition*, and *lactation* diminish the number of red cells.

Pregnancy (later weeks) and *parturition* increase the number of white cells.

Large *hæmorrhages* decrease the number of red cells.

Increase of leucocytes beyond the normal, known as *leucocytosis*, occurs in many septic and infective conditions. For purposes of pelvic diagnosis the main interest lies in the estimation of the number of leucocytes in cases in which inflammatory processes are going on. The leucocytosis is to be looked upon as the expression of a reaction on the part of the cells of the patient's organism against the toxins produced by the infecting agents. Increasing leucocytosis in such cases suggests spreading inflammation. Leucocytosis may be absent when the toxins produced have been sufficient to at once overwhelm all opposition, as in fulminating peritonitis.

The appearance of the blood corpuscles under normal and certain abnormal conditions is shown in *Plate I.* The films have been stained by Jenner's method, and the examination carried on under $\frac{1}{12}$ inch oil immersion. The normal red corpuscles appear as disc-shaped bodies, regular in shape, and within narrow limits, equal in size. They stain pale pink with eosin. Under abnormal conditions they may vary widely in size, unusually large (*macrocytes*) or small forms (*microcytes*) being present; or they may exhibit abnormalities of shape, such irregular forms being known as *poikilocytes*. Under similar conditions they may show degenerative changes, their protoplasm becoming *poly-*

chromatophilic, and appearing bluish or purple as the result of taking up some of the methylene blue as well as the eosin; or it may show the presence of minute dots staining with methylene blue ("*granular degeneration.*") In certain severe forms of anæmia, nucleated red corpuscles may be found in the blood. These, if about the same size as the normal red corpuscles, are described as *normoblasts;* if smaller, as *microblasts;* if larger, as *megaloblasts.*

Fig. 1.—Various Forms of Red Corpuscle.

1. Normal red corpuscle or erythrocyte
1*a*. Side view of same
2. Microcyte
3. Macrocyte
4. Mono-nuclear normoblast
5. Double nucleated normoblast
6. Nucleus escaping from „
7. Megaloblast
8. Microblast
9. Vacuolated erythrocyte
10. Polychromatophile
11. Poikilocytes
12. Erythrocyte showing granular degeneration

Fig. 2.—Various Forms of White Corpuscles.

a. Polymorphonuclear "neutrophile"
b. Polymorphonuclear eosinophile
c. Neutrophilic myelocyte
d. Eosinophilic myelocyte
e. Mixed granule leucocyte
f. Basophile (mast) cell
g. Small lymphocyte
h. Large lymphocyte
i. Transitional lymphocyte
j. Vacuolated lymphocyte

Fig. 3.—Normal Blood. The specimen shows: Two lymphocytes at upper part of field; two polymorphonuclear "neutrophiles" at lower part of field; erythrocytes; and blood platelets.

Fig. 4.—Blood from Spleno-Medullary Leukæmia. The specimen shows:—

Nine myelocytes
Seven polymorphonuclear "neutrophiles"
Three basophiles
One lymphocyte
Three normoblasts
One polychromatophile
A few poikilocytes
Erythrocytes

Fig. 5.—Blood from Pernicious Anæmia. Specimen shows:—

Many poikilocytes
Two megaloblasts, one showing polychromatism
Three erythrocytes with polychromatic change
Two erythrocytes showing granular degeneration
One erythrocyte showing polychromatic change and granular degeneration
One myelocyte
Two lymphocytes
A few platelets

Fig. 6.—Blood from Lymphatic Leukæmia. Specimen shows:

Numerous lymphocytes, some showing vacuolation
Erythrocytes
A few poikilocytes
One polymorphonuclear "neutrophile"

PLATE I.

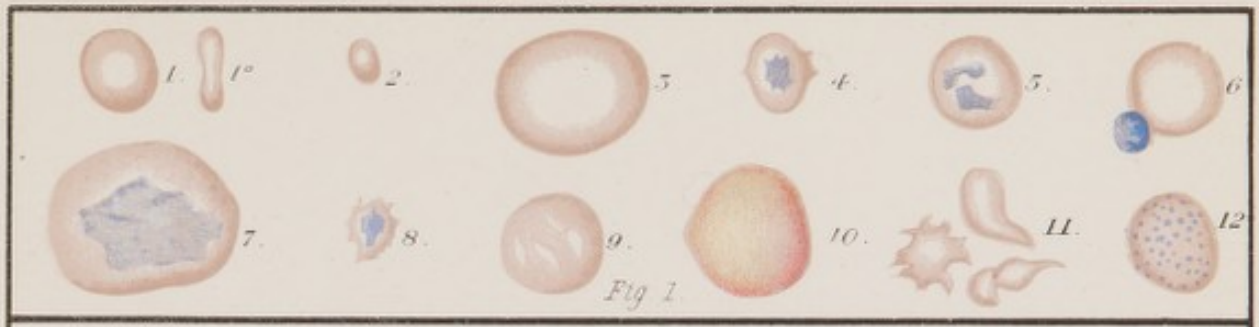


Fig. 1.

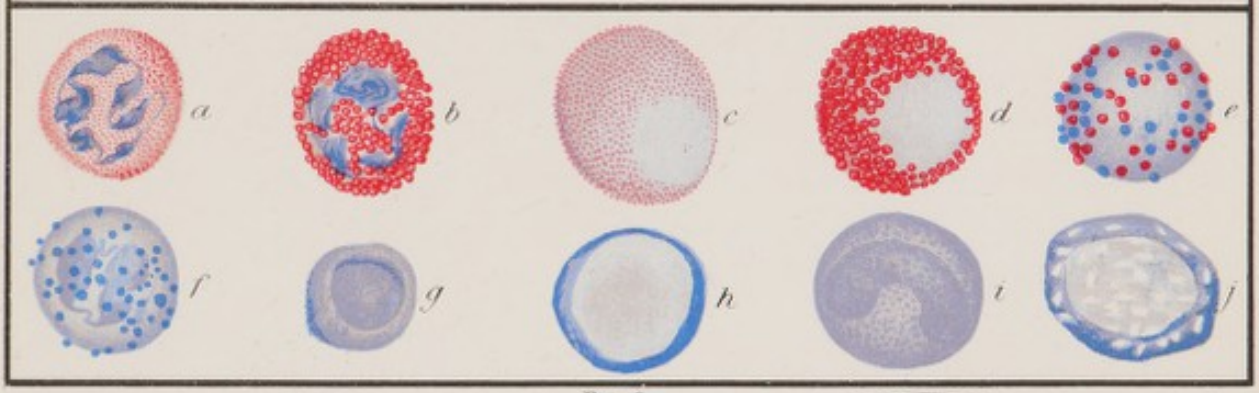


Fig. 2.

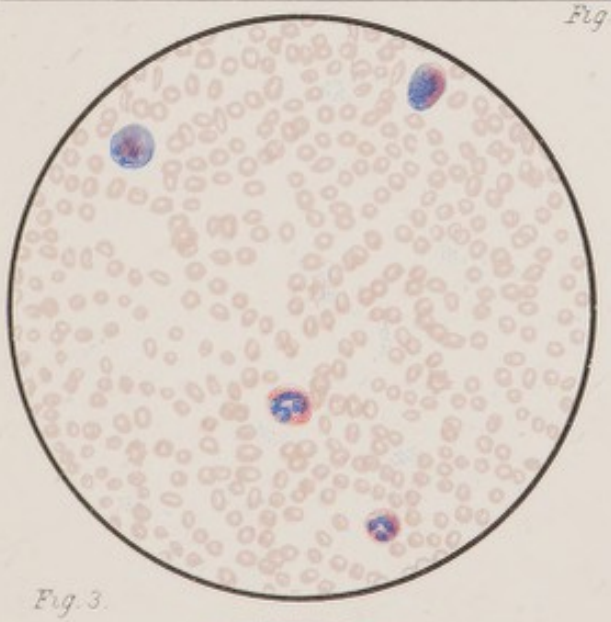


Fig. 3.

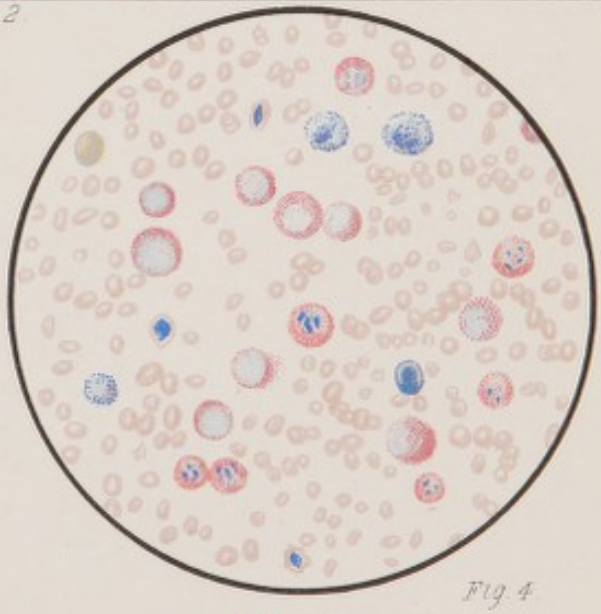


Fig. 4.

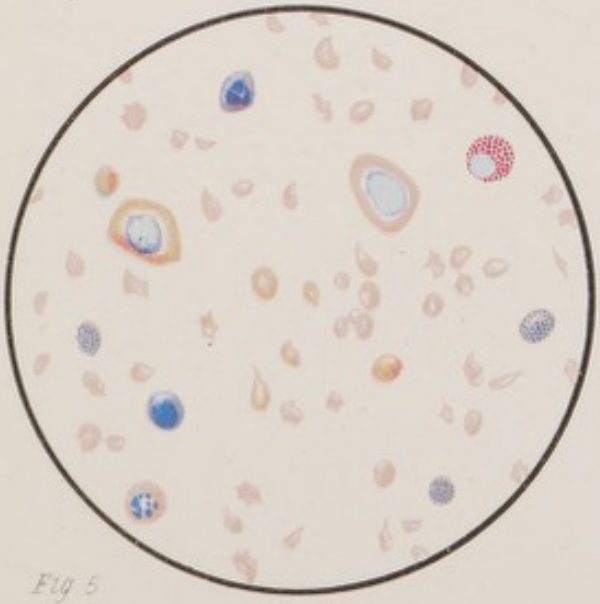


Fig. 5.

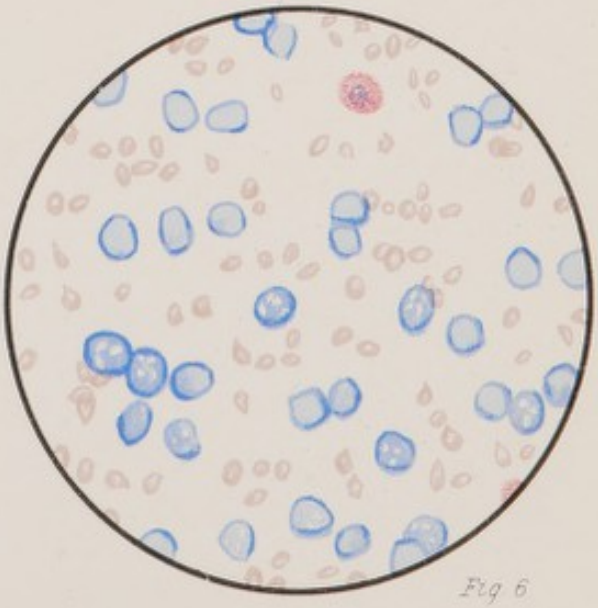


Fig. 6.

Clinical Examination of the Blood.

(MORRISON & GIBB, LTD.)

The leucocytes in normal blood are divided into several varieties, according to the character of the nucleus and of the surrounding protoplasm, more especially as regards the presence or absence of granules with specific affinities for certain stains in the latter.

(1). *Polymorphonuclear neutrophiles.*—The nucleus is multipartite, or more strictly polymorphous, and the surrounding protoplasm contains fine pink "neutrophile" granules. The term neutrophile was originally applied to these granules by Ehrlich in the belief that they stained most readily with a mixture of an acid and a basic dye. This variety forms 60-75 per cent of the leucocytes in normal blood, and it is these cells that are mainly increased in leucocytosis, rising to 80-85 or even 90 per cent.

(2). *Small lymphocytes* form 15 to 25 per cent of the normal leucocytes. The single round nucleus occupies almost the whole cell, and is surrounded by a narrow zone of darkly staining protoplasm without distinct granules. This variety and the next are those most increased in lymphatic leucocythæmia.

(3). *Large lymphocytes* differ only in size from the last named, and there is no sharp line of distinction between the two; they form 4 to 6 per cent in normal blood.

(4). *Large mononuclear leucocytes*, large cells with a single large nucleus, usually excentrically placed, and surrounded by a large amount of pale-staining protoplasm. In some the nucleus instead of being round or oval, becomes indented or horse-shoe shaped. These are spoken of as "*transitional*" cells, and the two varieties form 3 to 4 per cent in normal blood.

(5). *Eosinophile leucocytes* have multipartite nuclei, and large granules staining intensely with eosin in the surrounding protoplasm. They normally form 1 to 3 per cent of the leucocytes of the blood.

(6). *Basophile* cells, presenting pale-staining divided nuclei, with scattered blue or violet granules in the surround-

ing protoplasm, are present to the extent of $\frac{1}{2}$ to 1 per cent in normal blood, but may be considerably increased in certain cases of leucocythæmia.

In spleno-medullary leucocythæmia, 25 to 50 per cent of the leucocytes are of the variety known as *myelocytes*. These are of large average size, with round or oval nuclei filling the greater part of the cell, and with neutrophile granules in the protoplasm. The *eosinophile myelocytes* met with in the same disease, have similar characters, but the neutrophile granules are replaced by coarse eosinphile.

EXAMINATION FOR TUBERCLE BACILLI AND GONOCOCCI.

(*Plate II., figs.* 1 and 2).

The solutions required in examining for *Tubercle Bacilli* are :—

No. 1		No. 2	
Carbolic Acid	5 parts	Methylene Blue	1 part
Fuchsin	1 part	Absolute Alcohol	15 parts
Absolute Alcohol	15 parts	Water	35 parts
Water	85 parts		

And a 20% solution of Sulphuric Acid in water.

The fluid to be examined is spread out in a thin layer on a coverslip and allowed to dry. It is fixed by passing through the flame of a spirit lamp or Bunsen burner five or six times, film uppermost. The coverslip is then floated film downwards on a few drops of No. 1 solution in a watch glass, heat being applied till the solution steams. After five minutes the coverslip is washed, decolourised with the sulphuric acid, and stained for one minute with No. 2 solution. Wash, dry, and mount in Canada balsam. On examining with $\frac{1}{12}$-inch oil immersion objective, the tubercle bacilli appear as red-staining rods, the nuclei of cells and other organisms staining blue.

PLATE II.

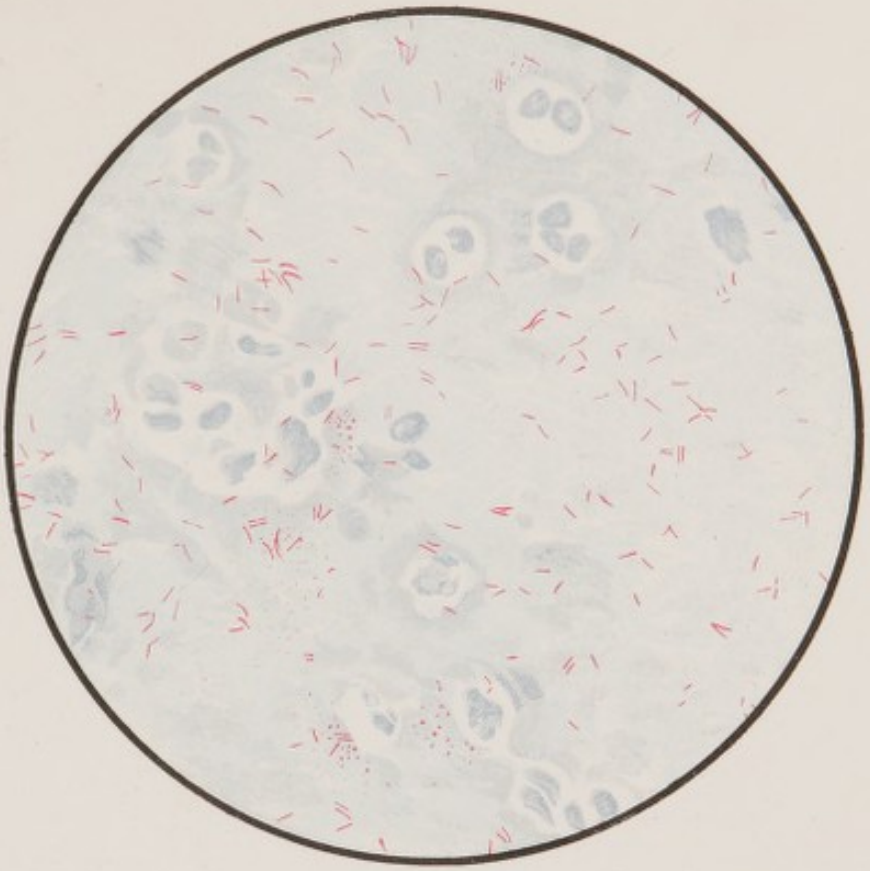


Fig. 1.—*Tubercle Bacilli.*

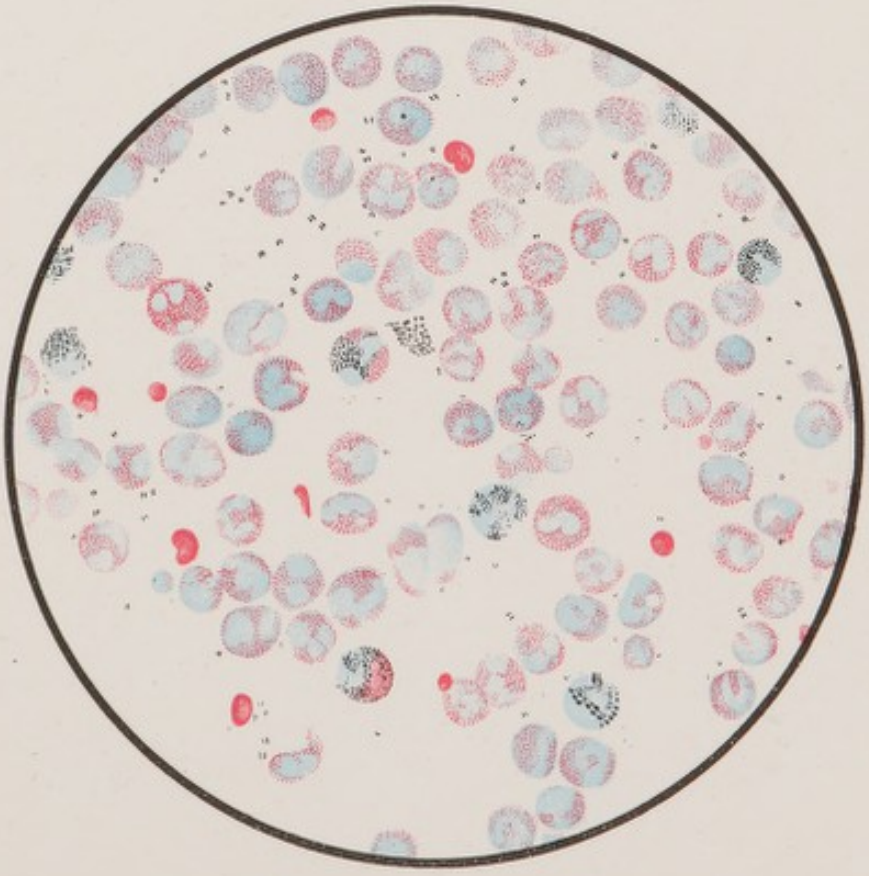


Fig. 2.—*Gonococci of Neisser.*

In examining for *gonococci*, the films are similarly prepared and fixed, and are then stained for two or three minutes in a saturated alcoholic solution of eosin, warmed until steam rises. Then drain the coverslip on blotting paper and stain for five seconds in a saturated alcoholic solution of methylene blue. Wash with water, dry, and mount in balsam. On examining with the $\frac{1}{12}$-inch oil immersion lens, the gonococci are seen as small, blue, kidney-shaped diplococci, lying side by side, and massed together inside the pus cells.

The solid particles contained in any fluid, such as urine, blood, or pus, which are those we wish to stain and examine, may be quickly separated from the liquid portion in which they are suspended by placing some of the fluid in one of the tubes of a centrifugal machine, and rotating at a high speed for one or two minutes. The cells, bacteria, etc., will be found at the distal extremity of the tube.

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,, .. hernia of	—	1	66–67	8-14	175	3
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,, chronic ,, ,, ...	—	2	86	140	189	72
,, tubercular ,, ,, ..	—	2	86	139	189	71
,, syphilitic ,, ,, ...	—	2	86	142	189	74
Adeno-carcinoma of uterus	—	4	149	531	234	27
,, of vulvo-vaginal gland ..	—	2	105	282	204	157
Adenomata, racemose, of cervix	—	3	116	359	210	37
Adenoma malignum	—	4	149	531	234	27
Allingham's rectal dilator	33	—	—	—	—	—
Anal fissure	—	3	90	179	215	63
Anasarca	—	2	100	246	200	136
Angioma, cavernous, of cord	—	2	88	160	190	84
Angiomatous ulcer of rectum	—	3	126	429	216	67
Anorectal syphiloma	—	3	124	412	218	80
Anteflexio uteri	—	4	142	491	228	2
Anteversio uteri	—	4	142	491	228	4
Anus, epithelioma of	—	2	91	180	194	101
,, lipoma of	—	2	—	—	194	103
,, papilloma of	—	2	—	—	194	102
Appendicitis	273	4	158	576	240	48
Areas of hyperæsthesia	56	—	—	—	—	—
Ascites	—	4	159	582	241	51
Atresia of rudimentary uterine horn ..	—	3	115	352	210	33
Atrophy of clitoris	—	2	97	226	199	124
Auvard's weighted speculum	38	—	—	—	—	—
BACILLI, tubercle, examination for	282	—	—	—	—	—
Balanitis, simple	—	2	70	28	182	23
,, diabetic	—	2	70	30	182	25
,, gouty	—	2	70	29	182	24

	Page	Class	Lines of Diagnosis. Page	Lines of Diagnosis. No.	Diagnostic Tables. Page	Diagnostic Tables. No.
Balano-posthitis	—	2	70	31	182	26
Barnes' speculum	36	—	—	—	—	—
Bartholinitis	—	2	106	289	203	149
Bi-manual examination	9	—	—	—	—	—
Bladder, bi-manual examination of	48	—	—	—	—	—
,, carcinoma of	—	3	141	488	—	—
,, dermoid tumor of	—	3	139	480	226	111
,, distended	—	5	172	642	247	17
,, diffuse tubercular ulcer of	—	3	135	469	221	91
,, extra-peritoneal rupture of	—	3	138	476	224	103
,, fibroma of	—	3	140	483	226	113
,, intra-peritoneal rupture of	260	3	138	475	224	102
,, myoma of	—	3	140	484	227	114
,, myxoma of	—	3	140	485	227	115
,, neuralgia of	—	3	135	468	221	90
,, projecting frond of papilloma of	—	3	108	304	205	3
,, sacculated	—	3	136	470	—	—
,, sarcoma of	—	3	141	489	227	118
,, solitary simple ulcer of	—	3	133	458	220	88
,, ,, tubercular ulcer of	—	3	133	457	220	89
,, villous papilloma of	—	3	140	482	226	112
Blood-count, conditions affecting	278	—	—	—	—	—
Blood, examination of the	276	—	—	—	—	—
Blood-films for staining	277	—	—	—	—	—
Bougies	40, 44	—	—	—	—	—
Broad ligament pregnancy	—	4	153	553	237	36
Calculi, preputial	—	2	69	25	—	—
Calculus, prostatic	—	3	132	455	225	108
,, ureteral	267	3	137	474	224	101
,, vesical	—	3	136	472	223	98
Cantharides, effects of	—	3	139	478	226	109
Carcinoma of clitoris	—	2	99	238	200	131
,, of prostate	—	3	140	487	227	116
,, of spermatic cord	—	2	86	135	189	69
,, or fibromyoma	259	—	—	—	—	—
,, umbilical	250	1	68	19	176	9
,, urethral (female)	—	3	109	312	206	8
,, vaginal	—	3	115	355	210	35
Caruncle, vascular	251	2	108	303	205	2
Cervix, cystic degeneration of	—	3	116	358	210	36
,, ectropion of	—	3	118	373	212	44
,, elongation of vaginal	—	3	118	372	212	43
,, epithelioma of	—	3	119	375–8	212	45–8
,, fibromyoma of	—	3	118	369	211	42
,, fibrous polypus of	—	4	143	497	211	40
,, glandular polypi of	—	3	116	359	210	37
,, ,, ,,	—	4	143	496	—	—
Cellulitis, pelvic	—	4	159	578	240	49
Chancre of labia	—	2	100	252	201	138
,, of penis	—	2	75	57	181	18
,, papular form	—	2	—	—	196	114
,, ulcerative form	—	2	95	214	196	113
Chancroid of labia	—	2	95	213	196	112
,, of penis	—	2	71	35	179	9
,, of perinæum or anus	—	2	95	213	196	112
Character of pain	58	—	—	—	—	—

	Page	Class	Lines of Diagnosis. Page	Lines of Diagnosis. No.	Diagnostic Tables. Page	Diagnostic Tables. No.
Chorion, myxoma of	—	4	151	544	236	31
Classification of cases	5	—	—	—	—	—
Clitoriditis	—	2	98	230	199	127
Clitoris, atrophy of	—	2	97	226	199	124
,, adherent prepuce	—	2	97	228	199	126
,, cystic disease of	—	2	98	233	199	128
,, carcinoma of	—	2	98	238	200	131
,, elephantiasis of	—	2	98	237	199	130
,, epithelioma of	—	2	99	239	200	132
,, fibroma of	—	2	98	234	199	129
,, hypertrophy of	—	2	97	227	199	125
,, sarcoma of	—	2	99	240	200	133
Coccygeal dermoid fistula	—	2	—	—	191	89
Collins' speculum	36	—	—	—	—	—
Comparative value of facts	1	—	—	—	—	—
Condyloma of anus	—	2	96	215	—	—
,, lata	—	2	—	—	201	139
,, of penis	—	2	74	52	180	14
,, of vulva	—	2	101	253	202	147
Corpuscles, enumeration of blood	276	—	—	—	—	—
Cyst of vulvo-vaginal gland	—	2	104	281	204	156
,, of labium minus	—	2	104	278	204	155
Cystic degeneration of cervix	—	3	116	358	210	36
Cystic dilatation of occluded ureter	—	3	115	351	210	32
Cystitis, acute	—	3	136	471	221	92
,, chronic	—	3	137	473	223	99
Cystocope, Kelly's	46	—	—	—	—	—
,, Nitze-Leiter's	45	—	—	—	—	—
Cystocele	—	3	113	342	209	27
Cysts of vaginal wall	—	3	109	314	206	9
DERMOID tumor of bladder	—	3	139	480	226	111
,, ,, of ovary	—	4	160	586	242	54
,, ,, of pelvis	—	5	171	640	247	16
,, ,, of testis	—	2	78	74	184	36
Distended bladder	—	5	172	642	247	17
Dorsal position	14	—	—	—	—	—
ECTHYMA, vacciniform infantile	—	2	93	198	198	123
Ectopia vesicæ	—	1	67	16	176	7
Eczema	—	2	94	204	195	105
Elephantiasis of clitoris	—	2	98	237	199	130
,, of labia	—	2	99	245	200	135
,, of penis	—	2	74	51	181	22
,, of scrotum	—	2	77	66	183	33
Elevated pelvic position	29	—	—	—	—	—
Encephaloid testis	—	2	82	102	186	52
Enchondroma of pelvic wall	—	4	155	560	238	40
,, ,, testis	—	2	79	79	184	39
Endocervicitis	—	4	147	522	232	18
Endometritis acute	—	4	145	512	231	12
,, chronic	—	4	147	522	232	18
,, tubercular	—	4	147	520	232	17
Enteroptosis	—	5	173	647	—	—
Epididymitis, acute	—	2	81	99	186	50
,, tertiary syphilitic	—	2	80	87	185	44
,, tubercular	251	2	80	91	185	46

	Page	Class	Lines of Diagnosis. Page	Lines of Diagnosis. No. §§	Diagnostic Tables. Page	Diagnostic Tables. No.
Epithelioma of anus	—	2	91	180	194	101
,, ,, clitoris	—	2	99	239	200	132
,, ,, cervix	—	3	119	375–8	212	45–8
,, ,, labium	—	2	100	251	201	137
,, ,, penis	—	2	76	60	180–1	11, 20
,, ,, scrotum	—	2	77	65	183	32
Erysipelas	—	2	94	205	195	106
Erythema (congenital syphilitic)	—	2	94	201	197	116
,, multiforme	—	2	93	199	194	104
,, simplex	—	2	—	—	196	115
Facts, comparative value of	1	—	—	—	—	—
Fallopian tube, acute inflammation of	—	4	145	513	231	13
,, ,, carcinoma of	—	4	150	536	233	24
,, ,, chronic inflammation of	—	4	148	524	233	20
,, ,, papilloma of	—	4	150	535	233	23
,, ,, suppuration of	—	4	147	523	232	19
,, ,, tubercle of	—	4	147	519	232	16
False passage, urethral	—	2	72	42	177	1
Fenwick's prostatic canula	44	—	—	—	—	—
,, urethroscope	43	—	—	—	—	—
Fergusson's speculum	37	—	—	—	—	—
Fibrocystic disease of uterus		5	169	626	245	8
Fibroma of abdominal wall	—	1	66	5	175	1
,, of clitoris	—	2	98	234	199	129
,, of labium	—	2	106	292	204	160
,, of ovary	—	4	163	599	243	61
,, of pelvic wall	—	4	155	558	238	38
,, of penis	—	2	75	55	180	13
,, of spermatic cord	—	2	87	145	189	75
,, of testis	—	2	78	75	184	37
,, of ,, cystic	—	2	80	88	—	—
,, of urethra (female)		3	108	306	205	4
,, of vagina	—	3	109	317	206	10
Fibromyoma, fibro-cystic	—	4	144	504	230	10
,, intraligamentous	—	4	144	501	230	8
,, ,,	—	5	167	614	244	2
,, interstitial	—	4	144	503	230	9
,, ,,	—	5	167	612	244	1
,, œdematous	—	4	144	505	230	10
,, submucous	—	4	143	499	229	7
,, subperitoneal	—	5	168	615	244	3
,, sloughing	260	5	167	613	—	—
Fibromyomatous polypus	—	3	118	367	—	—
,, ,, (sloughing)	—	4	143	498	—	—
Fissure of anus	—	3	90	179	215	63
Fistula, blind external	—	2	89	165	191	88
,, ,, internal	—	3	126	423	219	87
,, coccygeal dermoid	—	2	—	—	191	89
,, ischio-rectal	—	2	88	163	191	87
,, ,, ,,	—	3	125	422	219	86
,, pelvi-rectal	—	3	125	421	219	85
,, recto-vaginal	—	3	112	333	208, 18	21, 84
,, recto-vesical	—	3	125	417	218	83
,, uretero-vaginal	—	3	112	335	208	22
,, urethro- ,,	—	3	112	336	208	23

	Page	Class	Lines of Diagnosis. Page	Lines of Diagnosis. No.	Diagnostic Tables. Page	Diagnostic Tables. No.
Fistula, urethral (male)	—	2	89	166	191	86
,, vesico-vaginal	—	3	112	337	208	24
Forceps	35, 39, 40	—	—	—	—	—
Foreign body in rectum	—	3	120	386	213	49
Furunculosis of perinæum	—	2	94	203	195	108
,, of labia	—	2	101	254	201	140
GANGRENE of penis	—	2	76	62	183	31
Gastric ulcer, pain of	59	—	—	—	—	—
Gärtners duct, abscess of	—	3	114	346	209	29
Glands, inguinal, inflammation of	—	2	85	125	188	64
Gleet	—	2	73	43	179	7
Gonococci, examination for	283	—	—	—	—	—
Goodell's Dilator	42	—	—	—	—	—
Gonorrhœa, acute	—	2	73	46	177	2
,, subacute	—	2	74	48	178	4
Gouty phlebitis of penis	—	2	76	61	181	21
Gummata of penis	—	2	76	58	181	19
,, ,, testis	—	2	79	80	184	40
HÆMATOCELE, diffuse of cord	—	2	87	152	190	79
,, encysted of cord	—	2	87	153	190	80
,, retro-uterine	—	4	153	552	237	35
,, of tunica vaginalis	—	2	79	83	185	42
Hæmatocolpos	—	4	150	540	—	—
Hæmatoma of vulva	—	2	105	287	203	148
Hæmatometria	—	4	150	539	235	28
Hæmoglobin, estimation of	276	—	—	—	—	—
Hæmorrhoids, arterial	—	3	122	404	214	59
,, external	—	2	90	172	194	98
,, inflamed	—	2	90	173	194	100
,, mixed	—	2	90	177	—	—
,, protruded internal	—	2	90	176	193	94
,, sentinel	—	2	90	179	193	97
,, thrombosed external	—	2	90	174	194	99
,, venous internal	—	3	122	401	214	57
Hæmorrhoidal ulcer	—	3	126	428	216	66
Hand, education of the	11	—	—	—	—	—
,, use of the	7	—	—	—	—	—
Hegar's test	12	—	—	—	—	—
Hernia, chronic reducible femoral	—	2	83	113	187	58
,, ,, ,, inguinal (female)	—	2	104	273	203	152
,, ,, ,, ,, (male)	—	2	84	117	187	59
,, ,, ,, ,, omental	—	2	83	111	187	57
,, congenital	—	2	84	118	187	61
,, infantile	—	2	84	116	187	60
,, inflamed femoral	—	2	—	—	188	65
,, ,, inguinal	—	2	85	129	188	67
,, omental	—	1	66	8	175	3
,, post-pudendal	—	2	103	272	203	151
,, strangulated femoral	—	2	85	127	188	66
,, ,, inguinal	—	2	85	130	188	68
,, of sub-peritoneal fat	—	1	66	10	175	4
,, umbilical	—	1	67	14	176	6
,, ventral	—	1	66	9	175	3
Herpes of perinæum	—	2	93	197	195	107
,, preputialis	—	2	70	32	182	27

	Page	Class	Lines of Diagnosis. Page	Lines of Diagnosis. No.	Diagnostic Tables. Page	Diagnostic Tables. No.
Herpes zoster of penis	—	2	70	33	182	28
History, previous to acute pain	62	—	—	—	—	—
Hodgkin's disease	—	2	86	143	189	73
Hydatidiform mole	—	4	151	544	236	31
,, ,, ...	—	5	169	623	245	6
Hydatids, pelvic	—	5	171	638	247	14
,, of pelvic wall	—	4	155	564	238	42
,, of pelvic connective tissue ..	—	3	131	453	222	94
,, ,, ,, ,, ...	—	4	161	589	—	—
Hydramnios	—	5	168	621	245	5
Hydrocele of canal of Nuck	—	2	104	275	203	153
,, congenital, male	—	2	83	110	187	56
,, diffuse of spermatic cord	—	2	88	159	190	83
,, encysted ,, ,, ..	—	2	88	156	190	81
,, ,, of testis . ..	—	2	78	71	184	35
,, of tunica vaginalis	—	2	78	70	184	34
,, infantile	—	2	88	157	190	82
Hydroperitoneum	—	4	159	583	241	53
,, following yielding of cyst ..	—	5	172	646	247	20
Hyperæsthesia, areas of	56	—	—	—	—	—
ILLUSTRATIVE cases	249	—	—	—	—	—
Impetigo	—	2	96	219	197	117
Inflamed abdominal tumor	—	5	171	635	246	12
Inguinal glands, syphilitic	—	2	86	142	189	74
,, ,, traumatic	—	2	86	140	189	72
,, ,, tubercular	—	2	86	139	189	71
Instruments used in diagnosis	33	—	—	—	—	—
Interstitial fibromyoma	—	5	167	612	244	1
Intra-ligamentous ,, ...	—	5	167	614	244	2
Intussusception	—	3	123	410	218	79
,, pain of	60	—	—	—	—	—
Inversio uteri	—	3	117	363	211	39
JENNER'S stain for blood	277	—	—	—	—	—
,, test	3	—	—	—	—	—
Jordan Lloyd's test	266	—	—	—	—	—
KELLY modification of the left lateral position	21	—	—	—	—	—
Kelly's cystoscope	46	—	—	—	—	—
,, evacuator	47	—	—	—	—	—
,, protoscope	34	—	—	—	—	—
,, vesical probe	47	—	—	—	—	—
Knee-chest position	11, 22	—	—	—	—	—
Kraurosis vulvæ	—	3	—	—	208	20
Labia, anasarca of	—	2	100	246	200	136
,, chronic abscess of	—	2	106	290	203	150
,, condylomata of	—	2	101	253	202	147
,, elephantiasis of	—	2	99	245	200	135
,, epithelioma of	—	2	100	251	201	137
,, fibroma of	—	2	106	292	204	160
,, furunculi of	—	2	101	254	201	140
,, hæmatoma of	—	2	105	287	203	148
,, hard chancre of	—	2	100	252	201	138
,, lipoma of	—	2	105	284	204	158

	Page	Class	Lines of Diagnosis. Page	Lines of Diagnosis. No.	Diagnostic Tables. Page	Diagnostic Tables. No
Labia, molluscum fibrosum of	—	2	106	292	204	160
,, mucous tubercle of	—	2	101	253	201	139
,, nævus of	—	2	102	262	202	145
,, neuroma of	—	2	106	294	204	161
,, sebaceous cyst of	—	2	105	285	204	159
,, tertiary syphilitic hypertrophy of	—	2	99	244	200	134
,, thrombus of	—	2	106	295	204	162
,, varicocele of	—	2	104	276	203	154
,, warts of	—	2	103	265	202	146
Labium minus, cyst of	—	2	104	278	204	155
Left lateral position	11, 18	—	—	—	—	—
Leucocytes, forms of	281	—	—	—	—	—
Leucocytosis	278	—	—	—	—	—
Lichenoid syphilide	—	2	96	216	197	120
Lipoma of abdominal wall	—	1	66	6	175	2
,, of anus	—	2	—	—	194	103
,, of labium	—	2	105	284	204	158
,, of perinæum	—	2	92	190	—	—
,, of spermatic cord	—	2	87	148	190	77
,, of testis	—	2	79	76	184	38
Lithotomy position	29	—	—	—	—	—
Lymph scrotum	—	2	78	66	—	—
Lymphadenoma of testis		2	80	85	185	43
MEATUS urinarius, fibroma of	—	3	108	306	205	4
,, ,, myoma of	—	3	108	307	205	5
,, ,, carcinoma of	—	3	109	312	206	8
,, ,, sarcoma of	—	3	107	301	205	1
Metritis, acute	—	4	145	512	231	12
,, chronic	—	4	147	522	232	18
Molluscum contagiosum	—	2	97	223	198	122
,, fibrosum	—	2	106	292	204	160
Mucous tubercle of labium	—	2	101	253	201	139
Multilocular ovarian cysts	—	4	161	587-8	242	55
,, ,, ,,	—	5	171	639	247	15
Myoma urethræ (female)	—	3	108	307	205	5
,, vesicæ	—	3	140	484	227	114
Myxo-lipoma of spermatic cord	—	2	87	149	190	78
Myxoma of chorion	—	4	151	544	236	31
,, of testis	—	2	81	93	185	47
NABOTHIAN follicles enlarged	—	3	116	358	210	36
Nævus of vulva	—	2	102	262	202	145
Nævoid ulcer of rectum	—	3	126	429	216	67
Neuralgia of bladder	—	3	135	468	221	90
Neuroma of Labium	—	2	106	294	204	161
ŒDEMA of spermatic cord	—	2	88	161	190	85
Onset of pain	52	—	—	—	—	—
Orchitis, acute	—	2	81	100	186	51
,, chronic	—	2	81	95	186	48
,, syphilitic	—	2	79	81	185	41
Osteoma of pelvic wall	—	4	155	559	238	39
Ovarian cyst, glandular proliferating	—	4	160	587	242	55
,, ,, multilocular	—	4	160	587-8	242	55
,, ,, ,,	—	5	171	639	247	15
,, ,, papillomatous extra-peritoneal	—	5	—	—	247	19

	Page	Class	Lines of Diagnosis		Diagnostic Tables.	
			Page	No.	Page	No.
Ovarian cyst, papillary proliferating	—	4	161	588	—	—
,, ,, strangulated	—	4	162	595	243	59
,, ,, unilocular	—	4	162	593	242	57
,, ,, ,,	—	5	172	644	247	18
,, dermoid	—	4	160	586	242	54
Ovaritis, acute	—	4	146	514	231	14
,, ,,	—	4	164	607	—	—
,, chronic	—	4	164	608	233	20
Ovary, carcinoma of		4	149	534	233	22
,, congested	—	4	163	604	243	63
,, fibroma of	—	4	163	599	243	61
,, neuralgia of	—	4	163	605	—	—
,, prolapse of	—	4	163	603	243	62
,, sarcoma of	—	4	162	598	243	60
Pain, character of	58	—	—	—	—	—
,, continuous	50	—	—	—	—	—
,, dormant	63	—	—	—	—	—
,, as a factor in diagnosis	49	—	—	—	—	—
,, in epigastrium	254	—	—	—	—	—
,, intermittent	49	—	—	—	—	—
,, locality of	53	—	—	—	—	—
,, neuralgic	51	—	—	—	—	—
,, onset of	52	—	—	—	—	—
,, referred	54	—	—	—	—	—
,, time of appearance	57	—	—	—	—	—
,, viceral	51	—	—	—	—	—
,, of visceral ulcer	59	—	—	—	—	—
Parovarian cyst	—	4	162	594	242	58
Papillomatous cyst (extra-peritoneal)	—	5	172	645	247	19
Papilloma of anus	—	2	—	—	194	102
,, ,, Fallopian tube	—	4	150	535	—	—
,, ,, perinæum	—	2	92	191	—	—
Parametritis	—	4	159	578	240	49
Paraphymosis	—	2	69	26	182	29
Pathognomonic symptoms	1	—	—	—	—	—
Pediculosis	—	2	94	207	195	109
Pelvic abscess	—	4	159	579	240	50
,, cellulitis	—	4	159	578	240	49
,, hydatids	—	5	171	638	247	14
,, ,,	—	3	131	453	222	94
,, peritonitis	—	4	146	515	231	15
Pelvic wall, enchondroma of	—	4	155	560	238	40
,, ,, fibroma of	—	4	155	558	238	38
,, ,, hydatid of	—	4	155	564	238	42
,, ,, osteoma of	—	4	155	559	238	39
,, ,, sarcoma of	—	4	156	565	238	43
Pelvis and abdomen, to distinguish between affections of	3	—	—	—	—	—
Penis, affections of	—	2	69–76	22–62	177-183	1-31
Perinæum, complete rupture of	—	2	91	187	193	93
,, central rupture of	—	2	92	188	192	91
,, incomplete rupture of	—	2	91	185	192	90
,, internal rupture of	—	2	91	183	192	92
,, lipoma of	—	2	92	190	—	—
,, papilloma of	—	2	92	191	—	—
Periprostatitis, acute	—	3	135	465	225	105

	Page	Class	Lines of Diagnosis. Page	No.	Diagnostic Tables. Page	No.
Peritonitis, encysted	—	4	159	581	241	52
Phagedæna of penis	—	2	71	36	179	10
Phantom tumor	—	1	67	15	176	5
Phimosis	—	2	69	25	183	30
Phlebitis, gouty, of penis	—	2	76	61	181	21
Pile, sentinel	—	2	90	179	193	97
Polypus, fibroid, of uterus	—	3	118	367	211	42
,, glandular, of os.	—	3	116	359	210	37
Position of the patient	14	—	—	—	—	—
Pregnancy	270	5	168	620	245	4
,, early stage	—	4	151	542	235	29
,, broad ligament	—	4	153	553	237	36
,, interstitial	—	5	169	624	245	7
,, sub-peritoneo-abdominal	—	5	170	631	246	11
,, tubo-abdominal	—	4	154	554	237	37
,, ventral	—	5	170	630	246	10
Procidentia of rectum	—	2	89	169	193	96
,, ,, uterus	—	3	116	362	211	38
Proctitis, acute catarrhal	—	3	123	408	215	61
,, dysenteric	—	3	123	409	215	62
,, gonorrhœal	—	3	123	407	215	60
Prolapse of rectum	—	2	89	170	193	95
,, ,, uterus	—	3	110	362	211	38
Proliferating syphilitic papules	—	2	96	217	197	121
Prostate, carcinoma of	—	3	140	487	227	116
,, tubercle of		3	133	461	223	97
Prostatic abscess	—	3	135	466	225	107
Prostatic calculi	—	3	132	455	225	108
,, carcinoma	—	3	140	487	227	116
,, catarrh	—	2	73	44	179	8
,, hypertrophy	—	3	131	452	222	95
Prostatitis, acute	—	3	134	464	225	106
,, chronic	—	3	132	454	222	96
Pryor's position	26	—	—	—	—	—
Pseudocyesis	—	1	67	15	176	5
Psoas abscess	—	4	155	562	238	41
Psoriasis	—	2	97	221	197	119
Pyometria	—	4	148	525	233	21
Pyosalpinx	—	4	147	523	232	19
RECTOCELE	—	3	112	339	209	25
Rectovaginal fistula	—	3	125	418	208	21
Recto-vaginal septum, abscess of	—	3	114	348	210	31
Recto-vesical fistula	—	3	125	417	218	83
Rectum, angiomatous ulcer of	—	3	126	429	216	67
,, bilharzia hominis		3	121	392	213	51
,, carcinoma of	—	3	124	414-15	218	81-82
,, carcinomatous stricture of	—	3	129	448	217	78
,, ,, ulcer of	—	3	127	435	216	70
,, chancroid ulcer of	—	3	120	383	215	65
,, dermoid, tumour of	—	3	121	388	213	50
,, disseminated polypi of	—	3	121	395	214	53
,, dysenteric ulcer of	—	3	128	443	217	75
,, fibrous polypus of	—	3	122	398	214	55
,, follicular ulcer of	—	3	127	432	216	69
,, foreign body in	—	3	120	386	213	49
,, gelatinous polypus of	—	3	121	391	213	51

	Page	Class	Lines of Diagnosis. Page	Lines of Diagnosis. No.	Diagnostic Tables. Page	Diagnostic Tables. No.
Rectum, gummatous ulcer of	—	3	128	439	216	72
,, irritable ulcer of	—	3	120	381	215	63
,, late tertiary ulcer of	—	3	128	440	216	73
,, lipoma of	—	3	122	399	214	56
,, lupus of	—	3	128	442	217	74
,, procidentia of	—	2	89	169	193	96
,, prolapse of	—	2	89	170	193	95
,, sarcoma of	—	3	122	403	214	58
,, simple stricture of	—	3	129	446	217	76
,, syphilitic stricture of	—	3	129	447	217	77
,, ,, fissure of	—	3	120	382	215	64
,, tuberculous ulcer of	—	3	127	437	216	71
,, ulcer of sinus of Morgagni	—	3	126	431	216	68
,, villous tumour of	—	3	121	393	213	52
,, warty polypus of	—	3	122	397	214	54
Reid's dilators	42	—	—	—	—	—
Retroflexion of uterus	—	4	142	491	228	1
,, ,, gravid uterus	—	4	151	543	235	30
Retroversion of uterus	—	4	142	491	228	3
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Rupia	—	2	97	222	197	118
Rupture of female perinæum	260	2	91	187	193	93
,, ,, bladder	—	3	138	476	224	103
,, ,, ovarian cyst	—	5	172	646	247	20
Ruptured tubal pregnancy	257	4	153	550	237	34
SALPINGITIS, acute septic	—	4	145	513	231	13
,, chronic	—	4	148	524	233	20
,, tubercular	—	4	147	519	232	16
Salpingo-ovaritis	—	4	148	524	233	20
Sarcoma of abdominal wall	—	1	68	20	176	8
,, ,, bladder	—	3	141	489	227	118
,, cystic of testis	—	2	82	104	186	54
,, of clitoris	—	2	99	240	200	133
,, ,, ovary	—	4	162	598	243	60
,, ,, pelvic wall	—	4	156	565	238	43
,, ,, penis	—	2	75	53	180	15
,, ,, ,, melanotic	—	2	75	54	180	16
,, of spermatic cord	—	2	80	136	189	70
,, ,, testis	—	2	82	103	186	53
,, ,, urethra (female, early)	—	3	107	301	205	1
,, ,, ,, (female, late)	—	3	108	309	206	6
,, ,, uterus	—	4	148	528	234	25
,, ,, vagina (adults)	—	3	115	354	210	34
,, ,, ,, (children)	—	3	109	316	206	11
Sarcomatous uterine polypus	—	3	118	368	211	41
Scabies	—	2	95	208	195	110
Schirrus of testis	—	2	81	06	186	49
Scrotum, elephantiasis of	-	2	77	66	183	33
,, epithelioma of	—	2	77	65	183	32
Sebaceous cyst of penis	—	2	75	56	180	17
Seborrhœic vaginitis	—	3	111	328	207	16
Senile vaginitis	—	3	111	331	208	19
Sentinel pile	—	2	90	179	193	97
Sim's duck-bill speculum	35	—	—	—	—	—
,, position	21	—	—	—	—	—

	Page	Class	Lines of Diagnosis. Page	Lines of Diagnosis. No	Diagnostic Tables. Page	Diagnostic Tables. No.
Sitting flexed position	22	—	—	—	—	—
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Spermatic cord, acute tubercular abscess of	—	2	85	124	188	63
,, ,, carcinoma of	—	2	86	135	189	69
,, ,, cavernous angioma of	—	2	88	160	190	84
,, ,, diffuse hæmatocele of	—	2	87	152	190	79
,, ,, ,, hydrocele of	—	2	88	159	190	83
,, ,, encysted hæmatocele of	—	2	87	153	190	80
,, ,, ,, hydrocele of	—	2	88	156	190	81
,, ,, fibroma of	—	2	87	145	189	75
,, ,, lipoma of	—	2	87	148	190	77
,, ,, myxolipoma of	—	2	87	149	190	78
,, ,, œdema of	—	2	88	161	190	85
,, ,, sarcoma of	—	2	86	136	189	70
Stain for blood examination	277	—	—	—	—	—
,, for gonococci	283	—	—	—	—	—
,, for tubercle bacilli	282	—	—	—	—	—
Strangulated hernia	—	2	85	127, 30	188	66, 68
,, ovarian cyst	—	4	162	595	243	59
,, tumour	—	5	170	634	246	13
Stricture of male urethra	—	2	72	41	178	6
,, ,, rectum	—	3	129	446	217	76
Subinvolution of uterus	—	4	145	507	230	11
,, ,, ,, with retained placenta	—	4	145	508	230	12
Suburethral abscess	—	3	114	347	209	30
Symptoms, absence of	2	—	—	—	—	—
,, grouping of	2	—	—	—	—	—
,, pathognomonic	1	—	—	—	—	—
Syphilide, lichenoid	—	2	96	216	197	120
,, proliferating papular	—	2	96	217	197	121
Syphiloma, ano-rectal	—	3	124	412	218	80
TENDERNESS with pain	55	—	—	—	—	—
Testis, cystic adenoma of	—	2	—	—	185	45
,, dermoid of	—	2	78	74	184	36
,, encephaloid	—	2	82	102	186	52
,, enchondroma of	—	2	79	79	184	39
,, encysted hydrocele of	—	2	78	71	184	35
,, fibroma of	—	2	78	75	184	37
,, gumma of	—	2	79	80	184	40
,, inflamed undescended	—	2	84	121	188	62
,, lipoma of	—	2	79	76	184	38
,, lymphadenoma of	—	2	80	85	185	43
,, myxoma of	—	2	81	93	185	47
,, retained	—	2	87	146	189	76
,, sarcoma of	—	2	82	103	186	53
,, ,, cystic of	—	2	82	104	186	54
,, schirrus of	—	2	81	96	186	49
Thrombus of labium	—	2	106	295	204	162
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Tubal gestation, ruptured	257	4	153	550	237	34
,, ,, unruptured	—	4	152	548	236	33
Tubercle bacilli, examination for	282	—	—	—	—	—
,, uterine	—	4	147	520	232	17
,, of bladder	—	3	132	457	220	89

	Page	Class	Lines of Diagnosis. Page	Lines of Diagnosis. No.	Diagnostic Tables. Page	Diagnostic Tables. No.
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,, ,, prostate	—	3	133	461	223	97
,, ,, vesicula seminalis	—	3	133	460	221	93
Tubercular epididymitis	251	2	80	91	185	46
,, peritonitis	—	4	159	581	241	52
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,, glands, inguinal	—	2	86	139	189	71
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Tubo-ovarian abscess	—	4	147	523	232	19
Tumour, inflamed	—	5	171	635	246	12
Tunica vaginalis, hydrocele of	—	2	78	70	184	34
Turpentine, effects of	—	3	139	478	226	109
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,, ,, ,, solitary tubercular	—	3	132	457	220	89
,, ,, rectum, follicular	—	3	127	432	216	69
,, angiomatous	—	3	126	429	216	67
,, of sinus of Morgagni	—	3	126	431	216	68
Umbilical carcinoma	250	1	68	19	176	9
Upright position	22	—	—	—	—	—
Ureter, occluded cystic	—	4	157	571	239	46
Ureteral calculus impacted	267	4	157	572	240	47
,, ,, ,,	—	3	137	474	224	101
Ureteritis	—	4	156	568	239	44
,, tubercular	—	4	156	569	239	45
Uretero-vaginal fistula	—	3	112	335	208	22
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Urethroscope	43	—	—	—	—	—
Urethra, carcinoma of	—	3	109	312	206	8
,, fibroma of	—	3	108	306	205	4
,, myoma of	—	3	108	307	205	5
,, sarcoma of	—	3	108	309	206	6
,, stricture of	—	2	72	41	178	6
,, ,, ,,	—	3	131	451	223	100
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,, gonorrhœal	—	2	73	46, 48	177	2, 4
,, posterior	—	2	73	43	179	7
,, simple	—	2	73	47	177	3
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,, anteflexion of	—	4	142	491	228	2
,, anteversion of	—	4	142	491	228	4
,, carcinoma of	—	4	149	530	234	26
,, fibrocystic tumour of	—	5	169	626	245	8
,, fibroid polypus of	—	3	118	367	229	6
,, glandular polypus of	—	4	116	359	229	5
,, impaction of gravid	—	4	151	543	235	30
,, intraligamentary fibroid of	—	4	144	501	230	8
,, ,, ,, ,,	—	5	167	614	244	2
,, interstitial fibroid of	—	4	144	503	230	9
,, ,, ,, ,,	—	5	167	612	244	1
,, inversion of	—	3	117	363	211	39
,, mucous polypus of		3	116	359	210	37
,, procidentia of	—	3	116	362	211	38

	Page	Class	Lines of Diagnosis. Page	Lines of Diagnosis. No.	Diagnostic Tables. Page	Diagnostic Tables. No.
Uterus, prolapse of	—	3	116	362	211	36
,, retroflexion of	—	4	142	491	228	1
,, retroversion of	—	4	142	491	228	3
,, sarcoma of	—	4	148	528	234	25
,, ,, ,,	—	5	169	627	246	9
,, sarcomatous polypus of	—	3	118	368	211	41
,, submucous fibroid of	—	3	118	367	211	40
,, ,, ,, ,,	—	4	143	499	229	7
,, subinvolution of	—	4	145	507	230	11
,, ,, with retained products	—	4	145	508	230	12
,, tubercle of	—	4	147	520	232	17
Vagina, cysts of	—	3	109	314	206	9
,, carcinoma of	—	3	115	355	210	35
,, duplex	—	3	115	356	—	—
,, fibroma of	—	3	109	317	206	10
,, prolapse of	—	3	113	343	209	28
,, sarcoma (children)	—	3	109	316	206	11
,, ,, (adults)	—	3	115	354	210	34
Vaginitis, aphthous	—	3	111	329	207	17
,, catarrhal	—	3	111	325	207	14
,, chronic	—	3	111	330	208	18
,, diphtheritic	—	3	110	323	207	13
,, gonorrhœal	—	3	110	321	207	12
,, granular	—	3	111	326	207	15
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,, dermoids	—	3	139	480	226	111
,, sarcoma	—	3	141	489	227	117
,, ulcer, simple	—	3	133	458	220	88
,, ,, tubercular	—	3	132	457	220	89
Vesiculitis, acute	—	3	134	463	225	104
,, tubercular	—	3	133	460	221	93
Villous papilloma of bladder	—	3	108	304	205	3
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