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THE MECHANICAL SYSTEM
OF
UTERINE PATHOLOGY



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With the author's kind regards

THE MECHANICAL SYSTEM
OF
UTERINE PATHOLOGY

REVISED EDITION OF DR. GRAILY HEWITT'S WORK ON
THE DISEASES OF WOMEN.

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THE PATHOLOGY, DIAGNOSIS, and TREATMENT
of DISEASES of WOMEN, including the Diagnosis of PREG-
NANCY. By GRAILY HEWITT, M.D. F.R.C.P. Professor of Midwifery
and Diseases of Women, University College, and Obstetric Physician to
the Hospital; late Examiner in Obstetric Medicine to the University of
London. Third Edition, in part re-written, with additional Illustrations.

The present edition is substantially a new work. It contains a *résumé* of the Author's hospital cases extending over a period of upwards of four years, and an exposition of certain views in reference to the pathology and treatment of diseases of the uterus which are new as compared with those embodied in the earlier editions.

PREFACE.

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HEWITT's work as the lineal successor to SIMPSON'S.'

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'Although we differ with the Author in many of his views, chiefly as referring to the origin of uterine affections, yet we cannot but speak in the highest terms of the work itself. The style is clear and very readable, and it gives evidence throughout of honest, hard work; not that of the office book-worm, but of the careful clinical observer.—CANADA MEDICAL & SURGICAL JOURNAL.

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THE MECHANICAL SYSTEM
OF
UTERINE PATHOLOGY

BEING THE
Harveian Lectures

DELIVERED BEFORE THE HARVEIAN SOCIETY OF LONDON

DECEMBER 1877

BY

GRAILY HEWITT, M.D. LOND., F.R.C.P.

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TO THE
COUNCIL AND MEMBERS
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THESE LECTURES
ARE RESPECTFULLY DEDICATED

BY
THE AUTHOR

LUTE

MC

1875

THE UNIVERSITY OF CHICAGO

HARVARD UNIVERSITY

1875

THE UNIVERSITY OF CHICAGO

1875



PREFACE.

THESE LECTURES, constituting the 'Harveian Lectures' for the year 1877, were delivered before the Harveian Society of London in December 1877.

Somewhat abbreviated, they appeared in the 'Lancet,' Dec. 1877, but they are now published in a more complete form. In the illustrations here employed, prepared expressly for this work, the organs are represented of the natural size, without reduction in scale, as is the ordinary practice: this method of representing them will, it is believed, render the argument employed in the text more intelligible and more readily followed, and it will necessarily contribute to greater exactness, a quality eminently desirable in the discussion of a subject in which questions of *size*, *form*, and *position* are integral and all-important. The illustrations here given must be looked on as diagrammatic: much pains have been taken to render them as exact as possible, but it is necessarily difficult to give pictorial representations of alterations and changes which are only appreciable by the sense of touch.

36, BERKELEY SQUARE:

June 1878.

PREFACE

The first edition of this book was published in 1911. It was then a volume of 100 pages, and it was written for the use of students in the first two years of college. It has since been revised and enlarged, and now contains 300 pages.

The book is divided into two parts. The first part, which is the larger, is devoted to the study of the principles of mechanics. It begins with a chapter on the nature of matter and the laws of motion, and then proceeds to a detailed treatment of the laws of Newton, the principles of energy, and the laws of conservation. The second part of the book is devoted to the study of the properties of matter, and is divided into chapters on the properties of solids, liquids, and gases. The book is written in a clear and concise style, and is intended to be a useful guide for students in the study of physics.

THE AUTHOR
J. H. JOYNT

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PREFACE

The following is a list of the contents of the book, arranged in the order in which they appear in the text.

CHAPTER I

The first chapter of the book deals with the general principles of the subject, and is divided into two main parts.

CHAPTER II

The second chapter of the book deals with the history of the subject, and is divided into three main parts.

THE MECHANICAL SYSTEM OF UTERINE PATHOLOGY.

LECTURE I.

MR. PRESIDENT and GENTLEMEN,—The subject which I have selected for these lectures is one which I venture to think very suitable for discussion before this Society. Great scientific interest at present attaches to all questions relating to the pathology of the uterus. We have been too long reproached for the diversity and differences of opinion prevalent on these questions, and I feel sure you will bear with me in the attempt I am now about to make to reconcile these differences and to produce some satisfactory and useful generalisations on the subject. For several years the complex subject of uterine pathology has been a principal object of my attention. Starting with no preconceived views on the subject, my sole object has been to attain to a rational understanding of the cases which presented themselves to my notice. The result of my observation and inquiry has been the adoption of certain general principles in reference to this interesting subject, which have, as I conceive, a very widely extended application, and which I shall now endeavour to lay before you. The principles in question have evolved themselves naturally and logically from the facts before me. They seemed to me of so sweeping and general a character, that at first I was distrustful of my own observation, and could hardly believe that such

simplicity belonged to a subject which had always appeared so difficult ; but as time went on, it was plain that there could be no mistake about it, and the more cases I saw, the more exactly and truly did the principles in question seem to apply themselves naturally to the observed fresh facts.

It was not until five years ago that I ventured to put forward in a succinct and positive form the conclusions which observations spread over several years had previously induced me to come to. In the third edition of my work 'On Diseases of Women,' these conclusions were submitted to the consideration of my professional brethren, as the basis of what I ventured to designate the 'mechanical system' of uterine pathology.

The following three propositions embody these conclusions:—

'1. Patients suffering from symptoms of uterine inflammation (or, more properly, from symptoms referable to the uterus) are almost universally found to be affected with flexion or alteration in the shape of the uterus of easily recognised character, but varying in degree.

'2. The change in the form and shape of the uterus is frequently brought about in consequence of the tissues of the uterus being previously in a state of unusual softness, or what may be often correctly designated as chronic inflammation.

'3. The flexion once produced is not only liable to perpetuate itself, so to speak, but continues to act incessantly as the cause of the chronic inflammation present.'¹

Since that time nothing has occurred to shake my confidence in the substantial truth of the conclusions just stated ; I have had, on the contrary, more reason than ever to be satisfied of their accuracy. But additional experience, together with the great advantage of the subjection of these conclusions to various searching, if not always favourable, criticisms, enable me now to develop the subject more completely.

¹ *On the Pathology, Diagnosis, and Treatment of the Diseases of Women*, p. 2. Longmans : 1872.

There has been much misconception in reference to the word 'mechanical,' as used in the phrase 'mechanical system of uterine pathology,' a misconception which it is necessary that I should at once deal with. The word mechanical is here employed to convey an idea as to the origin and nature of the disorder. By it is meant that mechanical changes and mechanical influences have the greatest share in the production of these disorders. By it is intended to be conveyed the importance of the share which acquired distortions and alterations of position of the uterus—in a word, mechanical changes—have in the production of uterine suffering. The word mechanical has, however, apparently led some who have criticised the doctrines which I have upheld, to imagine, quite unjustifiably, as I shall by-and-by show, that it has been my intention and desire to inaugurate the universal and indiscriminate employment of instruments and mechanical appliances in the treatment of uterine disease. Nothing can be farther from my intention. At present I content myself with simply pointing out that the adoption of the mechanical system of uterine pathology does not mean the use of a pessary in any and every case that presents itself. It is one thing to recognise that the patient before us is suffering from a mechanical derangement of the internal generative organs, it is another to insist on the treatment of such a case by applying various internal mechanical apparatus.

It is high time that some more rational, intelligible, and generally comprehensible ideas on the subject of uterine pathology should prevail. Knowledge has, in this department of science, been defective. The subject is one which cannot be studied on a large scale by a large number of individuals, and the great mass of the profession has felt itself obliged to accept the reigning doctrines, and apply them as they best could to the treatment of actual cases. The breakdown of one system has thus disposed many to think hardly of a new one, and to exclaim against a novelty simply because it is a novelty. I gladly avail myself of the

opportunity now offered of presenting to your notice a general view of the mechanical system of uterine pathology, and of setting forth the grounds on which it claims to offer a rational interpretation of the clinical phenomena, and the pathological changes observed in cases where the uterus is diseased.

Certain of the mechanical disturbances of the uterus have been long known, their nature understood, and their inconveniences recognised. I mean those forms of prolapsus uteri where the organ, wholly or in part, and dragging with it or not portions of the adjacent organs, protrudes from the vulva. There is no dispute as to the mechanical nature of such a lesion as this. The malady could not well escape recognition.

But displacements of the uterus falling short of this external protrusion were not so readily recognised, though a moment's consideration would seem to be sufficient to show that a descent or movement transgressing the normal limits would be really a displacement. In point of fact, the slighter displacements were known to exist, but were not thought much of, because no one had specifically indicated the nature of the evil effects they produced. But, besides these slighter degrees of internal displacement, another physical change of the uterus—bending or flexion of the organ—has of late years attracted much attention. It is plain that this latter is a mechanical affection, and that it must be looked at from a mechanical point of view. It is not less a dislocation than is prolapsus of the uterus.

The proper signification of these various mechanical diseases of the uterus is not yet known, nor is their relation to other diseases and alterations of the uterus as yet defined with the necessary degree of precision. Almost inconceivable differences of opinion prevail as to their nature and effects, and there are infinite differences of opinion as to their actual importance. It is my object on this occasion to attempt to render the matter more intelligible.

The importance of this or that lesion of any particular organ is usually judged of by its disturbing effect, by the pain or discomfort to which it

gives rise, or by its disturbing various physiological processes essential to the preservation of health. Observation has convinced me that, as a rule, far too little attention is bestowed by practitioners on the statements and complaints made by patients as to their own painful or distressing sensations. I can only say that, in investigating supposed cases of uterine disease, I have always gained a great amount of assistance from these statements in arriving at a conclusion as to the nature of the case. Early in my practice I was led to adopt the course of questioning patients closely in regard to their sensations. Coupling these statements with the results of careful internal exploration of the uterus, and other adjacent organs, the result was in process of time to show such a close connexion between internal mechanical changes of the uterus and the existence of painful sensations such as induced the patients to apply for relief, that I was insensibly led to attach the highest importance to this connexion. And, in fact, this is the explanation I have to give of my adoption of the mechanical system of uterine pathology, that clinical evidence and clinical facts not only indicated these conclusions, but forced them upon me.

Frequency of Uterine Distortions.

Let me, in the next place, lay before you a brief statement of facts bearing on the question of the actual frequency with which the mechanical diseases of the uterus are met with in practice. I am quite aware that 'frequency' is not necessarily identical with 'importance.' But for the moment I direct attention to the frequency question. During a period of a little over four years, from August 1865 to December 1869, I kept notes of all cases treated in my out-patients' room at University College Hospital. The number of recorded cases of all kinds is 1,205. Of these, 714 were cases where the patients presented uterine symptoms. Of these 714, 620 were subjected to an internal examination, and the diagnosis thus arrived at. In 94 no such examination was made.

Of the 620 examined cases, 61, or 9·8 per cent., were set down as suffering from absence or malformation of uterus, or various symptomatic affections only.

In 182, or 29·3 per cent., the patients were found to be suffering from fibroid tumour, cancer, or pelvic cellulitis.

In 377, or 60·8 per cent., the shape of the uterus was materially changed or its position markedly changed.

These 377 cases are further resolved into—

Flexions	{	Retroflexions, 112	}	296	}	377
	{	Anteflexions, 184				
Prolapses		81				

Further, 'the flexion cases were very generally attended with alterations such as would be properly termed as of a chronic inflammatory character; but it is precisely in those cases where the symptoms of irritation or inflammation were most marked that severe and well-established flexions were found to exist.'¹

It thus appears that in 60·8 per cent. of those hospital out-patient cases which presented uterine symptoms of sufficient importance to suggest the necessity for making an examination, marked physical changes in the form, shape, or position of the uterus were detected.

The total number of cases recorded was, as I have before stated, 1,205, of which 714 are accounted for in the above analysis. There remain 491 cases, which include many of syphilis or gonorrhœa, pregnancy, general debility, overlactation, diseases of the bladder or external generative organs, phlegmasia dolens, tumours or inflammations of the ovaries, cases of doubtful diagnosis, cases of disease of other than the generative organs, &c.

The above is an exact account of observations made and recorded in public. Before the observations in question were made I had been led to

¹ *On the Pathology, Diagnosis, and Treatment of the Diseases of Women*, p. 7. Third edition.

regard alterations of shape of the uterus as of high clinical importance. But these observations, made between 1865 and 1869, are more reliable than any previous ones, for the reason that they were made by a more experienced observer. The generalisation arrived at from a careful analysis of these cases is embodied in the three propositions already alluded to.

These statistics were valuable in my own estimation. But no statistics are of themselves quite capable of settling any question in an indisputable manner, it being always open to an objector to state that in other hands a very different result could have been shown to be deducible.

In endeavouring to demonstrate, therefore, the importance of these mechanical diseases of the uterus we must appeal to reason as well as to statistics. These ideas must in fact be shown to be in accordance with anatomy and physiology. They must also be shown to offer an intelligible explanation of clinical phenomena, and there must be such a conformity between them and the daily observed facts as will convince the inquirer that the ideas in question rest on a scientific as well as a clinical basis.

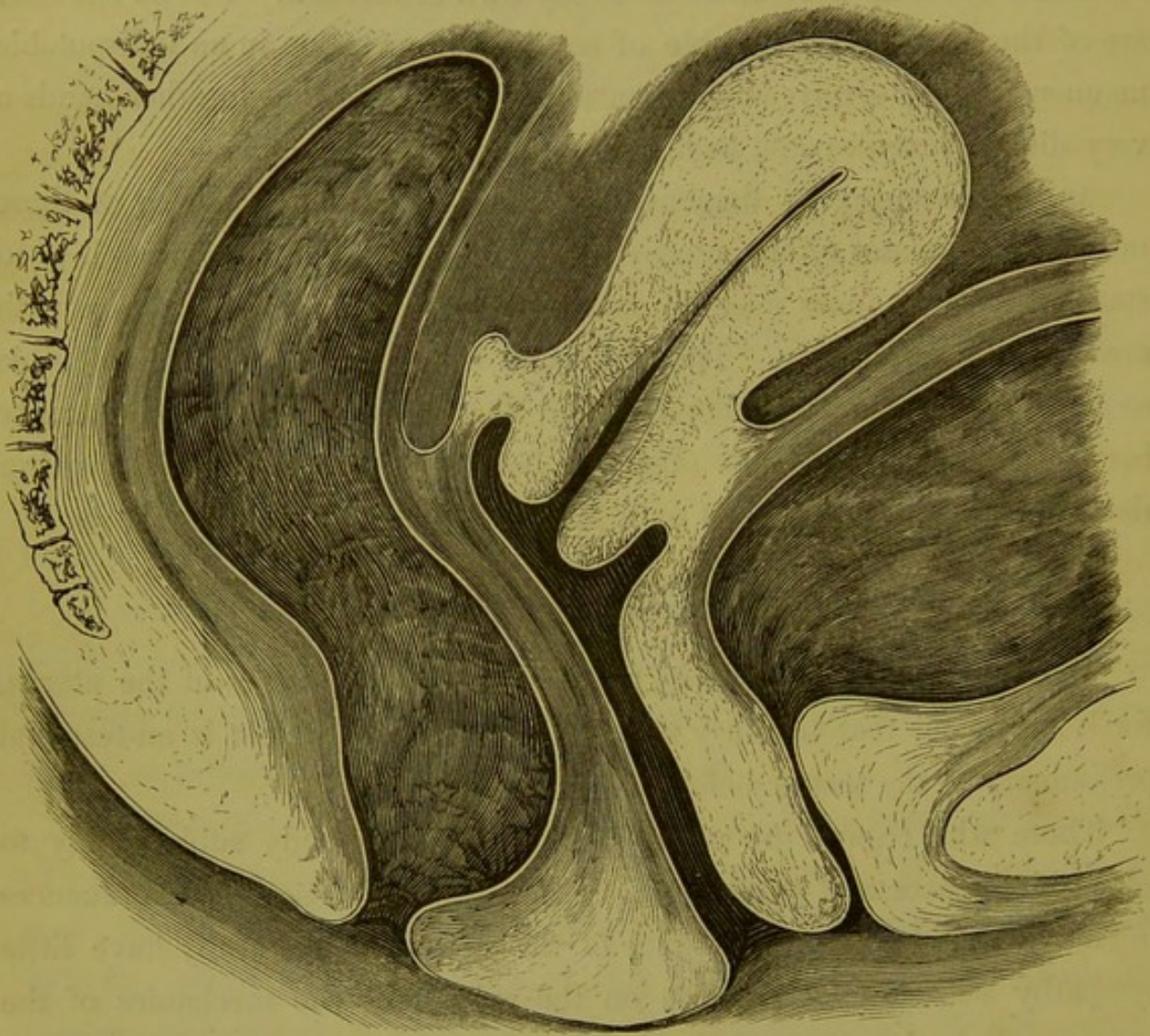
Mechanics of the Uterus.

I propose, in the next place, to consider the mechanics of the uterus, for it is obvious that accuracy of knowledge of this subject is an essential preliminary to the matter before us.

Those who regard the uterus as a part of the body subject only to general influences, and participating in the effects of those general influences in common with the other organs of the body, will naturally have little sympathy with any disquisition on the subject of the mechanics of the uterus. But the uterus is subject to the action of mechanical laws, and it is impossible to escape from the necessity for making due allowance for their operation in the construction of a rational system of uterine pathology.

Nature has so placed the uterus that it is comparatively well protected from accident. It is fixed in such a manner that it yields a little to forces

which may be so applied as to change its position. Downwards, and forwards, and backwards, and even upwards, the uterus may be, to a certain extent, moved without injury or inconvenience. Various strong forces, however, are capable of dislocating it severely. The soft but elastic con-

FIG. 1.¹

nexions of the uterus are very numerous, and the relation of the organ to adjacent ones is such that motion is comparatively restricted.

But while motion of the uterus, as a whole, is comparatively restricted, motion of certain parts of the uterus is more free. The centre of the uterus,

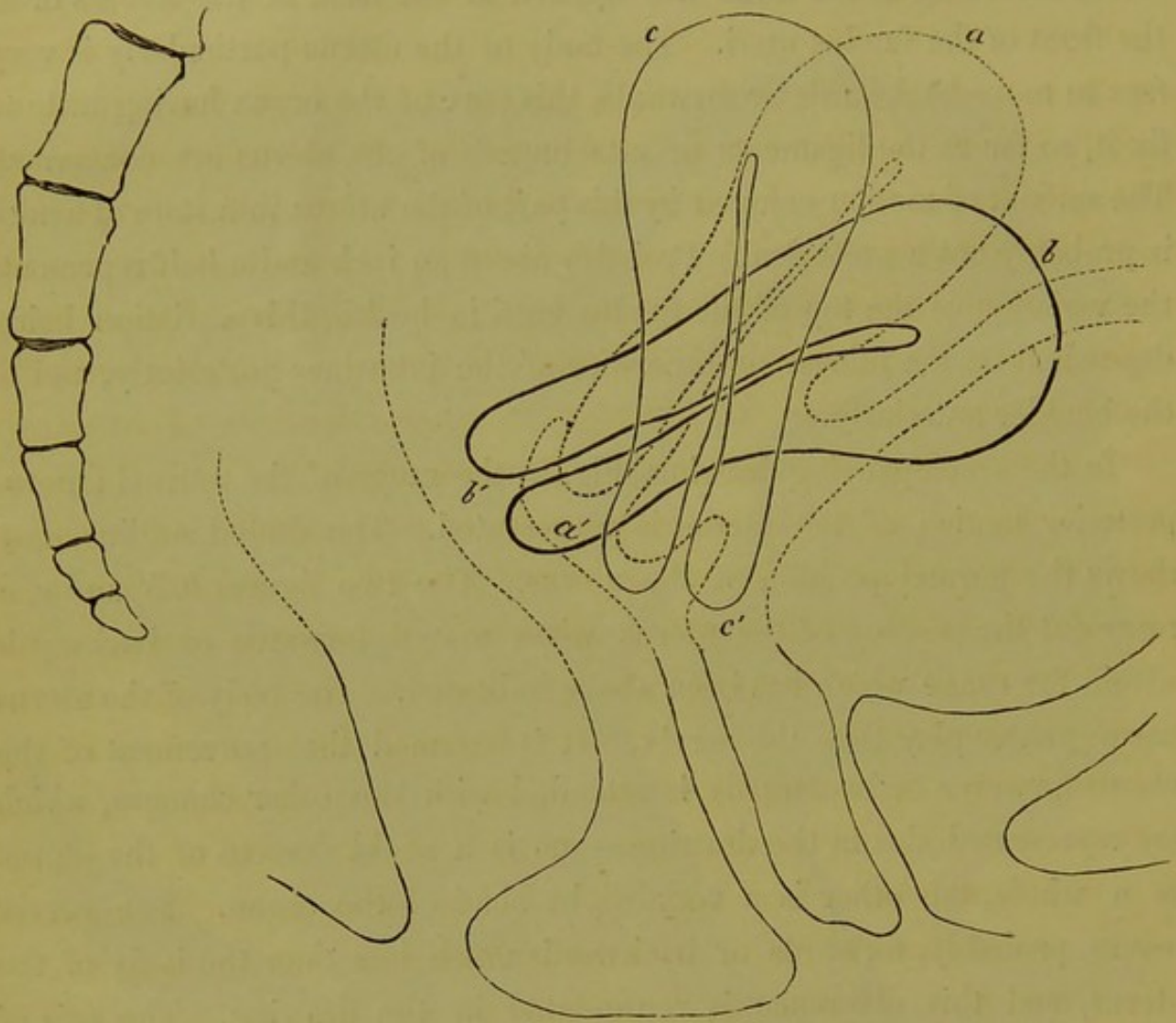
¹ Fig. 1 represents the normal position and relations of the virgin uterus.

which is its axis of suspension, is more fixed, but the body and cervix are more free to move backwards or forwards. And if the uterus were a rigid organ, various forces would obviously easily produce a tilting or version of the uterus, the fundus going forwards and the cervix backwards, or *vice versâ*, according as the force was applied at the back of the fundus or at the front of the fundus uteri. The body of the uterus particularly is very free to move backwards or forwards, this part of the organ having little to fix it, so far as the ligaments or attachments of the uterus are concerned. The amount of motion enjoyed by this part of the uterus in a state of health is probably not a great deal. Probably about an inch and a half represents the variation of the top of the fundus uteri in health, this variation being dependent on the fulness or otherwise of the intestines posteriorly, and of the bladder anteriorly.

In the accompanying drawing (Fig. 2) the range of the normal antero-posterior motion of the uterus is represented. The dotted outline *a, a'* shows the normal position of the uterus. The two figures *b, b'* and *c, c'* represent the position of the uterus when moved forwards or backwards within the range which has been above indicated. The body of the uterus has a greater play than the cervix. It is assumed that movement of the uterus forwards or backwards is attended with two other changes, which are represented also in the drawing—one is a slight descent of the uterus as a whole, the other is a very slight bend of the organ. The cervix moves, probably, forwards or backwards much less than the body of the uterus, and this difference is represented in the drawing. The axis of rotation is placed at the internal os uteri.

It seems to be certain that, if the uterus were not a comparatively rigid organ, the extent to which the fundus might be inclined backwards or forwards, in obedience to the action of forces applied from above, would be considerable. The bladder is, in some degree—when full, at least—a protection against anterior displacement; but against posterior displacement there is less security, unless it be the slight natural inclination of the uterus

forwards. This comparatively unprotected condition of the fundus uteri appears to be necessary in view of the physiological enlargement of the body of the uterus which must necessarily occur during pregnancy. Firm

FIG. 2.¹

attachments of the summit of the fundus would necessarily interfere with the expansion and enlargement involved in the progress of pregnancy.

The chief protection which the uterus appears to have against forces tending to incline the fundus unduly forwards and backwards is the

¹ Fig. 2 exhibits in outline what may be termed the normal range of antero-posterior motion, or the reverse, of the uterus. *a a'* the normal position, *b b'* the extent of anterior motion, *c c'* that of posterior motion.

resistance offered by its own tissues. In a state of health the unimpregnated uterus has considerable firmness and solidity. Its tissues resist section by the knife, and the walls are of considerable thickness, even at its central part, where the walls are thinnest. When the tissues of the uterus are in a sound state, and the nutrition of its various parts duly maintained, the firm walls of the organ offer an elastic, strong, spring-like resistance to any force tending to induce a strong inclination forwards or backwards; and when the force applied is sufficient to produce a notable effect in displacing the fundus, the uterus thus possesses in itself a power of righting itself.

The uterus is composed, as is well known, of a fibro-muscular material, having considerable firmness of texture. Its walls are of considerable thickness; although at about the centre of the organ they are somewhat thinner than elsewhere, the difference is not remarkable. The cavity of the uterus is small in proportion to the thickness of the walls (of course this description applies to the uterus prior to the occurrence of pregnancy alone); and hence the uterus is virtually a solid organ, having below a narrow canal, and above a flattened compressed cavity. The thickness of the uterine walls is, in fact, such that, coupled with the firm resisting structure of which they are composed, the organ in a state of health resists any attempt to bend it, and so alter its shape, in a very decided manner. This construction of the uterus it is which imparts to it a solidity and power of maintaining its shape which are highly important to it. In speaking of the attachments of the uterus mention was made of the comparative freedom which the body of the uterus enjoys, due to the absence of ligaments superiorly, and the absence of such ligaments is to a great extent made up by the firm resisting thick walls which the uterus possesses, and which aid it materially in preserving its shape under adverse circumstances.

The vascular apparatus of the uterus has an important share also in contributing to the preservation of its shape. The vessels are numerous, the cavities of the uterus, or sinuses as they are termed, and which are

parts of the vascular system of the organ, are of considerable capacity, and when the circulation is proceeding healthily and regularly, the tension of the full bloodvessels will contribute to the firmness of the organ as a whole, and consequently to the preservation of its natural form and shape. In fact, by some authorities the uterus is regarded as a partly erectile organ.

What actually happens when a strong force is applied to the fundus from above, is that the fundus first gives way, next the uterus is a little bent at its middle. Next follows a certain degree of version of the uterus as a whole, the cervical part of the organ taking the opposite direction to the fundus. Coupled with these alterations there is in most cases a certain degree of depression of the uterus as a whole in the cavity of the pelvis. In the end the action of the force is or may be such as to produce descent of the uterus, version, and a certain amount of flexion. From all these effects, however, the uterus may, if in a state of health at the time, and if the force has not exceeded a certain point, recover, and resume its natural shape and position. But for the power of so recovering itself it is for the most part, I believe, dependent on the elastic firm resistance of its own tissues.

As regards descent of the uterus as a whole in the pelvis, there are certain points requiring notice. Descent of the uterus in a state of health is limited; and uncomplicated descent of the uterus—that is to say, unaccompanied with anterior or posterior displacement—is rare. At least this statement holds good so long as no part of the uterus passes downwards beyond the vulva. External prolapse of the uterus, or procidentia, has been known to occur suddenly, and in cases where no previous dislocation of the uterus had occurred. The force required to effect such a change must be very considerable, and the respective share which the various attachments of the uterus have in preventing such an accident, has been made the subject of an interesting experimental investigation by Dr. Henry Savage.

The early history of chronic cases of complete prolapse is not seldom

obscure, but it seems very probable that in very few does the uterus come down from the first with its long axis in the proper direction.

A further element to be considered in estimating the effect of a downward acting force on the uterus is the condition of the perineum. That the bladder in part acts as preventive of the occurrence of anteversion is undoubted; but the bladder itself requires support, and if the floor of the bladder be not properly sustained by the perineum, it may give way. Thus we may have, as a natural sequence—1, rupture of the perineum; 2, anteversion; 3, cystocele; 4, exaggeration of the anteversion or flexion; and later on there may be 5, external prolapse. The deficiency of the perineum may likewise induce exaggeration of an existing retroversion or flexion which may finally end in complete prolapsus of the uterus.

I have said nothing in reference to lateral movement of the uterus. The lateral movement is, naturally, very slight, the uterus being comparatively well fixed by the broad ligaments as well as by the general connexions of the uterus, its vessels, &c., which enter it on its lateral aspects.

The possible alterations in the position and shape of the uterus induced by action of external forces are:—

1. Slight version anterior or posterior.
2. Slight descent of the whole uterus.
3. Considerable version, generally associated with flexion.
4. Considerable descent of the uterus as a whole in the pelvis.

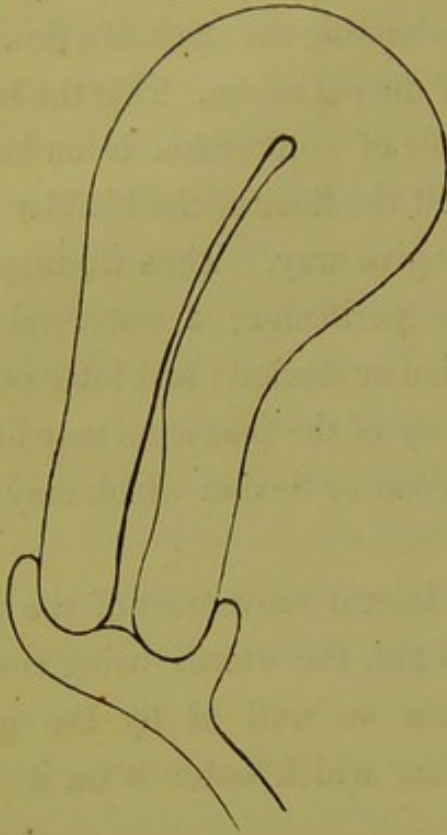
In practice we find the above more or less combined in different cases.

Varieties of Flexions.

The accompanying drawings represent the principal varieties of uterine flexions, and they may be taken as typical varieties. The distinction between first, second, and third degrees is of course a purely arbitrary one; but some such distinction renders description more readily intelligible.

Fig. 3 represents the outline of the normal virgin uterus, the thickness

FIG. 3.

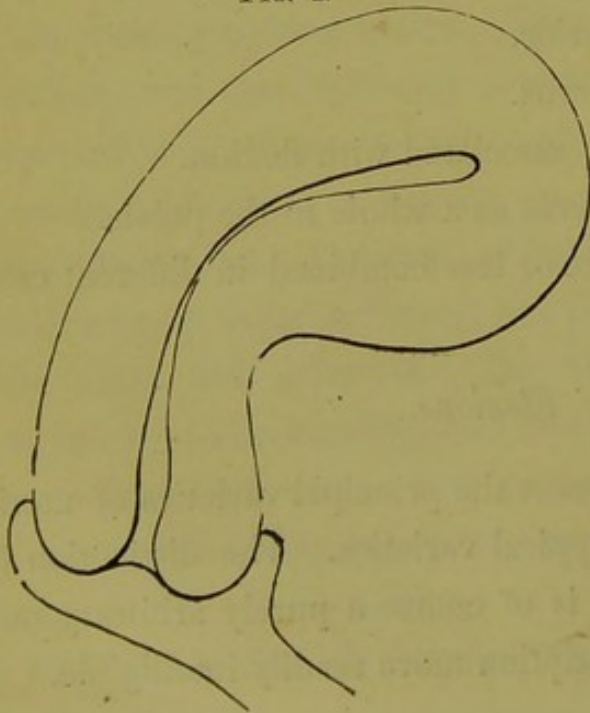


of the uterine walls and the size of the uterine canal being that usually met with when the organ is in a sound state.

Fig. 4 depicts what may be termed the first stage of ante flexion associated with a slight degree of anteversion. The uterine canal is shown to be somewhat narrowed at and near the position of the internal os uteri by the bend in the organ, the anterior and posterior walls of the canal being thereby brought nearer together. A further change from the normal condition is the slight diminution

in the thickness of the anterior wall on the concave side of the flexion.

FIG. 4.



This latter change is not always present, for the uterine wall is, in some rare instances, actually thickened by a bulging forwards of the compressed tissues of the uterus at this situation.

Fig. 5 exhibits a second stage of ante flexion of the uterus. The canal is here more decidedly contracted by the flexion; the anterior uterine wall is also more compressed and thinner. The lips of the os uteri externum are shown

to be thicker than usual owing to the tumefaction of this part of the uterus usually associated with flexion. The aperture of the external os uteri is shown to be more gaping than usual. Such a condition would be generally associated with much congestion and swelling of the body of the uterus also, with, in fact, considerable thickening of the uterine walls superiorly.

FIG. 5.

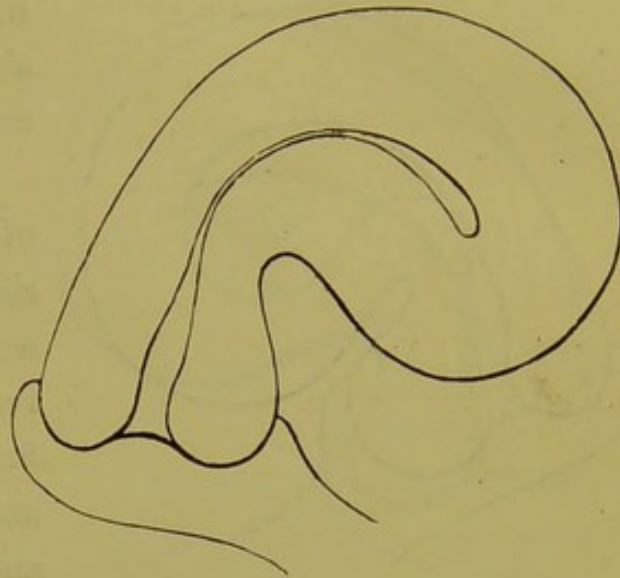


Fig. 6 shows an extreme or third stage of anteflexion, the organ being represented as doubled upon itself. The lips of the os uteri are much increased in thickness and its aperture gaping, while the uterine canal at its middle third is exceedingly contracted, and the opposite walls almost touching. They actually do touch, the passage being thus more or less virtually closed under such circumstances. On the concave side of the flexion the uterine wall is very thin. It may become even thinner than this in some cases. The body of the uterus is increased in thickness and size.

FIG. 6.

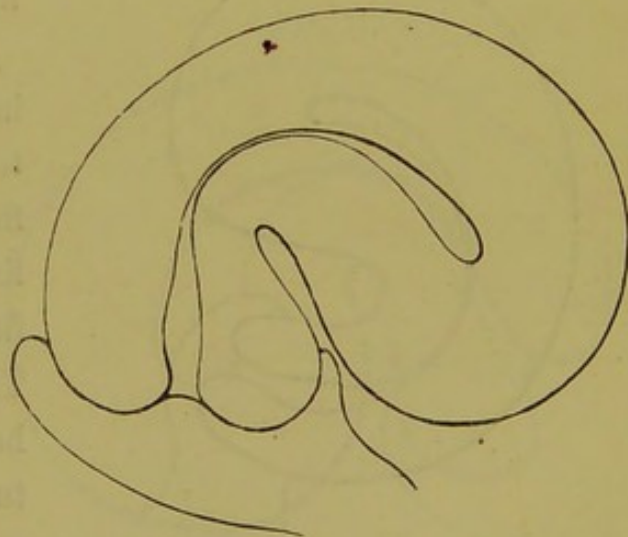
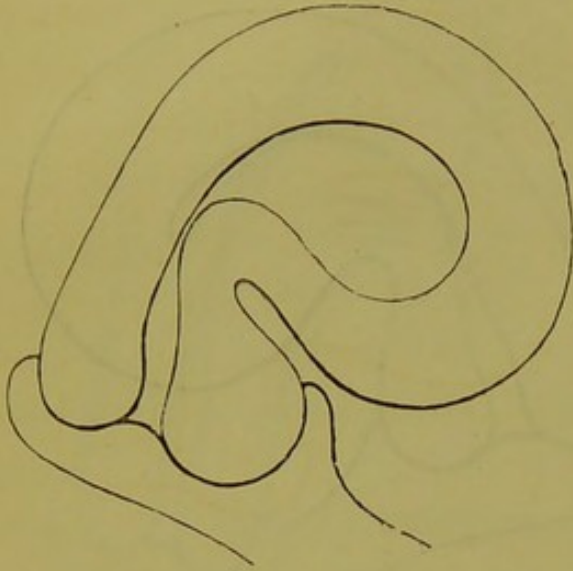


Fig. 7 exhibits a severe or third stage of anteflexion associated with considerable distension of the cavity of the body of the uterus. The internal os is very narrow, offering thus an obstacle to escape of uterine contents. The con-

dition of the uterus here shown is such as exists during menstruation in many cases, and which may persist after the period is over. It is also

FIG. 7.

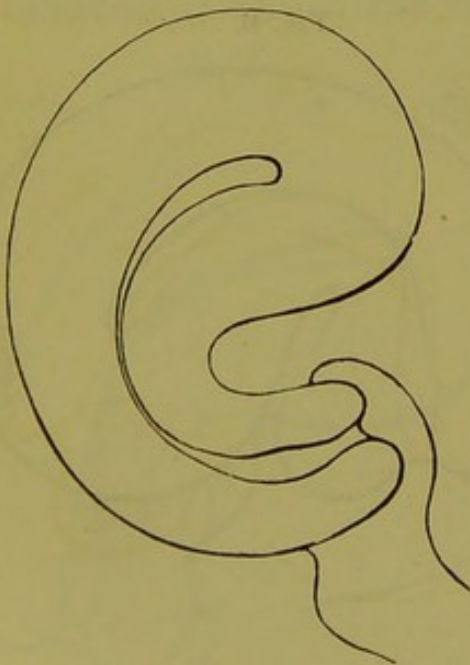


such a condition as may be met with after abortion in cases where abortion has occurred from ante-flexion of the uterus.

Fig. 8 is a remarkable variety of ante-flexion of the uterus occasionally witnessed, consisting in acute ante-flexion combined with retroversion of the uterus. The first condition in these cases is ante-flexion, which becomes acute and perhaps chronic; but subse-

quently in consequence of further stress of some kind being put on the uterus, the organ rotates backwards on its central axis and falls into the

FIG. 8.



position here shown. Such cases constitute a class of flexion very troublesome and difficult to cure.

In Fig. 9 the uterus is shown in a condition which may be termed the first stage of retro-flexion. It is analogous to the first stage of ante-flexion, but the fundus is here inclined backwards. The posterior lip of the os uteri is here shown to be swollen and tumid, as is usually the case in instances of retroflexion of the uterus.

The uterine canal is here also seen to be narrowed by the existence of the flexion, and to a certain extent occluded.

Fig. 10 shows the second stage of retroflexion of the uterus. The body of the uterus is heavier, and its walls thicker than normal. There

FIG. 9.

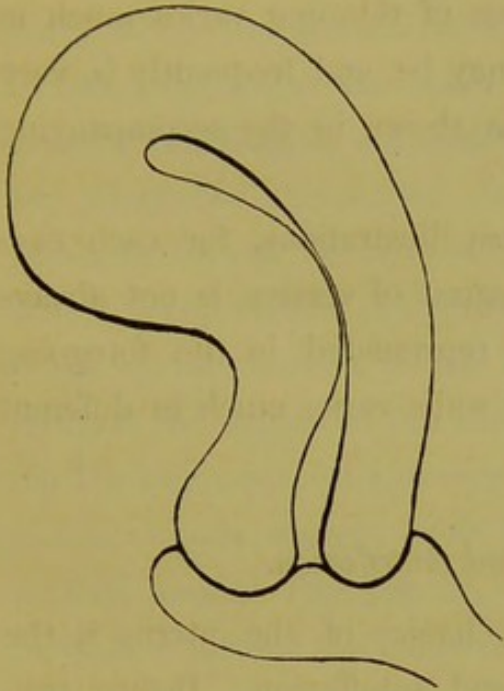
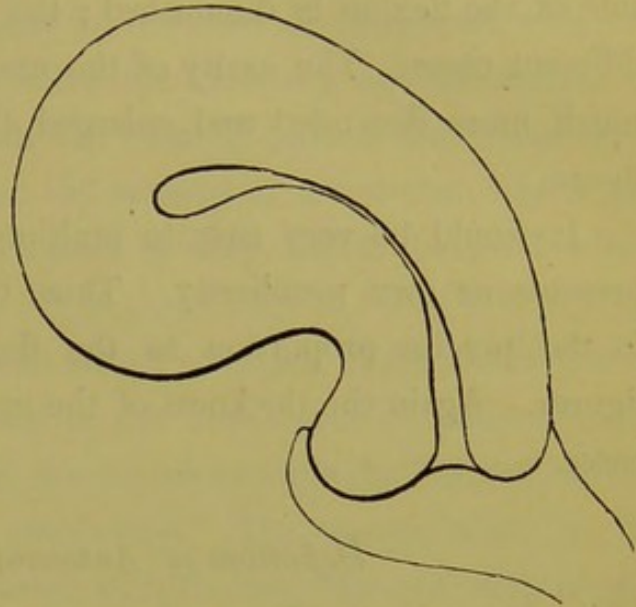


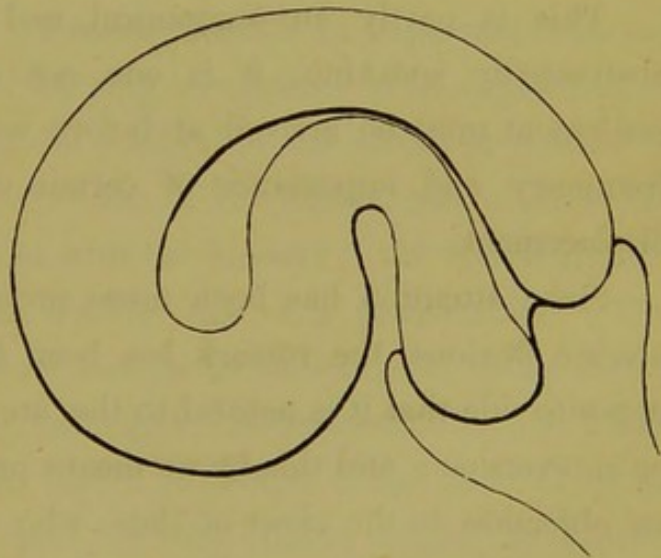
FIG. 10.



is considerable congestion of all parts of the uterus, both fundus and cervix being larger than usual. The os uteri externum is widely open and the lining of the cervical canal partly everted.

FIG. 11.

Fig. 11 exhibits the third stage of retroflexion of the uterus with much contraction and compression of the canal at and near the internal os uteri. There is a very dependent position of the fundus uteri; there is also considerable distension of the cavity of the body of the uterus, much swelling of the lips of the os uteri, especially the posterior lip, and much eversion of the cervical canal



at the os uteri. This enlargement of the posterior lip of the os uteri is an almost constant accompaniment of the acute stage of severe retroflexion of the uterus. The thickness of the posterior uterine wall on the concave side of the flexion is diminished; the degree of thinning varies much in different cases. The cavity of the uterus may be, and frequently is, very much more distended and enlarged than is shown in the accompanying figure.

It would be very easy to multiply these illustrations, for each case presents its own peculiarity. Thus, the degree of version is not always in the precise proportion to the flexion represented in the foregoing figures. Again the thickness of the uterine walls varies much in different cases.

Definition of Anteversion and Anteflexion.

Connected with the subject of the mechanics of the uterus is the definition of what constitutes anteversion and anteflexion. Before proceeding further this definition is absolutely necessary.

One question to be determined is—What is the amount or degree of anteversion or anteflexion which the uterus possesses in a state of health?

This is partly an anatomical and partly a clinical question, and, abstractedly speaking, it is one not easy to settle. And yet some settlement must be arrived at before we can with advantage discuss the frequency and importance of certain varieties of uterine distortion and displacement.

Since attention has been more prominently directed to the subject of uterine flexions, the remark has been frequently made by critics on the opposite side that it is natural to the uterus to be in a state of anteflexion or anteversion; and this by no means precise statement has been urged as an objection to the views of those who attach clinical importance to the existence of anteflexion. It appears that, normally, the uterus has, before puberty arrives, a very slight tendency to anteflexion or anteversion, and

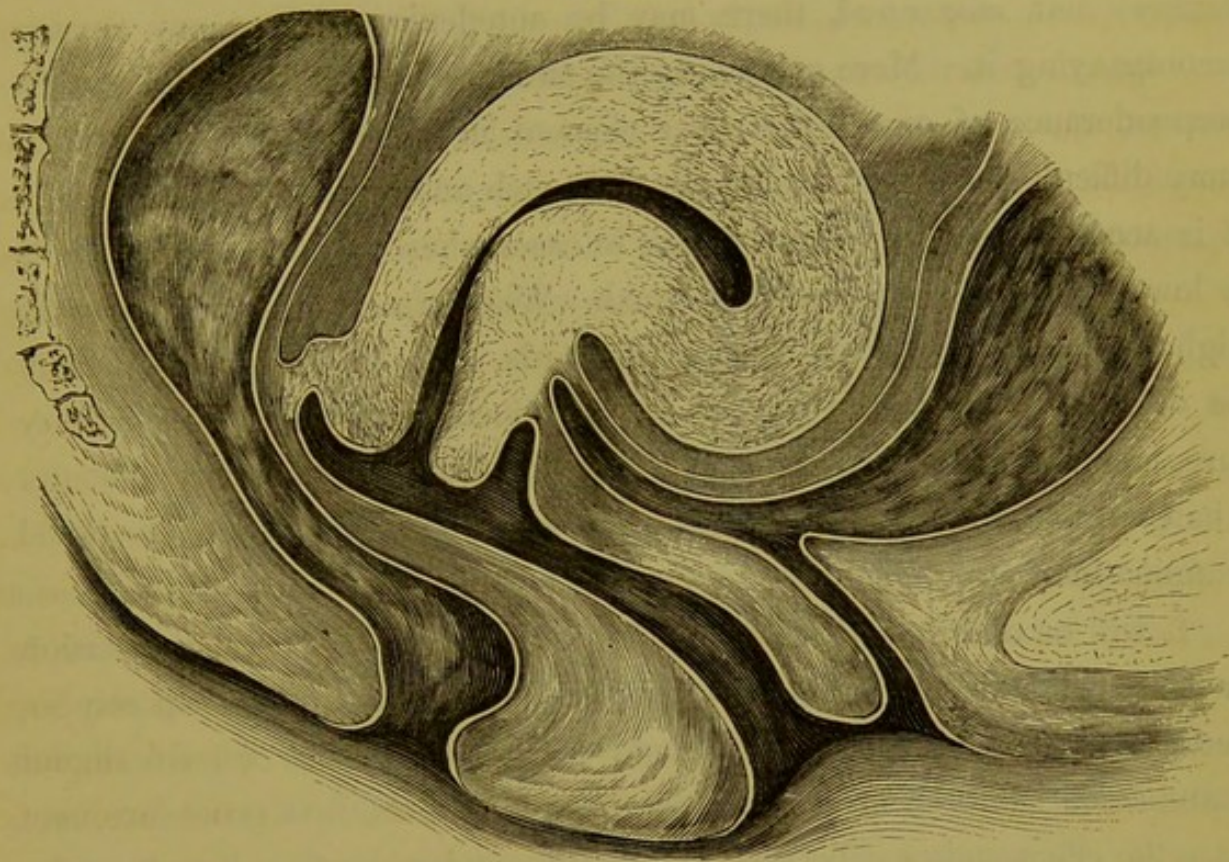
that the increased growth and development of the organ coincident with puberty involves, amongst other things, a certain relative elevation of the fundus and a diminution of the flexion. It appears also that in some cases, where the general development is retarded or interfered with, the uterus may retain for some time after the ordinary age of arrival of puberty this slightly anteflexed condition. But I believe that these cases are altogether exceptional, and that the amount of anteflexion which the perfectly normal healthy uterus possesses is very slight, though I admit that it is appreciable in degree.

A circumstance to which I would direct attention in the endeavour to estimate the degree of this anteflexion is the importance of not confounding the slight natural anteversion of the uterus towards the horizon as the patient stands upright with real anteflexion. The uterus, when in its natural position (see Fig. 1), is situated with its long diameter very nearly in what is termed the curve of Carus. A line starting from a point a little behind the centre of the pelvic brim, and following this curve, would be slightly inclined to the horizon, the body being upright. Regard must be had to this circumstance. Next we must endeavour to estimate the amount of change of position of the uterus involved in the physiological action of the other pelvic organs. The bladder has an important influence in this particular. How far do varying conditions of the bladder, as regards fulness or emptiness, affect the position of the uterus in a state of health? It seems that the middle portion of the uterus, and a part just below this, are intimately connected with the bladder; the uterus and the posterior and lower angle of the bladder are thus inseparable. This portion of the uterus, moreover, does not move forwards to more than a very slight extent, in consequence principally of its fixation by the utero-sacral ligaments. On the other hand, it would seem that in great distension of the bladder this part of the uterus might be pushed considerably backwards. Dr. Braxton Hicks has made some interesting experiments showing the effect of extreme distension of the bladder in

producing retroversion. What happens to the fundus of the uterus, however, when the bladder is empty? Does the uterus fall into a state of anteversion, with the fundus occupying the position of the bladder, or do the intestines descend to fill up the vacant space created by evacuation of the bladder contents? Observation has convinced me that in a state of health the oscillation which occurs is between the bladder and the intestines and not between the bladder and the body of the uterus. Probably, therefore, the motion forwards of the body of the uterus during collapse of the bladder is very slight when the parts are in a normal condition.

I wish here to insist on the fact that in making an ordinary digital examination of the uterus, when this organ is in its proper position, the body of the uterus cannot be felt by the point of the finger unless it be introduced a very considerable distance. Contrast, for instance, the distance of the anterior part of the body of the uterus from the vulvar aperture in the accompanying figure,—fig. 12—the uterus being in a state of decided anteflexion, with its position in fig. 1, p. 8. It should not be possible easily to define the anterior surface of the fundus uteri by the finger. The circumstances are altered in either of two events—(1) when the uterus as a whole descends too low; (2) when it is anteverted or anteflexed. Now, under either of these circumstances, the finger readily arrives at the body of the uterus, and its outline may be defined with more or less completeness, according to the degree of the displacement. If the fundus be readily, or too readily, recognised by the touch, the uterus is not, according to my view of the matter, in its normal position. No one of course doubts the existence of anteversion; no one at the present day disbelieves in the existence of anteflexion, but there are many who do not recognise these conditions in the cases actually under their observation, either because they do not look for them, or because, as frequently happens, really severe anteversions and flexions are overlooked or under-estimated. The misapprehension arises from a want of accuracy of definition as to what is normal anteversion; and as to what is the line dividing this latter from

a real displacement. From what I have seen in private, and in consultation practice particularly, I am aware that the foregoing statement as to the general want of precision in regard to what is and what is not anteversion or flexion, as the case may be, is correct. Again, it should be borne in mind that under ordinary circumstances the examination is made with the patient lying on the side or on the back. My own observa-

FIG. 12.¹

tions have almost invariably been made in this manner. But it seems evident that if the patient were in the standing position any existing anterior displacement might be considerably intensified. I strongly suspect that such exaggeration does actually occur, and if so, the conclusion is natural that the degree of anteversion present as the patient lies on the side is really less than what occurs in the upright position of the body.

¹ Fig. 12 represents a case of what may be termed the second stage of anteflexion of the uterus, with resulting displacement of fundus downwards and forwards.

At all events this would seem to show that conclusions as to the frequency of anteversion and flexion based on examination made in the lateral position are more likely to under-estimate than to over-estimate this numerical frequency.

In order to avoid needless repetition, I have coupled anteversion and anteflexion together; but, of course, it must be understood that anteversion pure and simple may be present without involving necessarily any flexion; and, *vice versâ*, there may be anteflexion without any version accompanying it. More commonly the two are associated, there being a preponderance of one or the other element in different cases. There is more difficulty in diagnosing by the touch anteflexion alone than when it is accompanied by version, unless in cases where the uterus as a whole is lower down in the pelvis than usual. When the uterus is abnormally high in the pelvis, acute flexion forwards may be present, and may be difficult to appreciate by the touch. Such cases are, however, very rare, and in very few instances of acute anteflexion is there any difficulty whatever in outlining the tumour thus created by the ordinary digital examination.

It will be observed that, in speaking of the recognition of anteversion or flexion, I have said nothing of the use of the sound, and purposely so, because, as a diagnostic aid, it should only be used after careful digital examination has been made. To use the sound as the first procedure may have the effect, unless it be very judiciously employed, of so disturbing the real position and shape of the uterus that erroneous inferences may be drawn. If the uterus be soft and much flexed the sound may straighten it for the moment, and the distortion is thus undetected; and when the uterus is not soft, the mere introduction of the instrument almost necessarily alters the position of the organ, reducing an anteversion, and restoring the axis of the uterus to its proper position for the time being. If, as is sometimes done, the speculum be first introduced, and the sound passed in through the speculum, no idea of the real position or shape of

the uterus can possibly be arrived at. Many cases of severe anteversion and flexion thus escape recognition. It is obvious that in any attempt to ascertain the actual position and shape of the uterus great care should be taken to disturb it as little as possible by use of instruments, in the first stage of the investigation, at all events.

Respecting *retroversion* and *retroflexion* of the uterus it may be said that the definition of these conditions requires little to be added. All agree in considering an inclination of the axis of the uterus backwards a retroversion, and flexion of the canal backward a retroflexion. And it is admitted on all sides that retroversion and retroflexion are not natural conditions of the uterus. Usually, also, the diagnosis of these conditions by the touch is easier, a projection backwards behind the posterior vaginal cul-de-sac being at once recognised as something abnormal.

Forces of a Dislocating Tendency.

It will be necessary in the next place to consider the nature of the forces which may be brought to bear on the uterus, and which are capable of materially altering its physical relations. Intimately connected with this question is another—the effect of certain abnormal conditions of the uterus in weakening its natural resistance to the effects of mechanical forces; but it will be convenient to keep the two questions for the present dissociated.

What, then, are the mechanical forces which may act prejudicially on the uterus? The most powerful of these is, undoubtedly, a fall, and especially a fall in which the lower part of the sacral region comes violently and suddenly in contact with the ground or other hard substance. Instances of this kind are: Slipping on the pavement on a piece of orange-peel; being thrown from a carriage; tripping while going down stairs, an accident which sometimes involves a succession of shocks, as the lower part of the spine strikes step after step in the progress downwards. The most healthy uterus may, in consequence of such accidents, become dislocated.

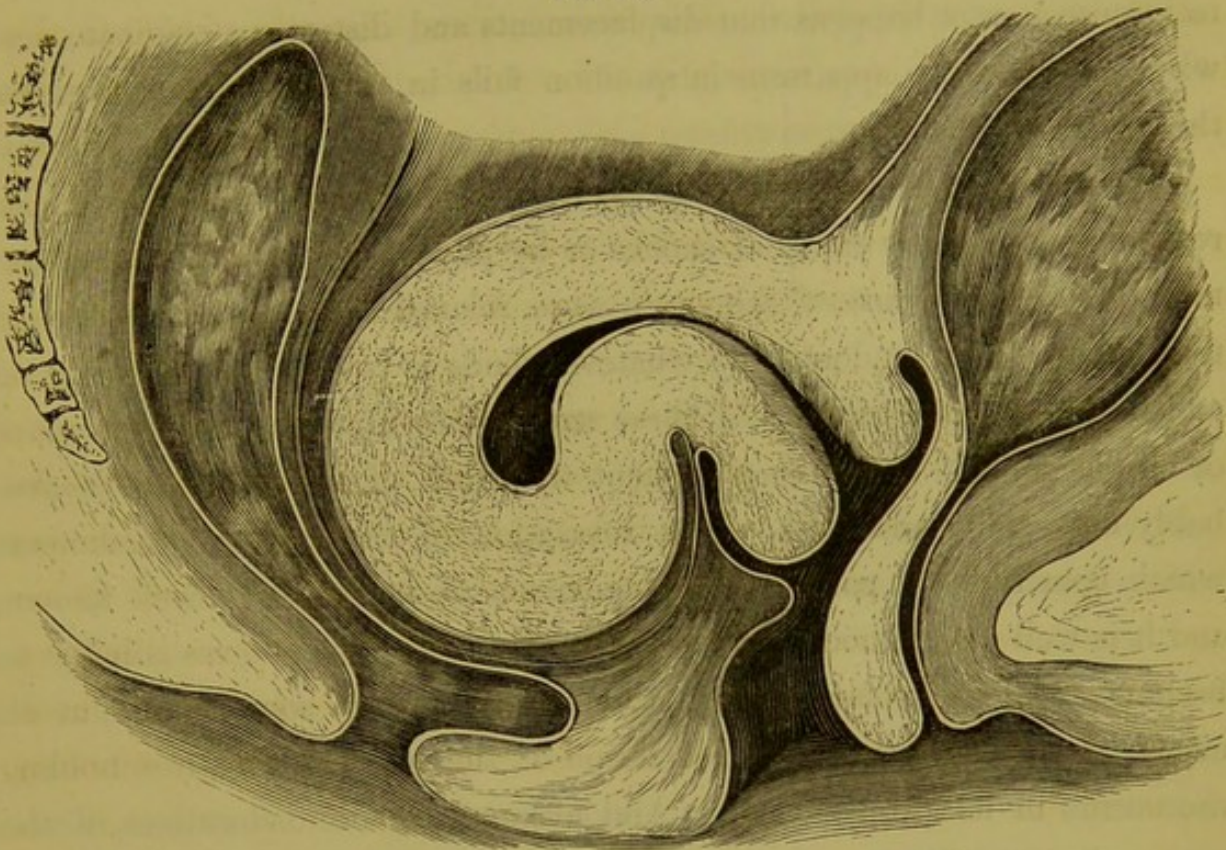
Hardly less severe in their possible effects are violent strains and sudden powerful muscular exertions made by individuals unaccustomed to such efforts. A young lady I knew lifted a patient, who had fallen on the floor out of a chair, from the floor to the chair again, and sustained thereby severe injury of this kind. Another, in a spirit of bravado, carried a heavy weight across a room with a similar result. Then lifting invalids from side to side of the bed I have frequently known to produce great mischief when done by young ladies unaccustomed to much physical exertion. Trained nurses are aware of the effect of these and like exertions in producing severe uterine disturbance. Several cases which have come under my notice have had their starting point in the effort of removing heavy pieces of furniture.

Excessive and tiring walks and long mountain expeditions are very liable to severely strain and displace the uterus. Young women require to be carefully trained for such exertions, or great mischief may in this way result; they should not be permitted to undertake such exertions unless after being gradually accustomed to them, and even then there is great risk. Great mischief results from the excessive walking practised at some schools as part of the daily routine; the weakly ones are occasionally seriously injured in this way.

Gymnastics, as practised by young women, is very liable to abuse. Violent leaps, severe strains of the muscles of the abdomen, &c., are highly dangerous, and I have known severe uterine dislocation produced by them. Belonging to this category are cases of the following kind. Quite recently two cases have come before me of severe retroversion of the uterus produced by attempting the curious gymnastic feat of lying at full length on the floor and rising therefrom without using the hands or arms, an effort involving very great strain on the abdominal muscles.

Straining during defecation is liable to dislocate the uterus. In cases where the uterus is already slightly retroverted or flexed, the straining in question is highly injurious. The constipation frequently present in cases

of retroversion is thus liable to lead to great exaggeration of the displacement. Experience shows that the straining necessitated by constipation is more likely to produce backward than forward uterine displacement. There is no doubt that it may intensify either of them.

FIG. 13.¹

Experience has made me acquainted with the fact that the sitting posture is in itself capable of producing very decided injurious effects, and especially sitting combined with exercise of the abdominal muscles. Thus long-continued use of the sewing-machine, playing the harmonium, and similar mechanical efforts, belong to this category. Particularly, I have seen serious anterior displacement of the uterus produced and aggravated in this way.

¹ Fig. 13 represents a third stage of retroflexion of the uterus with considerable pressure on the rectum.

Abnormal softness of the Uterus as a predisposition to distortion, &c.

We find, then, that the uterus is provided with certain apparatus designed to restrain and modify its movements, to enable it to resist to a certain degree forces tending to displace or to alter its shape. We have next to inquire how it happens that displacements and distortions originate, and why it is that the apparatus in question fails in certain cases to preserve the proper equilibrium.

It is obvious enough that the position of the uterus would be more readily disturbed by external shocks or by physical exertions, if the ligaments and attachments of the organ were relaxed and less firm and rigid than usual. And undoubtedly whatever tends to produce such relaxation and to diminish the rigidity of these structures will favour the occurrence of displacement. This is a statement the truth of which would be probably universally admitted. That relaxation of the uterine attachments which constitutes a part of the phenomena of pregnancy is well known, and it is well understood that the circumstance that the uterus is liable to become severely displaced after labour is over, is to some extent, at all events, a consequence of this relaxation of the various structures holding the uterus in its proper place. And although severe dislocations of the uterus do not often occur in consequence solely of this relaxation, yet undoubtedly it has a considerable share in their production.

No doubt, after pregnancy is over, an unusual strain is put upon the uterine ligaments and attachments in consequence of the greater size and weight of the organ; and it is manifest that the two things in conjunction—viz., the relaxation of the ligaments *plus* the increased weight of the uterus—will favour the occurrence of a displacement. The degree of relaxation of the uterine attachments varies much in different cases. Possibly, if every patient were in perfect health at the time of delivery there would be no such relaxation; the uterus would not give way, and the attachments would be of sufficient strength to prevent dis-

placement. But we know well that many women are in anything but a good state of health when pregnancy comes to an end; the uterus often remains too large, owing to defective or retarded involution, and associated with this there is weakness of the uterine ligaments and attachments.

It has been already remarked that the uterus itself possesses certain physical qualities which render it most important aid in resisting forces tending to bend it and distort it. This quality is firmness, hardness, and considerable rigidity. I desire now to point out how this resisting faculty may be diminished and rendered practically inoperative in protecting the uterus against the action of physical forces tending to bend and distort it.

In a certain number of cases of uterine distortion the patient is in perfect health at the time of the accident or event producing the distortion, but in the large majority of cases it is not so; and in most of the cases we witness in practice the subjects of the affection are patients who have been confessedly out of health previously. This is an important generalisation, and it will serve as an introduction to what follows.

In one of the three propositions embodying these recent views on uterine pathology, and published five years ago, it is stated that 'the change in the form and shape of the uterus is frequently brought about in consequence of the tissues of the uterus being previously in a state of the unusual softness.' More recently, in a paper read before the meeting of the British Medical Association at Manchester, I directed attention particularly to this subject—viz., the presence of undue softness of the uterus as a factor in the etiology of uterine distortions. Inquiry into the condition of the uterus in the early stage of flexions, at the time when the symptoms begin to declare themselves, has made me aware of the fact that in these cases there is usually a very undue softness of the uterine tissues present, the ordinary firmness and resistance to the touch being wanting. Inasmuch as cases of decided flexion occurring in women not married offer

the best subjects for analysis in regard to the etiology of the affection, I selected a number of such cases for illustrating the prevalence of this particular feature in the early history of uterine flexions, for in married women, or those who have had children, other disturbing elements come into play. My observations were limited, therefore, in this paper to the nulliparous uterus. Twelve cases were narrated in which uterine flexions, associated with undue softness of the uterine tissues, were met with in a marked form. The subjects of these cases were young women, most of them in an extremely feeble state of health, suffering severely from symptoms referable to the uterus, and who had been for some time incapacitated, more or less completely, for the ordinary duties of life. They were all found to be suffering from decided flexion of the uterus, and the fact concerning them to which it was my object particularly to direct attention was the state of the uterine tissues in these cases. Observing carefully the various facts concerning cases under my notice, this peculiarity some time ago attracted my notice, and I consider it worthy of prominent mention. Searching further into the history of cases such as the above, it became evident that this extreme softness of the uterine tissues was met with chiefly, indeed, I may say, almost universally, in young women whose nutrition was in a very low state, and who had for some time—some years in some of the cases—habitually taken little food. Some of them had been underfed at school; others had been weakly, and allowed to take only what their appetite suggested, which was very little; in others a more or less constant feeling of nausea had interfered with the taking of food. In short, the preceding history of these cases was one of semi-starvation. The uterus, in common with other parts of the body, was consequently very imperfectly nourished, and the result was that its tissues had lost their natural tonicity and firmness. Hence the softness which by clinical evidence seemed plainly to be due to the insufficient food supply.¹

¹ The paper here alluded to is printed *in extenso* in the *British Medical Journal*, Nov. 3, 1877.

Malnutrition of the uterus is, then, a cause of undue softness of the uterus. The undue softness of the uterus constitutes, according to my experience, one of the most powerful predisposing causes of uterine flexion. The reason is obvious; for, under these circumstances, slight exertion or application of disturbing mechanical forces is more liable to produce uterine distortion than would be the case if the uterine tissues were in a sound state; and this accounts for the occurrence of the distortion in a great number of cases.

Hitherto, I have spoken of softness of the uterus as predisposing to flexion in unmarried women. But when we consider the subject of the etiology of flexion in the case of married women, we encounter a fresh series of facts. It is well known that when pregnancy is over, the uterus offers a mass of considerable size, and that it has to undergo a process designated the involution of the uterus, by virtue of which it regains its original dimensions. While the involution is in progress the uterus is softer than usual. When the involution is interfered with, this softness of the uterus is more marked than in other cases. The tissues of the organ are, in some of these cases, extremely soft, and the organ is a long time contracting to its proper size. Examining the uterus after labour we are not unfrequently able to substantiate this fact. The uterus may be found extremely soft as late as a month after parturition, the organ being at the same time much too large. The question, Why does the involution in some cases proceed so imperfectly? offers an interesting subject for inquiry. In the cases in which I have observed it the associated condition universally present has been extreme feebleness and general weakness. It will generally be found, I believe, that the subjects of these cases are individuals who have been recently, or at some previous time, very insufficiently nourished. A low and meagre dietary during the period of child-bed is responsible for this irregularity in many instances; but, of course, weakness and feebleness may have been present during the pregnancy, and may have been produced by malnutrition then or at any antecedent period.

In any case it has the effect of disturbing the proper involution of the uterus when the pregnancy is at an end.

Again, after abortions it is not uncommon to meet with retardation of the contraction of the uterus; the organ remains for some time loose and open in texture, and wanting in firmness, and the presence of undue softness of the tissues can be readily substantiated.

The frequency with which flexions originate shortly after labour has occurred is a remarkable fact. Many patients suffering from these disorders have been perfectly free from all symptoms of uterine affection previously, but their pains and discomforts date from some one particular pregnancy. This is a common statement for patients to make in relating the history of their troubles. Clinical evidence abundantly shows that disturbance of the involution process constitutes a very decided predisposition to the occurrence of flexion, and the explanation which obviously suggests itself is that the undue softness of the uterine tissues is responsible for the subsequent distortion of the organ. It by no means happens that the uterus becomes changed in shape in all cases where involution is retarded, but it is certainly the fact that exertions which in more healthy subjects would have little or no disturbing effect on the uterus do, in these, produce, very frequently indeed, marked and serious distortions, leading to grave and troublesome effects, not seldom leaving their injurious consequences traceable many years after the commencement of the disease.

The degree of softness of the uterus which may be present varies in different cases. I have seen cases in which it was so considerable that the uterus appeared absolutely at the mercy of the action of gravity, the fundus inclining backwards or forwards according to the position the patient happened to assume. In particular may be mentioned a case of chronic retroflexion associated with this extreme softness of the tissues. In this case, after the fundus uteri had been supported posteriorly by means of a pessary for a little while, the uterus became decidedly ante-flexed. This was dealt with, whereupon the organ became again retroflexed.

Finally, it became necessary to apply support, both anteriorly and posteriorly, to keep the uterus straight. The patient was quite comfortable when her uterus was in proper position, and exceedingly uncomfortable when, for any reason, the mechanism used failed to restrain the abnormal movements of the uterus.

In short, observation teaches that the uterus possessing its natural firmness resists forces tending to bend it with success, unless those forces happen to be considerable. Very severe accidents may produce suddenly a decided uterine flexion, but these cases are not very common, whereas cases in which the uterus has slowly become weakened and softened, and thus incapacitated for resistance to external influences, are comparatively very frequent, and it is under these circumstances that slight accidents, over-walking, over-exertion, produce injurious effects.

The Problem to be solved.

It will now be necessary, in reference to the problem before us—viz. the question as to the importance and influence of the mechanical diseases of the uterus—to consider the clinical aspect of cases of uterine disease more particularly. We have now to survey another series of facts: namely, the symptoms, abnormal sensations, discomforts, and inconveniences which patients experience. On the one hand, we have patients suffering variously, unable to walk, experiencing pains of various kinds, suffering in a multitude of ways from derangement of the menstrual functions, presenting various other symptoms traceable to the influence of the uterus. On the other hand, we have information from clinical observation, from post-mortem examination, and otherwise, of the existence of a variety of changes in the position, size, shape, texture, and vascularity of the uterus, certain abnormalities of appearance of the os uteri, increase of secretion, &c. Now, it is evident that any system of uterine pathology professing to be a system must be an intelligible interpretation of these

various phenomena. The suffering, and the cause of the suffering, must be ascertained; the symptom and the lesion must be placed in the proper relation one to the other. It must be shown that the pain or inconvenience from which the patient suffers stands in proper relation to this, that, or the other alteration of the uterus. This analysis of symptoms has been hardly attempted, the chief attention of uterine pathologists having been directed solely to the discussion of the uterine changes—the presence of inflammation, the presence of so-called ulceration, and the presence of congestion, each one of which has in turn been put forward as *the* important pathological condition of the uterus; and these have occupied much attention, but little has been done to determine the relation of these changes one to the other, or with the view of ascertaining the connection of particular lesions with particular symptoms.

I have drawn up two lists, the first (A) a list of the symptoms of all kinds which may be observed in connection with diseases or affections of the uterus, these symptoms being placed as nearly as possible in their order of frequency. The second (B) is a list of the various physical changes which the uterus may undergo.

A. UTERINE SYMPTOMS.

- Pain { 1. Spontaneous.
2. Produced by motion (dyskinesia).
3. Undue sensitiveness of uterus to touch.

Leucorrhœa.

Dysmenorrhœa.

Menorrhagia.

Amenorrhœa.

[If married—Sterility, abortions.]

Various reflex phenomena:

1. Sickness or nausea.
2. Hysteria.
3. Convulsions.
4. Cephalalgia.
5. Melancholia.

Disturbance of functions of bladder.

Disturbance of functions of rectum.

Disturbance of sexual functions (dyspareunia).

B. UTERINE CHANGES (NON-ORGANIC).

Change in position.

Change in size of walls.

„ „ of cavity.

„ „ of cervix.

Change in shape.

Change in patency of canals.

Change in texture.

Undue hardness.

Undue softness.

Increased vascularity.

Disorders of innervation.

Increased secretion.

Here, then, we have the data for the construction of a pathology of the uterus ; all the possible changes on one side, all the possible effects on the other. It must be understood that organic diseases of the uterus, cancer and fibroid tumour, are excluded from the list, the nature, course, and effects of these organic diseases being better understood. It must not, however, be forgotten that these organic diseases may occasion one or all of the uterine symptoms.

Looking at the list of uterine symptoms on the one side, and the list of possible uterine changes on the other, it is evident that the clinical importance of any one of the possible uterine changes should be, approximately at all events, indicated by the frequency with which it occasions uterine symptoms. If it can be shown, for instance, that any one uterine change or any one combination of uterine changes, has a very decided pre-eminence in this respect, it will be natural to conclude that considerable importance is to be attached thereto. Further, should it be shown that this particular change or combination of changes is particularly associated with those especial uterine symptoms of which patients most complain, an additional reason will exist for attaching great importance to this uterine change. Further still, should it be capable of being shown that there is a rational and intelligible explanation of the frequent association of these particular uterine changes with those especial uterine symptoms, there will be a greater reason still for thinking these uterine changes of importance.



LECTURE II.

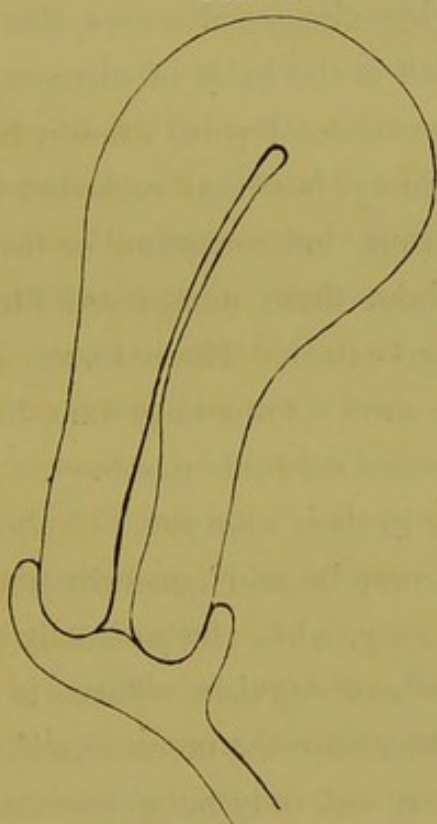
RELATION OF THE VARIOUS UTERINE SYMPTOMS TO THE VARIOUS PHYSICAL OR
OTHER CHANGES OBSERVED IN THE UTERUS.

THE physical change in the uterus to which experience has led me to assign the greatest importance is *change of shape* of the uterus. Observation has convinced me that this is the most common and the most troublesome of the maladies to which the uterus is liable. Cases, many in number, which have come under my notice during past years have told one and the same story; almost every new case that presents itself contains proof of the accuracy of the idea in question. *Change of position* of the uterus, another physical alteration, is necessarily associated with the change of shape, for change of shape implies change of position more or less, and it is an exceedingly important element. Change of position may be unassociated with change of shape, and may be important or not according to circumstances which I shall hope by-and-by more accurately to define. But at this moment attention is directed particularly to the change of shape.

Let us consider for a moment the *normal form of the uterus*. The all-wise Artificer of the human frame has given this organ of the body a certain definite form and outline, and has provided it with means for preserving that outline and shape under the ordinary circumstances of life. The form which the uterus possesses is, of course, the best that is possible in view of various physiological requirements, particularly the provision that is made for its enormous expansion and growth during pregnancy.

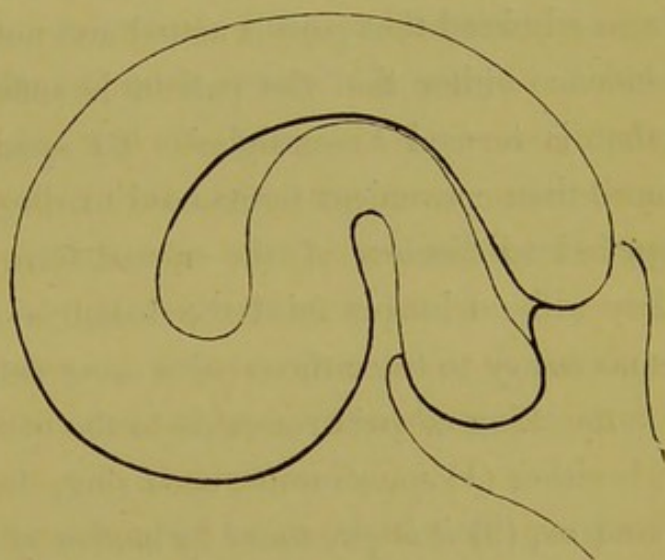
Are we to assume that the preservation of this natural form and shape is a matter of indifference? Are we to suppose that it is a matter of no moment that the uterus should be distorted to such an extent that it is actually doubled on itself, presenting a contracted, shapeless mass? We regard beauty and regularity of the external form of the body as signs of health, and to a remarkable extent it is found that external beauty and health are associated. Are we to imagine that an organ such as the uterus,

FIG. 14.



Normal uterus.

FIG. 15.



Severe retroflexion of the uterus.

exquisitely built and fashioned and adapted for various purposes, can have its form and outline altered and distorted, and yet that it should continue to be capable of carrying on healthily and satisfactorily the exceedingly important functions with which it is entrusted in the human economy? These considerations alone would enable us *à priori* to anticipate inconveniences and disasters from such a spoiling of nature's handiwork.

Pain.

The first uterine symptom which it is necessary to analyse is *pain*. An attentive consideration of the various kinds and degrees of pain felt by patients suffering from uterine disease affords information of the most valuable kind. It is very frequently indeed the case that patients consult us solely because they are suffering from pain or uneasiness. They are affected with certain unpleasant sensations from which they desire to be relieved. The relation of pain to various uterine diseases deserves, therefore, particular notice. We have been too much in the habit of disregarding pain as pain. For the most part the presence of pain, when it has been admitted that pain is actual and not imaginary, has been regarded as evidence either that the patient is suffering from 'inflammation,' or from what is termed 'neuralgia.' To speak plainly, these names are little more than convenient terms used to disguise ignorance. These terms, as applied to diseases of the uterus, have done service for a long time, but they will no longer fulfil the demands of an exact scientific nosology. It is necessary to trace these pains more definitely to their source.

Speaking of pain referable to the uterus, it may be said generally that it is either (1) *spontaneous*, occurring, that is to say, when the patient is at rest; or, (2) *it is produced by motion of the body or exertion*. There is a third kind of pain—viz., that produced by touching the uterus, itself—abnormal sensitiveness. The latter phenomenon can only be appreciated when it happens that an examination is made. These several manifestations may be all present together, or they may be observed separately.

Now the remarkable result is made evident by careful clinical observation, that change of shape or position of the uterus is the particular alteration with which these pains or painful manifestations are most frequently associated. And it can be shown that, judged by this standard alone—viz., the extent to which painful sensations are produced—the distortions and displacements of the uterus have a very great practical

importance. This is, however, not a matter to be disposed of in a sentence; details must be entered into.

1. *Spontaneous pain.*—In the first place, we may discuss what has above been termed spontaneous pain referable to the uterus. This kind of pain is not common. Cancer of the uterus, fibroid tumours, or growths of a fibroid nature within the uterus, may give rise to pain of this character. As is well known, pain referable to the uterus is not generally felt in the uterus itself, but either in the back or front of the pelvis. A favourite position is also one or other of the groins. The uterine spasm—uterine colic, as it has been termed—is felt, or may be felt, both in the back and in the uterine region also. Another condition which ought to be added to the above is pain due to the commencement of acute pelvic inflammation, but this scarcely comes within the limits of the present discussion. Morbid conditions of the bladder, rectum, &c., are of course liable to occasion pain of spontaneous character; but these are cases not coming into notice from our present point of view. Lastly, it must be stated that in certain very severe cases of uterine distortion, accompanied with considerable congestion and irritation internally, spontaneous pain may be observed. Apart from the presence of one or other of these conditions, spontaneous pain is not often witnessed.

2. *Pain on motion.*—The pains referable to the uterus, and produced by motion or by certain positions of the body, are, however, most common, and cases in which such pains are observed are very numerous. It is a singular fact that this very important symptom of uterine disease has attracted so little notice at the hands of uterine pathologists. It is so common a symptom that it is worthy of a special designation. Writing on this subject some years ago, I ventured to characterise the marked cases of this kind as cases of ‘uterine lameness.’ This designation is not a very satisfactory one, and, after consideration, I now propose ‘uterine dyskinesia’ as a term better suited for the purpose. I think it will be admitted, on considering the facts of the case, that the introduction of such a term into

familiar medical nosology will be likely to be attended with beneficial results. By uterine dyskinesia, then, is meant an inability on the part of the patient to move about, to walk, or to make various exertions, without experiencing pain more or less severe.

Locomotion excites pain referable to the uterus. The pain so produced may be slight, or it may be violent in degree, but the characteristic of it is that it is brought on by motion. It may be so severe that the patient is practically unable to move at all, or it may be so slight that the patient moves in spite of it, and continues to do so. The patient is able to walk or to move. There is no paralysis in the ordinary sense of the word, but there is a strong disinclination to move in consequence of the suffering known by experience to attend it. It is impossible to question patients suffering from maladies of the uterus as to the nature of their feelings and complainings without recognising the immense preponderance of this particular symptom over others in regard to frequency. The degree of disablement varies exceedingly in different cases. Some patients do not mention it unless they are asked whether they can walk an average distance, or take a moderate walk, without suffering pain; others can talk of nothing else—the inability to this, that, or the other, to walk, or to ride, or to visit—these are to them ever-present evils from which they desire deliverance. The disablement is sometimes a most terrible misfortune, the patient being shut off from most of the enjoyments of life, for the simple reason that locomotion is impracticable. Patients consult us for a variety of reasons. In many cases undoubtedly the locomotive disability is not the reason they assign for applying for relief. In a vast number of cases, however, this is the reason impelling them to seek aid, although they are not aware of it, or have at all events not formulated their ideas on the subject with any degree of precision.

The significance of this symptom has been very generally overlooked, partly because it is so common, partly also because the idea has been very frequently entertained by practitioners that this disinclination for taking

exercise, for walking, and other kinds of exertion, is a fanciful one—that it should not be treated seriously, being a whim or caprice of the patient, which, in the interest of the patient herself, the practitioner thinks it right not to encourage. I do not say that this is universally the case. Far from it, but probably the substantial truth of this statement will be admitted. According to my experience, however, this view of the matter is erroneous.

That uterine displacements are attended with discomforts is not a new idea. Because they are not absolutely universally attended with discomforts, certain writers have thought themselves justified in saying that uterine displacements are in themselves of no particular importance. But, obviously, the true method of arriving at the truth on this subject would be to inquire how far and how frequently discomforts referable to the uterus, such as the particular one now under consideration—namely, impaired locomotion, or pain produced by locomotion—can be proved to be connected with uterine distortion and displacement. The two following propositions are essentially different, as will be readily admitted when they are concisely stated. Proposition 1: Uterine distortions and displacement, invariably give rise to pain on locomotion. Proposition 2: Pain on locomotion of such a kind as to be referable to the uterus is invariably associated with the presence of uterine distortion or displacement. These propositions are not identical, nor are they equally true. The first proposition is more nearly true than is generally imagined. The second proposition is, however, according to my experience, almost absolutely true, and this is the particular point to which I now seek to direct attention.

I have stated that the connection between uterine distortion and pain on locomotion has attracted little attention at the hands of previous writers. To this statement a noteworthy exception must be made. I was recently much pleased to find that certain very interesting observations bearing on this subject had been made by Chassaignac in his work on

'Clinical Operative Surgery,' published some years ago.¹ Speaking of the relation subsisting between certain morbid conditions of the uterus ('deviations') and the pains and discomforts with which these alterations are associated, he thus expresses himself. Question: What is the cause, says Chassaignac, of the 'accidents douloureux' observed in women the subjects of uterine deviation? Answer: The 'ballottements' which the deformed or displaced uterus undergoes. Thus two conditions, the deviation and the movement impressed on the organ, must be conjoined in order that the pain may be produced. Further, this author goes on to state his opinion that the reason a particular deviation gives rise to pain in one patient and not in another is, that the *ballottement* is in some way prevented. Also that relief is to be given by curing the deviation or by preventing the *ballottement*. Hence, he says, the horizontal position is so frequently effective in abolishing the pain. Hence also the good effect of pessaries, the benefit derived in some cases from hypogastric bandages, &c. The uterus is thus brought to a state of rest. It is thus made evident that Chassaignac recognised clinically the connection above insisted on; and not only so, he endeavours to explain this connection by the concussion or jarring of the distorted or displaced uterus which motion of the body produces. On this explanation something further will have to be said presently.

Before going further, however, it is necessary to deal with the fact, or supposed fact, that in some cases uterine distortions do, and in others do not, give rise to painful sensations during locomotion, a circumstance which has had much to do in lending support to fallacious views on this subject. Because occasionally flexions are apparently not causing particular inconvenience to the patient, it has been argued that they are not in themselves of any particular consequence. The facts of the case, according to my own experience, are as follows. Of the various forms of uterine deviation it appears that some are more liable to be attended with pain during

¹ *Traité Clinique et Pratique des Opérations Chirurgicales*, vol. ii. p. 926. Paris, 1862.

locomotion than others. Thus, take first descent of the uterus as a whole, unaccompanied by alteration of shape—cases of prolapsus, as they are termed. Now, it is the fact that such cases are really not attended with so much pain as others to be mentioned presently. It is quite true that when the uterus protrudes externally, this itself is a serious evil, and is attended with grave inconveniences, but when it falls short of this, and the uterus does not protrude externally, the pain experienced may not be very noteworthy. And I have been surprised in some bad cases of external prolapse to find patients complaining comparatively little of difficulty in locomotion. Movement may of course produce in such cases friction, irritation, and ulceration of the exposed organ, but apart from these effects the movement itself may not be accompanied with particular discomfort.

The next form of uterine deviation is version of the uterus, the organ preserving its proper shape more or less perfectly, but being tilted backwards, forwards, or laterally, as the case may be. Now, according to my observation, cases of slight version may be accompanied with comparatively little discomfort. This applies to slight cases of uterine version only, for in cases of severe version, forwards or backwards, the pain produced by locomotion is generally very distressing. Cases of version not accompanied with flexion are, as before stated, not in themselves very common, but it is not very uncommon to meet with cases of slight version together with slight flexion. And in these latter cases the discomforts now under consideration are undoubtedly less severe than in the cases next to be considered.

The next category of cases are those in which there is decided distortion of the uterus generally, also accompanied with a certain degree of version of the uterus. It is in this class of cases that pain produced by locomotion is most extreme and most severe. These are the cases which furnish the instances of marked interference with locomotion, and, with few exceptions, this condition of the uterus is attended with the symptom in question in a more or less marked form. And I do not hesitate to state that I have

found the condition and the symptoms associated so very constantly that no room exists in my mind for doubt on the subject. Here we meet, as I have already remarked, with opposing statements as to the value and frequency of the association. Thus one statement is to the effect that it is common enough to meet with cases of flexion in which there is no complaint and no inconvenience felt whatever. I can only say that such cases do not, at all events, present themselves in my practice. There are various ways of accounting for this discrepancy as to a matter of fact.

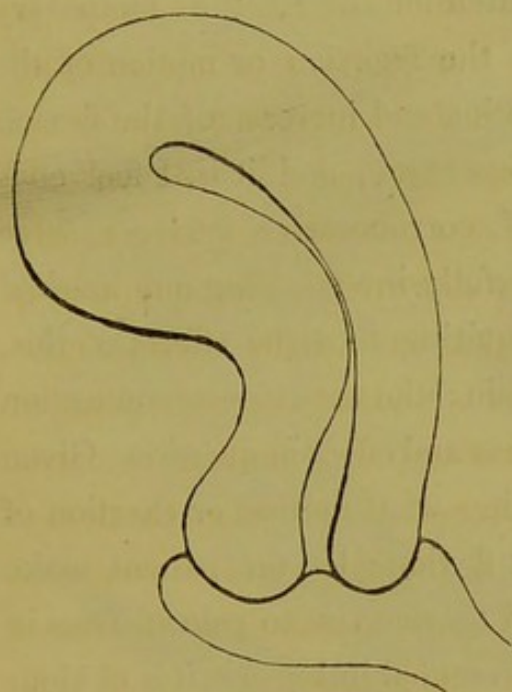
The first remark to be made in connection with this subject is, that cases vary very much in severity, and too much has been expected in regard to uniformity of symptoms when the conditions were not uniform. There is great difference, for instance, between the degree of flexion in the two cases of retroflexion represented in Figs. 16 and 17. As regards this particular symptom, pain on locomotion, it is one which I have hardly ever found absent when the uterus is actually distorted. This symptom is plainly of importance, but it is not one which has usually been thought much of, and may have been present even to a marked degree in some of the cases, when flexion is said to have occasioned no complaint or inconvenience. Another circumstance, before mentioned, is that, when the flexion is slight, and there is more version than flexion, the pain and inconvenience may be slight in degree. Further, it must be borne in mind that the flexed uterus is not always in the same condition. Sometimes it is much congested; at other times not particularly full of blood. Dr. Braxton Hicks has lately¹ published observations on retroflexion of the uterus, and, in accounting for the differences of opinion on the treatment of this affection, he points out the differences observable at different times in regard to the state of the uterus, as accounting for these diverse opinions. These remarks of Dr. Hicks meet, for the most part, with my concurrence. The congestion or engorgement is, no doubt, a condition which adds very much to the discomfort which a flexion produces, and in a case where it happened not

¹ *British Medical Journal*, 1877.

to be present the discomfort observed might be comparatively trifling. Then, again, the duration of the flexion is a matter affecting painfulness. When the case is one of long standing, the uterus acquires in some cases a kind of toleration of it, and locomotion perhaps ceases to be painful. But even in these cases it is enough to scrutinise the previous history to become aware of facts which tell directly against the notion that flexions ever occur without giving rise to very decided discomfort and inconvenience.

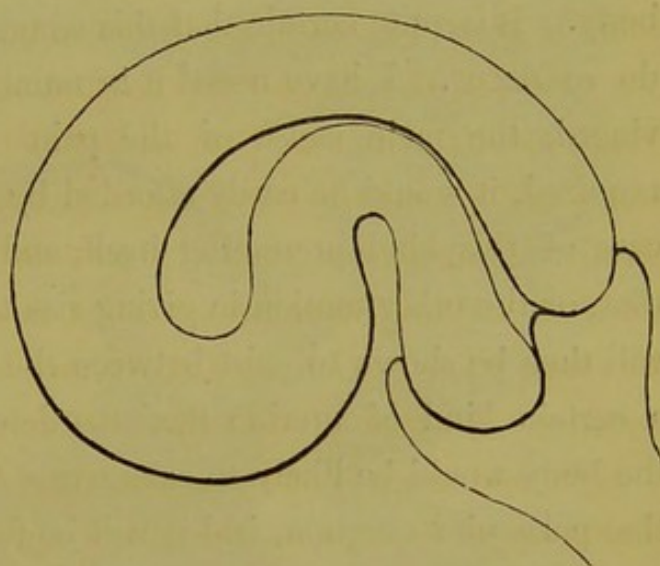
In the cases where pain is produced by locomotion, it is generally the

FIG. 16.



Slight flexion.

FIG. 17.

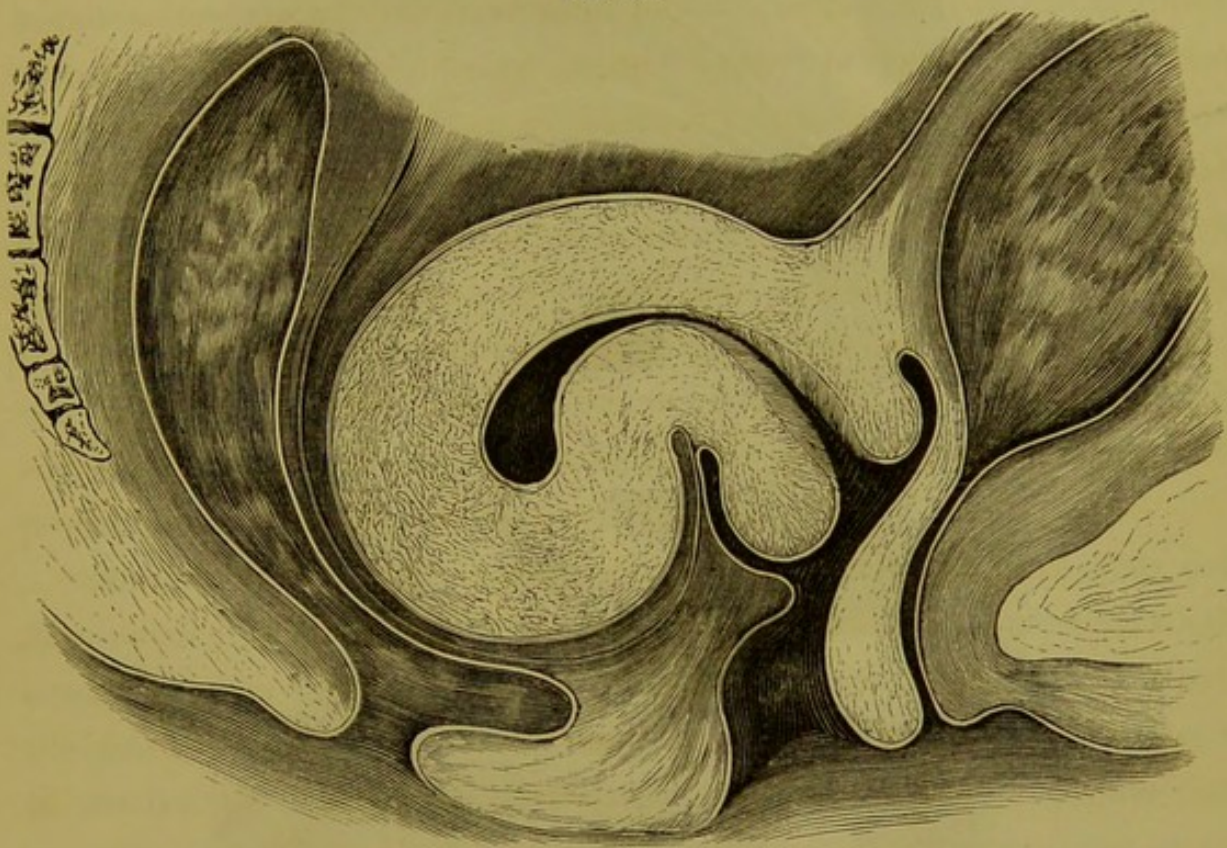


Severe flexion.

fact that various positions of the body or certain exertions give rise also to pain. Thus, lifting a weight, carrying a weight, stooping to pick up objects from the floor, reaching to hang up an article of dress, riding in a carriage in the ordinary sitting position, riding on horseback, even sitting up to dinner,—any one of these exertions, and a multitude of others that might be mentioned, produce pain more or less severe. The horizontal position is in many cases the only one in which the patient is secure—and sometimes not even then—from pain.

In short, the effect of movements of the body in cases where the uterus is distorted is almost invariably to produce pain or inconvenience more or less marked. This is a most striking fact, and has the greatest significance in estimating the importance of uterine flexions. Why is it, we may ask, that this movement, these exertions, produce pain in cases of uterine flexion? Chassaignac believed it to be on account of the jars or *ballottements* the uterus receives. No doubt this is to some extent true. The flexed uterus is shaken, and the concussion is doubtless in part the cause of the painful sensation. But there is another and far more important effect to which I would direct attention—viz., the temporary exaggeration of the flexion produced by the exertion or motion of the body. It is quite certain that this exaggeration and increase of the flexion do so occur. I have noted it in numberless cases; and it is, I feel convinced, the main cause of the pain. If corroborative evidence were required, it would be easily afforded by carefully investigating any marked case of this kind presenting itself, and inquiring into the effects of this, that, or the other motion in giving rise to pain; the very closest connection will then be shown to exist between the cause and effect in question. Given a certain kind of uterine flexion—determine what motion or exertion of the body would be likely to exaggerate that flexion; let the patient make that particular exertion, and it will be found to give rise to pain. Thus in a case of severe retroflexion, such as that represented in Fig. 18, it is obvious that motion in the vertical position, walking for instance, will have a tendency to exaggerate the existing flexion by favouring the further descent backwards of the fundus uteri, but if the patient be in the prone position, as shown in fig. 19, it is evident that in the latter position (fig. 19) the exaggeration of the flexion is not liable to occur. This prone position is always found to be the most comfortable one in cases of retroflexion. In fact, investigation into the effects of certain exertions will often lead to the diagnosis of the nature and variety of the flexion, and actual examination is afterwards found to confirm the diagnosis so made.

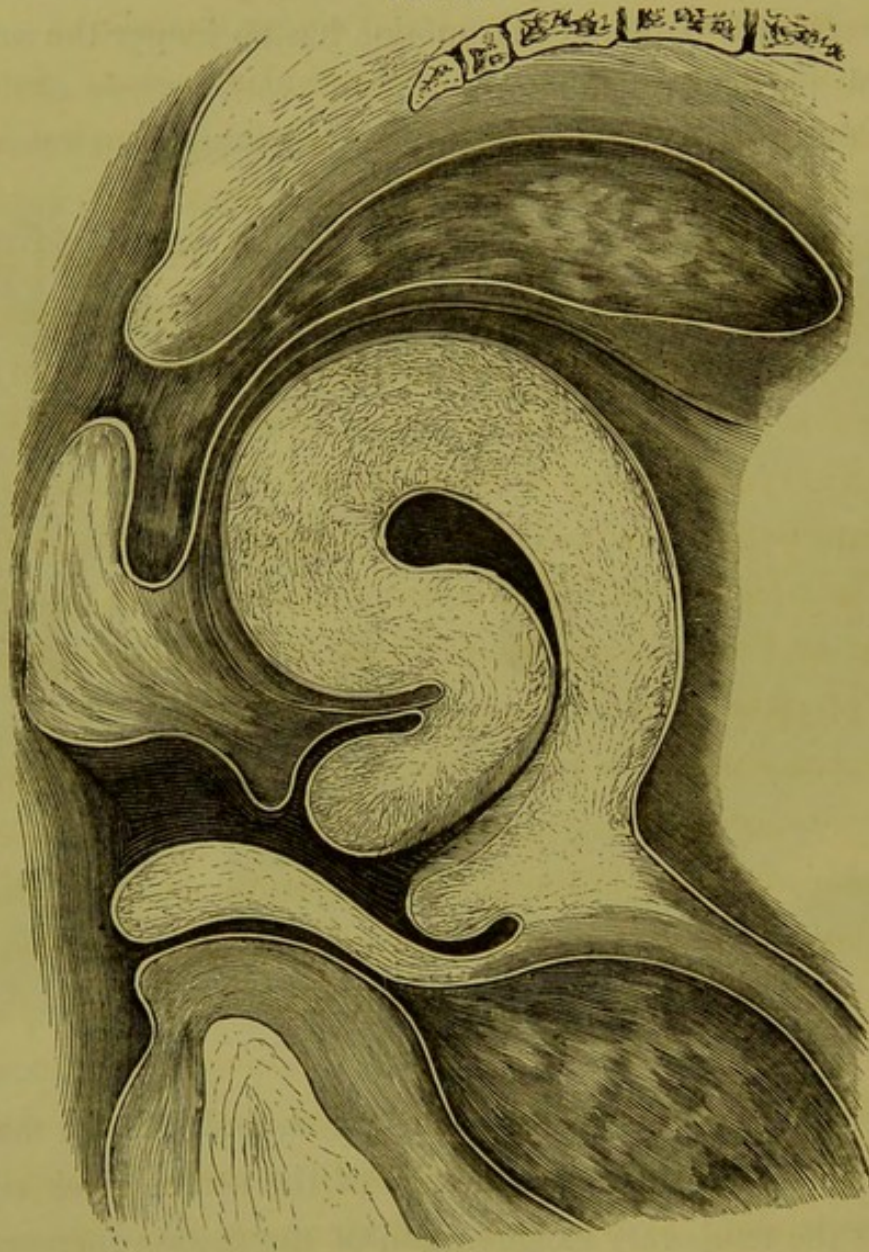
Further evidence in the same direction is afforded by the results of placing the uterus, or even by placing the body in such a position that exaggeration of the flexion cannot be produced by motion. It is observed under such circumstances that pain is no longer produced, or it is at all events very much diminished. By mechanically preventing further increase of the flexion it will be found that motion has no longer the same effect in regard to this particular symptom.

FIG. 18.¹

A further question remains to be answered, and it is the most interesting of all—namely, why is it that flexion of the uterus gives rise to pain, and why does the temporary exaggeration of the flexion increase the pain? We have carried the analysis to this point, that the pain and the flexion are associated, and the increase in the degree of the flexion is found to be answerable for increase in the amount of pain present. The clinical proofs

¹ Fig. 18, severe retroflexion of the uterus, the patient being in the vertical position.

of the accuracy of these statements which have presented themselves to me in the course of several years' observations are, to my mind, conclusive on these points. The answer to the further question, why a temporary increase of the flexion gives pain, involves the consideration of important

FIG. 19.¹

pathological questions. Hitherto we have dealt with the purely physical elements concerned—the shape, outline, variations of shape, &c., of the uterus. We now pass into a different territory, and enter on a ground

¹ Fig. 19, severe retroflexion of the uterus, the patient being in the prone position.

which has been a field of contention and disagreement to an extreme degree. The presence of pain necessarily implies an affection of nerves. When any part of the body is the subject of physical alteration or change, pain is almost universally present, this pain being directly traceable, as a rule, to the physical impression of this alteration or to some change implicating the sensitive terminal fibres of the nerves themselves. One common cause of such effects is well known to be inflammation. Inflammation of an organ shut in by a tightly constricting membrane, such as the testis, for instance, how acute is the pain, this acute character being probably due to the great pressure on the nerves necessarily occurring under these circumstances. The more closely the phenomena of pain are examined, the more evident does it seem that pressure upon, or undue tension of the ultimate sensory portions of the nerves is the cause of the pain. With reference to the uterus the pains referable to it have had various explanations. By many they are regarded as fanciful or imaginary, or due to inflammation of the uterus, or to neuralgia. But no intelligible and consistent explanation has, so far as I am aware, been given of the *modus operandi* of the production of these pains.

The explanation which I have to give is sufficiently simple ; my only fear is that its very simplicity may prove a bar to its being accepted to the extent which is desirable in the interests of truth and progress. It is that the pain is produced by the actual compression of the nerves at the seat of the flexion. My observations have led me to conclude that the compression and condensation of the tissues of the uterus which occur at the seat of the bend is the immediate cause of this pain. This pain is increased for the moment, and it is very frequently actually brought on by any circumstance tending to condense and compress these tissues still more. Such an event happens when, from any physical cause whatever, the uterus becomes more flexed. It is my belief that the circumstance of the additional compression is responsible for the pain. But it is to me quite conceivable that this may not be the whole of the explanation. Another

theory might be very well set up, and perhaps ably sustained. It might be urged that the congestion, engorgement, fulness, or whatever you please to term it, of the body of the uterus and of the cervix and os uteri, which are so frequently present in cases of flexion, are concerned in the production of the pain. As I shall hereafter show, congestion of the two extremities of the uterus, the fundus and os, are almost constant accompaniments of decided uterine flexions, and it is susceptible of absolute proof that the more acute is the flexion the greater is the congestion and engorgement. Plainly, therefore, it may be said, why do you not attribute the increased pain during locomotion, in cases of flexion, to temporary increase of the congestion? For, it might be added, this increase of congestion would produce further compression of the nerves of the body of the uterus. In fact, according to this mode of reasoning, it might be made to appear probable that the pain in question is due to increased tension of the nerves of the body of the uterus set up by temporary increase of the congestion of the part in question. Admitting, however, that much may be said in favour of this latter view, observation has induced the adoption on my part of the former idea as to the mechanism of the production of the pain. The concomitant congestion of the other parts of the uterus doubtless contributes to the pain, but it would seem to me probable that it does so mainly because it has a tendency to increase the compression of the tissues at the seat of the flexion. The presence of nervous filaments throughout the uterine tissues is generally admitted, though there are differences of opinion as to their actual size. At its central portion around the internal os uteri there are nervous filaments forming part of those tissues. When compression of the uterine tissues at this situation occurs, these filaments participate in that compression, hence the sensation of pain.

There are still other views as to the etiology of the pain in question requiring to be considered. It seems probable that some part of the discomfort felt by the subjects of uterine flexion during locomotion is due to

the stretching and tension of the ligaments or attachments of the uterus. Thus the feelings described as 'sinking' and 'bearing-down,' which are often complained of, seem due to this tension of the uterine attachments. The round ligament, the broad ligaments, and the utero-ovarian ligament are the ligaments principally affected, some more, some less. The so-called ovarian pain, which has for a long time been considered evidence of ovarian inflammation, is generally traceable, according to my experience, to uterine flexion, and it has seemed to me to depend on traction of the connection between the ovary and the uterus produced by the flexion. In cases of retroflexion a severe pain, situated near the groin on one or other side, is in rare cases observed, and has appeared to me to arise from tension and stretching of the round ligament. In this place also it is proper to direct attention to the fact that when the ovary is actually displaced downwards, as is sometimes the case in flexion of the uterus backwards, the pain produced by locomotion is very acute and severe. This displacement of the ovary is, however, a comparatively rare complication of uterine flexion.

3. *Undue tenderness of the uterus to the touch.*—In the next place, we have to consider tenderness, or undue sensitiveness, of the uterus to the touch, and the relation of this symptom to flexions of the uterus. In a state of health the uterus is not highly sensitive to the touch. And even the passage of the uterine sound, if carefully performed, hardly gives rise to a painful sensation until it touches the fundus uteri, when there is generally evidence of its producing a slight pain. But, under certain conditions, we find the uterus extremely sensitive and painful to the touch, so much so that the slightest touch gives rise to quite acute pain. I need hardly say that those cases where the entrance of the vagina is acutely sensitive to the touch—hyperæsthesia of the vagina as they are termed—are not included in the present discussion. Undue tenderness of the uterus may be present in all degrees; the os uteri alone may be affected, or the posterior or anterior aspects of the uterus. In severe cases the whole uterus appears sensitive to the touch. There is no symptom conveying so precise

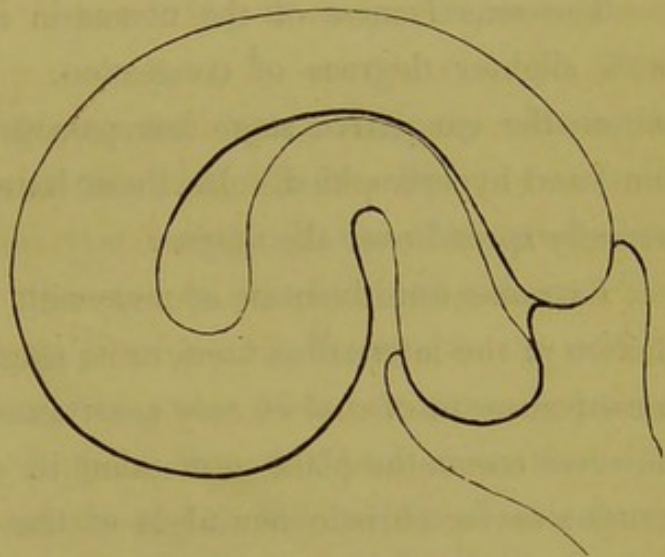
an idea as to the extent of the suffering present in a particular case as the tenderness observed in making a digital examination. It is a sign conveying very valuable information, and, when the observation is properly made, the difference between the degree of tenderness present at different situations is readily made manifest and available for diagnostic purposes.

Respecting the connection existing between tenderness of the uterus and alteration of its shape, I claim to have established a most important generalisation and conclusion, which is to the effect that tenderness of the uterus to the touch is rarely observed except in cases where flexions are present. The more acute the flexion, the more acute, as a rule, is the tenderness. Tenderness is not invariably present in cases of acute flexion, and, indeed, when cases have become quite chronic, there *may* be little or no tenderness. My proposition, therefore, is not that cases of flexion of the uterus are always attended with tenderness, but that, when tenderness *is* present, it is in all but a few cases (which are explainable in other ways) associated with the presence of uterine distortion. Possibly this may be considered a bold assertion, but I confidently make myself answerable for its substantial accuracy.

As long ago as the year 1868, I published in the 'Practitioner' a paper, having for its object to show that the 'irritable uterus' of Dr. Gooch is nothing more than chronic severe retroflexion of the uterus. Dr. Gooch's description of these cases is well known: 'A young or middle-aged woman, somewhat reduced in flesh and health, almost living on her sofa for months, or even years, from a constant pain in the uterus, which renders her unable to sit up and take exercise. The uterus, on examination, unchanged in structure, but exquisitely tender; even in the recumbent position always in pain, but subject to great aggravations more or less frequently.' Dr. Ferguson, who edited Gooch's writings, a few years since, speaks of a congested condition of the uterus 'altering its shape into that of a retort,' as having existed in some instances, though he does not appear either to have connected the retort shape with the congestion, or to

have considered it as in any way concerned in the production of the pain. In my paper I proceeded to show that this retort shape of the uterus was a necessary part and parcel of the affection, and expressed my opinion that these so-called cases of 'irritable uterus' were actually cases of chronic retroflexion. Since this paper was written I am not aware that any refutation of this view has been published; and the only further observation I have to make on the subject of Gooch's irritable uterus is that I have since seen many cases of this kind in which the condition of the uterus amply sustained the view in question. But there is a slight qualification to make: viz., that the same symptoms may be observed in connection with ante-flexion of the uterus as with retroflexion. The typical and most severe cases are cases of retroflexion, but in severe cases of ante-flexion the symptoms may be very much the same. Further inquiries and observations have made me acquainted with the close connection existing between distortion of shape and tenderness of the uterus, of which Gooch's cases of irritable uterus constitute well-marked and extreme instances.

A very acute flexion is usually attended with great congestion. The conjunction of the two gives rise to the greatest degree of tenderness. And, inasmuch as the uterus may become more bent when the fundus is turned backwards than when turned forwards, the retroflexion cases are, as a rule, the most severe, and accompanied with the greatest tenderness. In cases where there is much congestion the tenderness is more evident when the body of the uterus, than when the cervix, is touched. In back-

FIG. 20.¹

¹ Severe retroflexion of the uterus.

ward flexions the fundus is often found so tender that the merest touch gives acute agony, and the act of defecation is attended with great suffering, owing partly to the contents of the rectum passing over the painful spot. In acute anteflexions the fundus is generally less easily felt, owing to the intervening stratum of urine, but the presence of acute sensitiveness of the fundus can often be substantiated in these cases.

It is worthy of mention that considerable sensitiveness to touch is sometimes found on examination in cases where other symptoms—pain on locomotion, &c.—have been slight in degree, and under these circumstances the examination reveals the grave nature of the case.

The sensitiveness of the uterus in cases of flexion may be associated with slighter degrees of congestion. It may be present also in cases where the congestive stage has passed away, leaving the uterine tissues hard and hypertrophied. In these latter cases the tenderness is less universally spread over the uterus.

Extreme sensitiveness is met with in many quite chronic cases of flexion at the internal os uteri, or its neighbourhood. The existence of this sensitiveness is, of course, only ascertained by the use of the sound. This, however seems the place to mention it. Under these circumstances there exists a severe chronic neuralgia at the internal os. The subjects of this affection have well-marked pain on locomotion, always situated in some one spot. Thus in two very chronic anteflexion cases where this severe internal sensitiveness existed, walking always occasioned so severe a pain in the inguinal region that it had to be given up, and the sofa had become always necessary.

Functional Disorders of the Uterus.

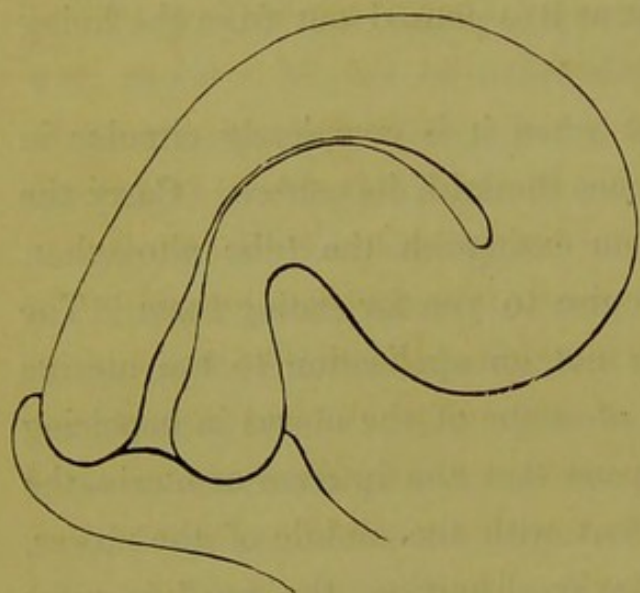
1. *Dysmenorrhœa*.—One of the important functions of the uterus is *menstruation*. How far, and in what way, is alteration of the shape of the uterus likely to disturb this function? Regard simply the physical conditions essential to the due performance of the function. A certain quantity

of fluid containing minute shreds of broken-down membrane has to be discharged at each catamenial period from the cavity of the body of the uterus. It has to pass through an aperture—the internal os uteri—which, in the natural state, is about one-eighth of an inch in diameter. This aperture is the central and smallest part of the uterine canal. The canal at its situation is surrounded by the firm, resisting, fibro-muscular tissues of the uterus, the uterine walls being at that situation, as already remarked, rather thinner than elsewhere. In the ordinary course of things, the menstrual products pass through this narrow aperture slowly, but continuously, the size of the passage being sufficient to drain the uterine cavity, and discharge the fluid as fast as it is poured out from the lining of the body of the uterus.

The patency of a tube is greatest when it is completely circular in shape. Flatten the tube, and you at once diminish its calibre. Carry the flattening process far enough, and you extinguish the tube altogether. These are truisms, and I almost apologise to you for stating them. The question is: Have they, or have they not, an application to the uterine tube, and what is the effect of change of shape of the uterus in impairing the patency of this tube? It so happens that the internal os uteri—the narrowest part of the tube—is coincident with the middle of the uterus, the situation at which in cases of flexion-distortion, the bend is most usually found to occur. The physical relations of the parts are such that a certain flattening of the canal is inevitable when the uterus is bent at this situation. The flattening occurs from before backwards. It varies in degree, according to the degree of the flexion and other circumstances, and it is demonstrable, from anatomical considerations alone, that flattening and consequent impairment of the patency of the canal must inevitably occur when the uterus is decidedly flexed, and thus distorted. This is so obviously true that it seems almost unnecessary to insist upon it. In Figs. 21 and 22, representing respectively anteflexion and retroflexion, the manner in which the uterine tube becomes compressed is rendered evident.

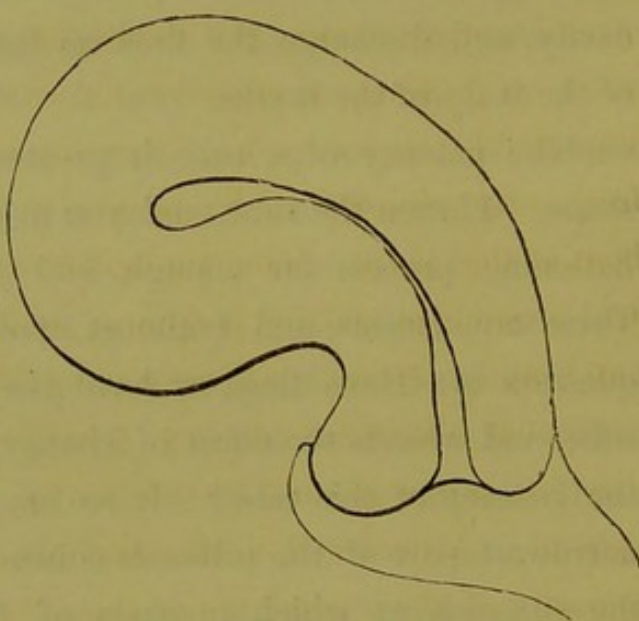
But we may go a step further. It is probable that during menstruation the internal os uteri is capable of becoming to a certain extent dilated so as to more readily allow of the escape of menstrual products. It is believed by some that the internal os uteri has a regular sphincteric action, expanding and contracting according to circumstances. It seems probable that in a state of perfect health no such expansion is required to allow of escape of menstrual products; but it is quite certain that such expansion is required if the menstrual débris be unnaturally solid or bulky; and it

FIG. 21.



Antelexion.

FIG. 22.



Retroflexion.

is quite possible that the internal os does undergo expansion to a certain extent, even in less abnormal cases. But I would direct attention to the fact that, if the uterus be decidedly bent, such expansion of the internal os must be very materially interfered with. The tissues around the internal os are necessarily compressed and rendered harder and more resisting by the mere fact of the existence of the bend. The flexion occasions not merely a flattening of the canal, but a condensation of the uterine tissues in the neighbourhood, such as would directly and forcibly resist any expan-

sion and dilatation of the tube. Other important changes are observed at this situation in consequence of the presence of flexion, but they will be considered later on. The patency of the uterine tube, under ordinary circumstances, is, in short, dependent on the uterus preserving its proper form and thus allowing the canal to remain circular in shape. [The practical closure of the uterine tube by an acute flexion was here illustrated by means of a model of a section of the uterus made in sponge, and six times the normal length of the organ. By bending the model section the closure of the canal which thereby ensues was rendered evident.]

The connection between obstructed and painful menstruation and constriction or narrowing of the internal os uteri is one which has been forcing itself on professional attention for some time. But the subject has been imperfectly understood. Stricture of the internal os uteri has been very frequently assumed to be present when the canal was simply very much bent at that point. The condensation and hardening not unfrequently present around the narrow portion is undoubtedly often great in long-standing cases, and a veritable stricture not seldom exists. But at first it is not so, the canal admitting of easy passage of the sound if the point be only directed properly and in conformity to the bend of the uterus which is present. All cases of dysmenorrhœa are not due to flexion, but the vast majority of them come under this category. There are a few in which the canal is congenitally narrow, or in which obstruction exists at other situations, or in which the obstruction is due to some other condition—a small fibroid tumour growing so as to compress the canal, for instance; but these cases are rare.

The truth of the foregoing statements regarding dysmenorrhœa rests on evidence which seems to be quite unassailable. Clinical facts are most thoroughly and entirely in accordance with this view. Let individual cases be tested, let the uterus be carefully examined, and it will be found that marked dysmenorrhœa will, unless in a very few and exceptional cases, be found associated with undoubted flexion of the uterus. The proof of the

connection between the two things—the flexion and the obstruction—is of the most convincing kind. Relieve or remove the flexion, and the pain and difficulty disappear. It is true that this may not be enough to completely cure the patient when the canal has been distorted some time, and further changes have occurred; but this effect, in the majority of cases, is very striking. Why do we find that many cases of dysmenorrhœa are relieved by simple observance of the recumbent position during the period? Simply because the existing flexion is thereby somewhat diminished, the canal is a little straightened, and the escape of the uterine contents is thus rendered more easy. The pain which accompanies difficult menstruation is due to the existence of an impediment to the escape of the fluid. This doctrine is not in accordance with the older teaching on the subject. It is a mechanical view of the matter, and it is unquestionably the true one. Having given this explanation of the matter in the first edition of my work on ‘Diseases of Women,’ published in 1863, it is satisfactory to find that this view has been steadily gaining adoption of late years. The pain appears to be partly due to the distension of the uterine cavity, causing compression and tension, and congestion of the body of the uterus, but chiefly to actual muscular contraction of the uterus; in fact, to a ‘pain’ similar to those witnessed in parturition, though on a smaller scale. The body of the uterus contracts, and in the end generally succeeds in expelling its contents. In so doing, the internal os uteri must become dilated, in order to allow of the passage of the fluid or débris of membranes or clots. In cases of flexion, when the malady is not of very long duration, the contraction of the uterus seems to have a straightening effect on the uterus, and when this occurs the canal is thereby opened to a certain extent, and the uterine contents escape. But in severe or long-standing cases the circumstances are such that the uterus has no power of straightening itself, and then we find that the process of emptying the uterus is a very slow one; the pains recur from time to time with little relief, and the catamenial period is both protracted and painful.

In cases of the latter description, a frequent phenomenon is the abrupt cessation of the flow for a certain time—a few hours or longer—after which the pain and discharge again recur. A further phenomenon, traceable to the same cause, is a certain dilatoriness in the appearance of the discharge. The fluid observed at first is very slight in amount, or there may be none at all for the first day or two, during which time, however, pains are more or less frequent; also a protraction of the period, together with alteration in the character of the discharge from red to brown, and later on to a still lighter discharge, evidencing that the retained contents of the uterus are now mixed with a fluid of a non-sanguinolent character.

2. *Sanious or Purulent Leucorrhœa from Menstrual Retention.*—Finally the period quite ends. But in a certain number of cases other effects of the retention present themselves during the inter-catamenial intervals. Here we come upon a class of facts of the greatest interest and importance from a clinical point of view—facts which deserve minute and particular attention.

There are a certain number of cases occurring not very rarely, in which during the inter-catamenial intervals there are observed from time to time, perhaps once in two or three days, and generally particularly during the week or ten days immediately following catamenial cessation, discharges of a puriform character coming on suddenly, lasting for a brief period only, and then ceasing. A puriform leucorrhœa occurring in gushes is an accurate description of what is observed. This occurrence is due to the existence of chronic flexion of the uterus. It arises from imperfect emptying of the uterus. At the close of the period something is still left. This unevacuated fluid undergoes changes resulting in its conversion into the puriform fluid. The uterus becomes distended with this accumulation. It is increased by the addition of further fluid of a watery character poured out by the lining of the uterus, and when distension reaches a certain point, it is expelled. That is to say, it is partly expelled, but after a time further distension occurs, followed by a fresh expulsion. I have observed many

cases of this kind—in fact, the occurrence of puriform leucorrhœa coming away in gushes is by itself almost diagnostic of the existence of a chronic flexion of the uterus, and during an experience of some years, this sign has proved of great value. Patients suffering from this affection sometimes describe what they term little abscesses bursting from time to time. In certain rare cases the retained uterine contents are actually offensive to the smell, the fluid having become putrescent before it is discharged.

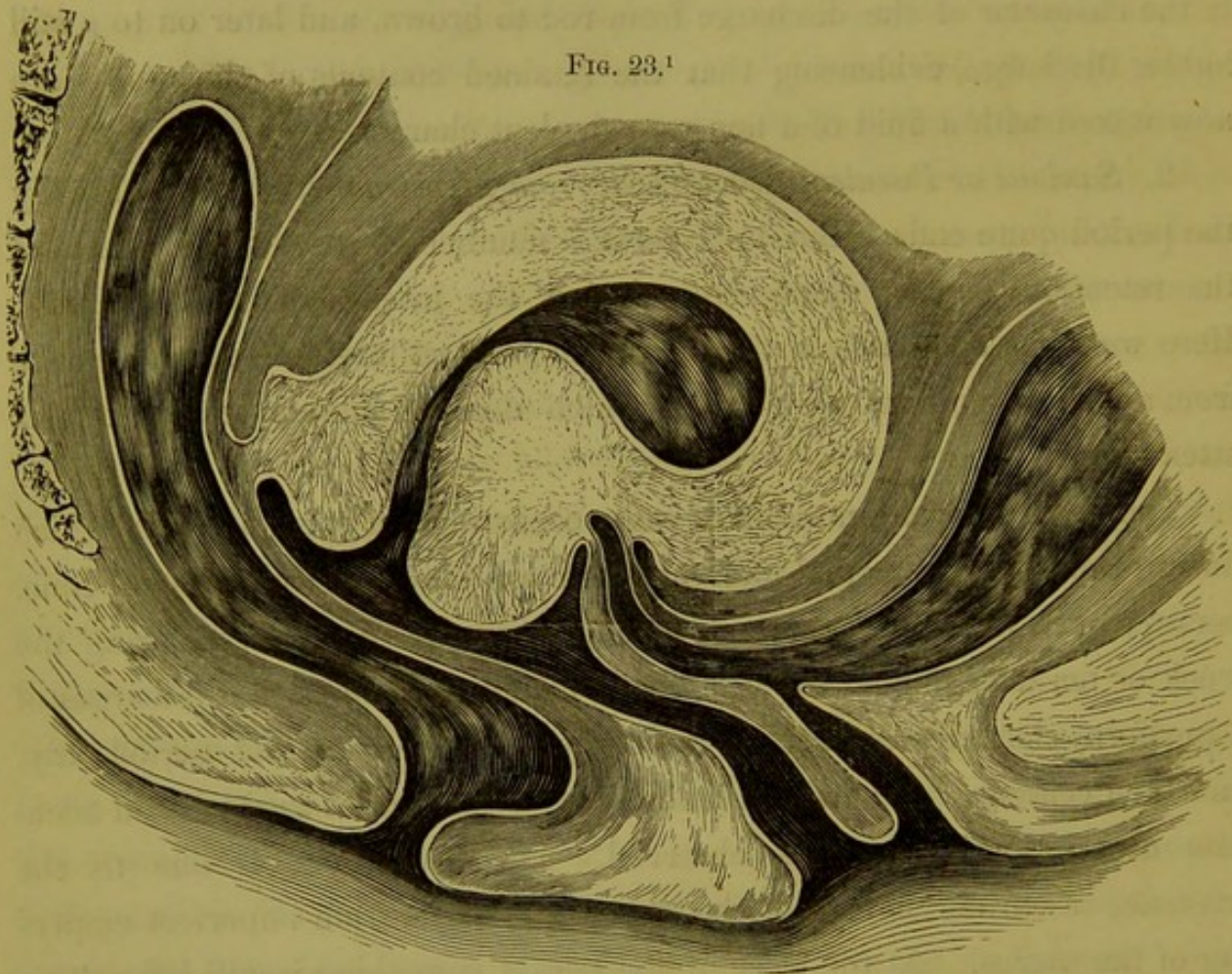


FIG. 23.¹

The condition of the lining of the uterus in these cases of chronic flexion leading to retention and decomposition of the catamenial fluid is peculiar. The uterus is naturally irritated, the lining membrane secretes more fluid than usual. There is, in short, what is termed endometritis.

¹ Fig. 23 shows the third stage of anteflexion with distension of cavity and thickness of uterine walls, such as may be found in cases of chronic menorrhagia and leucorrhœa occurring in gushes.

But the view expressed above as to the process actually going on in cases of endometritis is very different from that usually entertained. It is, nevertheless, sustained by facts, and it will be found that if provision be made for the free escape of this retained irritating fluid the endometritis will cease.

A very important further effect follows in a considerable proportion of these chronic cases of flexion with retention of uterine secretion; I mean dilatation of the uterine cavity and hypertrophy of the uterine walls. My friend, Dr. John Williams, has directed attention to the circumstance that we are too apt to forget that the uterus is a hollow muscle liable to become hypertrophied like other hollow muscles when the organ is called upon to exercise an unwonted degree of action. Thus the existence of necessity for increased expulsive action will necessarily have a tendency to increase the thickness of the uterine wall. It is a fact that there is evidence of excessive muscular action in cases of dysmenorrhœa, and it is also a fact that in cases where the inter-catamenial discharges above mentioned occur, the body of the uterus is unnaturally large. The physical effect of the distension of the uterus in enlarging its cavity must also not be forgotten; the uterine cavity becomes thus increased in dimension.

3. *Menorrhagia*.—It happens not seldom in these cases of uterine distension and retention that the quantity of blood poured out at each catamenial period is very excessive. In fact menorrhagia is observed. This menorrhagia has, in most instances, a mechanical origin. Menorrhagia does not, of course, arise solely in cases of uterine flexion—there are other causes unquestionably; but, nevertheless, chronic flexions and severe menorrhagia are not rarely associated as cause and effect. Cases of this kind usually go on from bad to worse; the period becomes gradually longer and longer, the quantity of blood lost greater and greater; the uterus, perhaps, succeeds in expelling its contents, but, becoming more and more enlarged, the surface from which blood is poured out is proportionately increased in area. (See Fig. 23.) The drain affects in time the

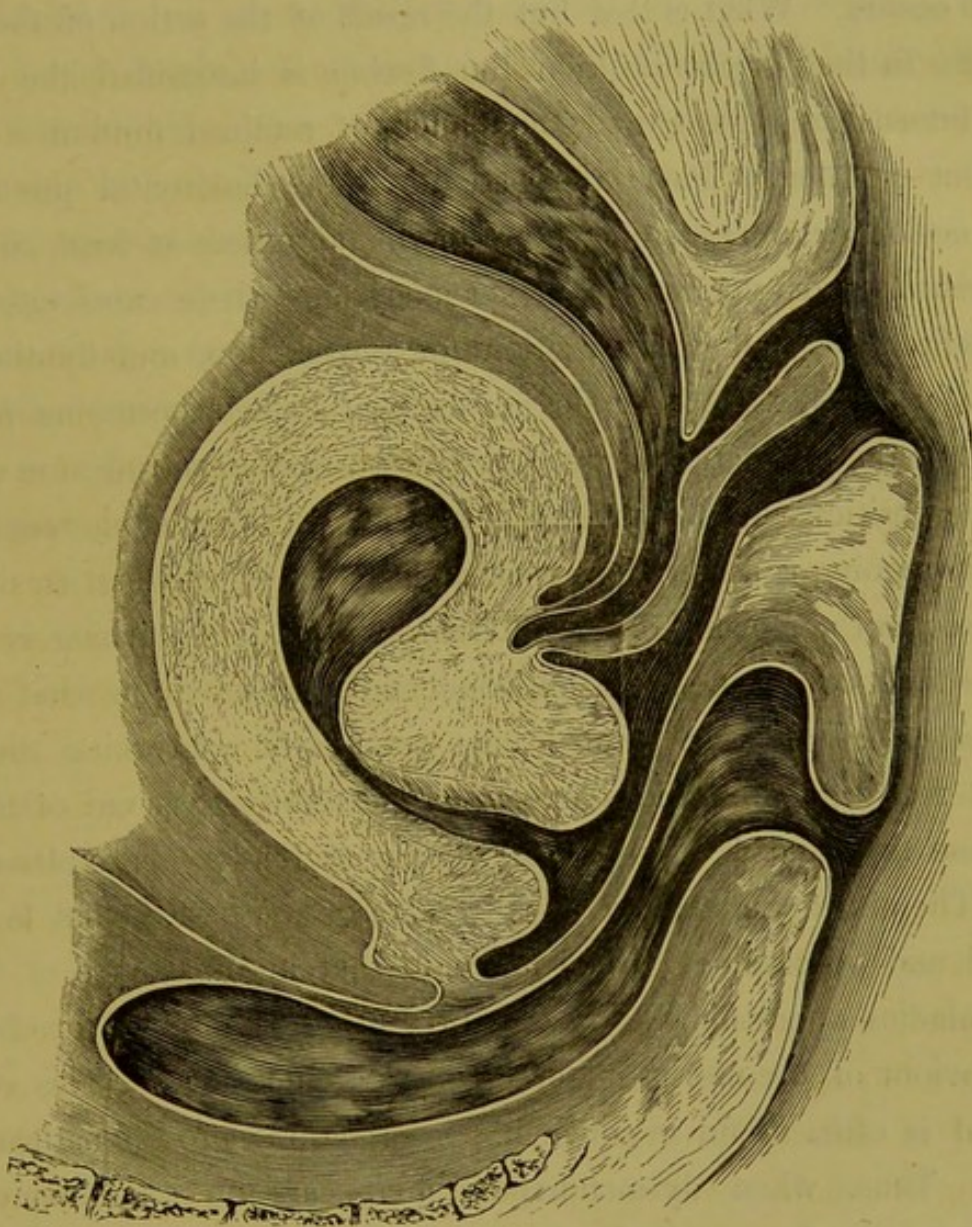
general health, and this, in its turn, affects the nutrition of the uterus. Consequently it may become hypertrophied, loose, and wanting in tonicity. The blood, more and more watery in character, oozes out more readily as the weakness increases, and other evidences of prostration necessarily show themselves.

Thus a decided flexion of the uterus may cause—First, slight dysmenorrhœa; secondly, dysmenorrhœa, with retention and intermittent discharge; next, purulent intermittent discharges; and, concurrently, or still later on, severe menorrhagia may be added. The order thus indicated is by no means always closely observed.

The presence of clots in cases of menorrhagia is sometimes noticed. Sometimes such clots are formed in the vagina, but more generally they originate in the cavity of the uterus. Retention of blood is, of course, the first event in such cases; the blood so retained becomes clotted, and has finally to be expelled. The passage of the clot through this narrow internal os uteri necessarily occasions much pain. The dysmenorrhœa is most severe in those cases where clots have to be got rid of, and the pain is sometimes of a most agonising character. In some cases the clot never is expelled as such, but becomes broken up. Probably some of the cases where a sanious leucorrhœa is observed for a few days after the regular period is over are cases of this kind; the clots retained break down, and the débris are gradually, but slowly, expelled.

It must be further remarked that the difficulty experienced by the uterus in relieving itself of the retained products in cases such as above described is materially increased by the dependent position of the pouch containing the fluid. When the patient is upright, and the body of the uterus strongly bent forwards or backwards, the action of gravity is opposed to the evacuation of the uterine contents. (See Figs. 23 and 18.) Thus, in the retort-shaped uterus, the enlarged pouch hangs downwards, forwards, or backwards, as the case may be, and the fluid must move really upwards, in order to pass through the internal os uteri, where the

obstruction which exists further adds to the difficulty. The double difficulty of moving upwards in a direction opposed to the action of gravity and moving round a corner presents itself under such circumstances.

FIG. 24.¹

Clinical observation of these cases offers convincing proofs of the operation of these natural laws. Thus it may be found that in a case of anteversion,

¹ Fig. 24 represents severe anteversion with enlarged uterine cavity, as in fig. 23, but the position of the pelvis is here altered, as if the patient were recumbent on the back. The tendency of this position is obviously to throw the fundus upwards and backwards.

with purulent retention, the discharge is free and continuous so long as the patient remains in bed, but on rising in the morning it suddenly ceases, appearing only in gushes at intervals during the day, and on lying down again at night a further comparatively free and continuous escape of fluid occurs. What is this but the result of the action of the laws of gravity? In the upright position the flexion is intensified, the aperture of the internal os more closed, the pouch of retained fluid in a hanging dependent position. Place the patient in the horizontal position and gravity no longer opposes, to so considerable an extent at least, the escape of the retained contents. The further analysis of these cases into such as are benefited by the prone position for retroflexion, and by the dorsal position for anteflexion, is made for us by the facts occurring in actual cases. For the evacuation is rendered more easy in retroflexion cases by the prone position, and the reverse in anteflexion, for obvious reasons.

The foregoing considerations regarding the effect of alteration of shape, and consequent narrowing of the internal os uteri, in disturbing in various ways the function of menstruation commend themselves on what may be termed *à priori* grounds. But I have to remark concerning them that they are really generalisations from many carefully observed cases. The facts came first, and I attempt now simply to render an explanation of them. The above explanation is fully in accordance with what is readily observed and observable. But I may add that in the course of treating these maladies opportunities are ever presenting themselves for observing the behaviour of the uterus under varying circumstances. The effect of treatment is often useful in conveying information as to the nature of the disease. Thus, when dysmenorrhœa disappears on straightening the uterus, it is natural to conclude that this pre-existing flexion had much to do with the difficulty experienced. When we find that a troublesome leucorrhœa undergoes immediate mitigation on so altering the shape of the uterus that its contents can escape, it is not extraordinary that there should be a disposition to connect the leucorrhœa and the uterine dis-

tortion as effect and cause. The effect of treatment is, in fact, a sufficient answer, even if there were no other, to those who would ignore the existence of an intimate connection between uterine distortion and these various effects.

Undoubtedly all cases of dysmenorrhœa, all cases of leucorrhœa, all cases of menorrhagia, are not included in the description above given. It is not intended that they should be. Dysmenorrhœa, leucorrhœa, and menorrhagia are occasionally traceable, certainly dependent, indeed, on other alterations and conditions of the uterus or other organs, and flexions of this organ are not chargeable with these symptoms in all cases. But in a very large majority of cases uterine distortion can be truthfully arraigned as the prime mover and originator of them.



LECTURE III.

RELATION OF UTERINE SYMPTOMS TO UTERINE CHANGES (*continued*)—RELATION OF THE VARIOUS UTERINE CHANGES ONE TO THE OTHER—PRINCIPLES OF TREATMENT.

Amenorrhœa.

THE effect of uterine flexion in arresting the discharge for a time has been mentioned, but in connection with menstrual retention only. In a certain number of cases, however, the discharge becomes gradually less and less, and in process of time is actually brought to an end. Actual suppression of menstruation for some months, or its premature termination at a comparatively early age, are now and then observed. Acute flexion in a few cases acts in this way. Probably the compression of the organ which is the effect of the flexion has much to do with it. The uterus having its circulation interfered with is no longer capable of carrying on its function properly.

The whole process is occasionally witnessed. In a known case of flexion, menstruation is for a time scanty. Each month it is less in quantity. By-and-by a month is passed over without discharge. After a time the interval is longer. And, concurrently with these effects, other symptoms are noticed which give evidence that the flexion has become aggravated. The flexion is now dealt with and treated, and the amenorrhœa ceases. Cases of this kind are interesting and convey important clinical lessons.

Amenorrhœa may be due to other conditions of the uterus; and indeed flexions of the uterus do not play so large a part, according to my experience, in the etiology of amenorrhœa as some other conditions which might be mentioned.

Sterility.

Flexions of the uterus have very important effects in relation to sterility. For the most part, the observations made respecting the influence of compression of the internal os uteri in producing dysmenorrhœa apply here. Any circumstance producing imperviousness of the internal os uteri must necessarily induce sterility, and flexions are responsible for this result in very many cases. In this case the narrowed condition of the internal os obstructs the passage of fluid upwards. But the mere obstruction is not probably the sole cause of the sterility in very many cases. Another circumstance is to be taken into consideration, viz., the altered condition of the lining of the body of the uterus, which, as previously pointed out, is liable to be produced by retention of secretions within the uterine cavity. These retained secretions have doubtless a powerful influence in deranging the physiological process and damaging the products of conception. Further, an irritated altered mucous membrane, such as must be present in such cases, cannot offer a proper surface for the attachment and growth of the ovum, even supposing that the ovum has been impregnated and has descended into the uterine cavity.

Abortions.

A careful study of the phenomena of abortions, and of the behaviour of the uterus under such circumstances, has made me acquainted with many facts bearing on this subject.

I may, in the first place, state that, in my opinion, by far the most common cause of abortions is the existence of flexion of the uterus. This may seem a rather sweeping assertion to make, but facts enforce conviction. This opinion has been arrived at not by any means on *à priori* reasoning; I cannot claim to have arrived at the idea in this manner. The almost incessantly observed conjunction of the two elements—existence of a known flexion of the uterus and liability to abortion in the same individual—has

led to this conclusion. There are undoubtedly other causes of abortion—syphilis, lead poison, accidents, falls, blows, mental emotions, &c. But, after all, cases referable to these heads collectively form a very small percentage of the number of cases of abortion actually observed.

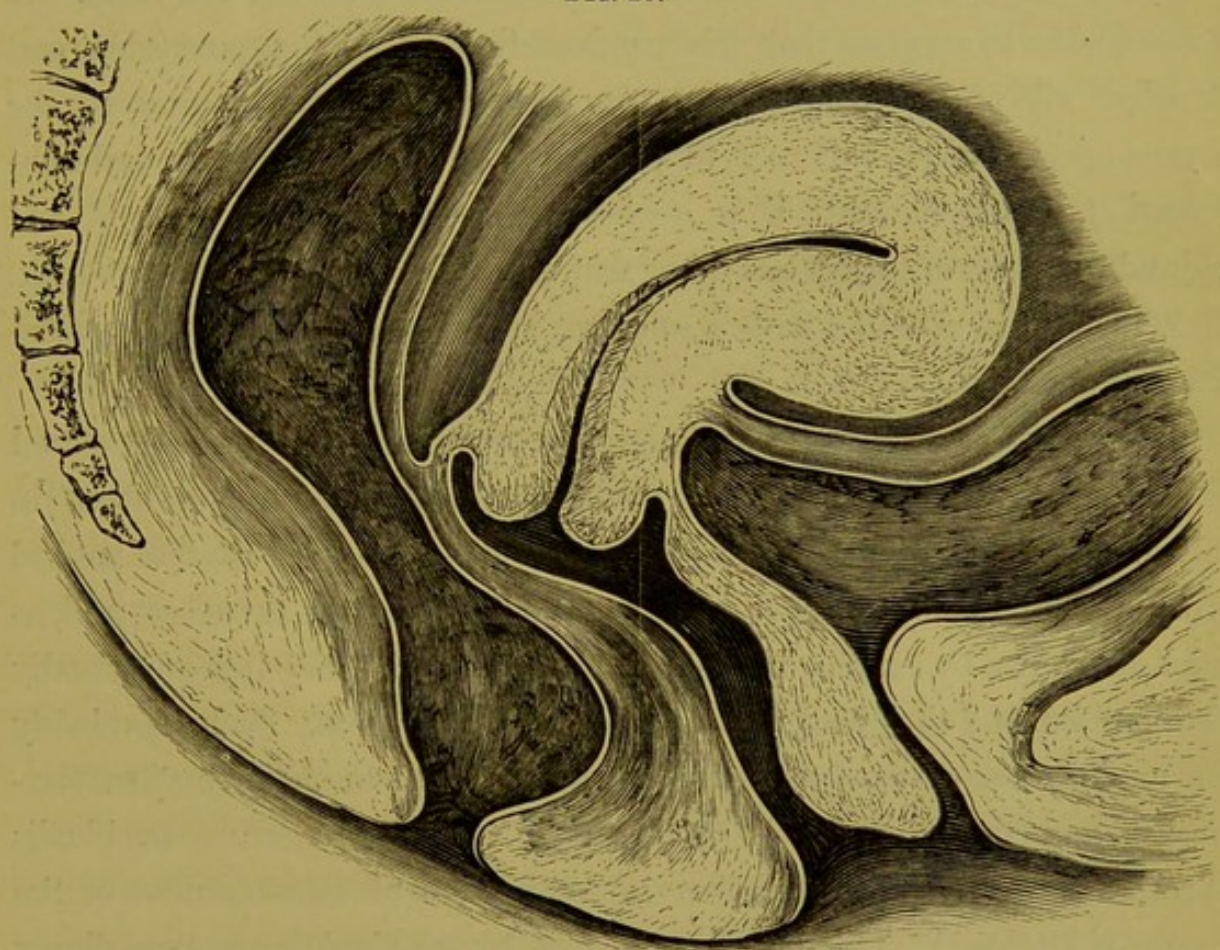
The connection between retroflexion of the uterus and liability to abortion is tolerably well recognised, the affection retroflexion being comparatively well known, and ready of detection. But it is not so well known, in the first place, that anteflexion is a rather common affection, or, in the second, that it is a common cause of abortion.

The proof of the truth of the statement that abortion is often due to uterine flexion is necessarily to be obtained only from careful clinical observations. Such observations are, however, easily made, and I am convinced that they only require to be made in order that the proofs may be obtained necessary to convince others as they have convinced me. Clinical histories, such as the following, constitute important evidence. In a case of known anteflexion, pregnancy occurs, and is shortly followed by an abortion. In another case, a flexion is undergoing treatment; becomes relieved up to a certain point; pregnancy occurs, and abortion happens. In another case also where flexion is known to exist, pregnancy happens, and the patient goes to full term; recovers from her confinement; becomes again pregnant, and is threatened with an abortion. On examination it is found that the old evil has recurred; the uterus is in a state of flexion. Take another class of cases. In a certain case abortion happens, the ovum partly escapes; the thickened decidua and commencing placenta are retained in utero. Examination is made, and the uterus is found acutely anteflexed or retroflexed. A succession of such cases present themselves, the circumstances being a little varied. What other opinion can be arrived at than that the abortion is due to the flexion? I assume, of course, that the operation of other possible causes of abortion is duly regarded, and the particular case excluded from these categories. Complete the proof: trace the further history of these very cases, and suppose it to be found that the

phenomena described have a great tendency to recur. Let this kind of observation be made over and over again, conviction naturally follows.

In truth, when we come to consider the part which the uterus has to play in pregnancy, it is not surprising that decided distortion of this organ should materially interfere with its healthy progress. The mere displacement of the fundus backwards or forwards necessarily exposes it to greater

FIG. 25.¹



pressure than would otherwise be the case. In the case of retroflexion, every time straining in the process of defecation takes place, the fundus is pressed down lower in the pelvis and possibly compressed. In the case of anteversion compression downwards has a similar effect in lowering the uterine fundus, though it is somewhat protected by the bladder when this organ is distended. If the bladder is empty, however, there is nothing to

¹ Fig. 25 represents the first stage of anteversion of the uterus.

prevent expulsive action of the abdominal muscles pushing the fundus lower and lower. In the next place it is to be remarked that the alteration in the tissues of the uterus implied by the presence of a severe chronic flexion is such as to materially hinder the expansive action of the walls of the uterus. Here we enter on what may be termed an almost entirely new field of inquiry. It is certainly the fact that in chronic flexions the tissues of the uterus become much condensed at the seat of the bend. It is reasonable to suppose that this condensation, hardening, puckering, and atrophy, all of which are more or less present, are inimical to the physiological changes inherent to pregnancy. If the puckering and condensation be considerable, it is evident the uterus may be so held and maintained in its distorted condition that expansion of the organ is difficult. The difficulty in question finds a solution, in many instances, in the occurrence of abortion.

But a further result of the existence of acute flexion is probably actual disease of the decidua vera, and consequent abortion brought about in this way. The growth of the decidua, which is a part of the natural process of pregnancy, cannot proceed normally at certain situations, and, as has been shown by examination of actual specimens, it may become actually disorganised, and thus lead to the occurrence of abortion. Such is probably the explanation of two very interesting observations made by Dr. Slavjansky, and published in 1873, entitled 'On Endometritis Decidualis Chronica as a Cause of Abortion in some cases of Displacement of the Pregnant Uterus.'¹ These observations of Dr. Slavjansky are exceedingly interesting, and have an important bearing on this subject.

All cases of uterine flexion in which pregnancy occurs are not followed by abortion, but it is mechanically almost impossible for pregnancy to continue if the flexion be unrelieved. As a matter of fact, many cases of this kind are so relieved; the uterus becomes straight as it expands by the mere circumstance of the expansion. In others the flexion remains, and

¹ Paper read before the Obstetrical Society of Edinburgh, July 1873.

inasmuch as the uterus goes on expanding, the result is actually in many instances to increase the flexion. For instance, in retroflexion of the gravid uterus, the fundus, unless it chance to be lifted up, descends lower, the os uteri and the fundus becoming at the same time approximated. The condition of the uterine wall at the concave side of the bend, where the retroflexed uterus of four months is jammed in the pelvis, and unable to escape from the cavity, may be imagined: great tension of the uterine wall on the convex side, great compression on the concave side of the bend, consequent stretching and tension and compression of the decidua, all this increasing day by day.

In cases of ante flexion of the gravid uterus there is a greater tendency to what may be termed a natural cure as pregnancy advances, than in cases of retroflexion, for the symphysis pubis does not present a projection like that offered by the sacral promontory, and the body of the uterus has a better chance, therefore, of rising into its natural position in the abdominal cavity. There is, however, a perpetual liability to aggravation of the existing flexion when the patient is in the upright position, or when she indulges in any special exertion, and such aggravation of the flexion may originate the abortion.

Among the many proofs that might be adduced as to the connection between abortions and flexions of the uterus, may be mentioned observation on the effect of treatment. If means be taken to assist the elevation of the fundus by insisting on the recumbent position or by use of pessaries, thus helping the uterus to assume its natural form as it expands, abortion can very frequently be prevented, even in cases which have been the subject of frequent previous abortions.

In cases of ante flexion the strict maintenance of the dorsal position for the first three or four months is sometimes enough, the uterus rising up out of the pelvis as it expands and the organ resuming its natural form without further help. In cases of retroflexion the dorsal position would rather impede than prevent the necessary rectification. There are of

course various other expedients—among them the use of pessaries—by which the body of the uterus may be elevated and the organ assisted in rectifying its shape as it expands during the course of pregnancy. The results obtained in this way are quite convincing to anyone who has practised them in regard to the exceedingly important part played by flexions of the uterus in the etiology of abortion.

Reflex phenomena observed in connection with disorders of the uterus.

These reflex phenomena are very important and the highest interest attaches to any discussion concerning them. In the limited space at my disposal I fear that scant justice can be done to this part of the subject. These reflex phenomena I propose to consider under five heads: 1. Sickness or Nausea; 2. Hysteria; 3. Convulsions; 4. Cephalalgia; 5. Melancholia.

1. *Sickness or nausea.*—This symptom is an exceedingly common one. There are few cases in which the uterus is diseased in which the symptom in question is not more or less observed. It varies in degree from a slight feeling of nausea, or disinclination to eat, to severe and almost constant and apparently irrepressible vomiting. It takes various forms, too, in different cases. In some instances it is only ascertained after careful inquiry that the patient has no decided nausea, but only a feeling which induces her to avoid taking food; the idea of food is distasteful. Again it is observed only at certain times of the day, or when the patient is tired after any particular exertion. I have seen patients reduced to such a condition after duration of this continued nausea produced by the very idea of food, for several months, that they were literally nearly starved. I recollect well the case of one lady concerning whom I was consulted, and whose condition had become so alarming that it was thought she would actually perish of inanition, the smallest particle of food being rejected instantaneously, and this state of things had existed for some weeks. So frequently have I observed nausea or vomiting, more or less marked, in cases of

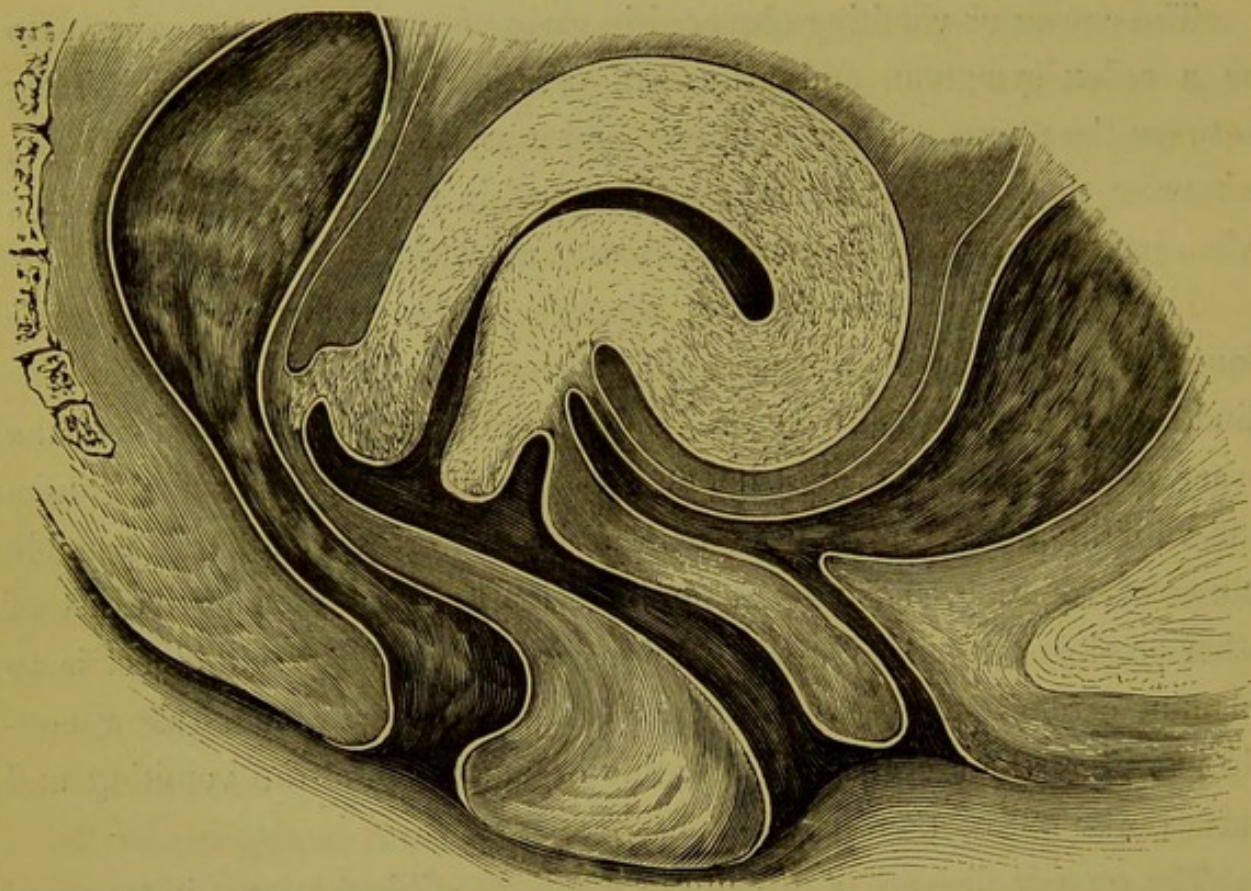
uterine disease, that I have come to look for it almost as constantly as dyskinesia or any other common symptom of uterine disease. Not unfrequently we observe this symptom particularly well marked in cases of dysmenorrhœa, for, in addition to the pain and difficulty present at the menstrual period, there is not seldom very intense sickness present at the same time. Here, again, I have observed certain cases where the symptom in question has assumed a really alarming character from its mere severity and intensity.

The nausea or vomiting observed in cases of uterine disease appears to be a reflex symptom, and arises out of the close sympathy subsisting between the uterus and the stomach; and it seems identical in its nature, whatever that may be, with what is observed in many cases of pregnancy, when nausea or vomiting occurs in connection with this process.

That disordered conditions or diseases of the ovary may give rise equally with the uterus to nausea or vomiting is probable, and cases of this kind have been recorded. Marked dislocation involving compression of the ovary appears to be the most important of ovarian causes of reflex nausea and vomiting. I say nothing of peritonitis or of other well-known possible causes of vomiting, and it is not my intention to give an exhaustive list of other possible causes of chronic vomiting or nausea. My sole object is to examine carefully those cases in which facts and circumstances show conclusively that the uterus is the irritating organ, and that the vomiting and nausea arise out of this irritation.

The organic diseases of the uterus are responsible for some instances of reflex vomiting. Cancer and fibroid tumour may either of them produce it in a marked form. Fibroid tumours do not commonly give rise to this symptom, but cases do now and then occur where it exists in great severity. It is not the large tumours by any means which occasion the most trouble in this respect; the reflex vomiting would appear to be due to compression or stretching and tension of certain portions of the uterine tissues and of the nerves contained in these tissues.

Various writers have alluded to vomiting and nausea as a symptom attendant on certain cases of uterine inflammation. There is nothing new, therefore, in so associating it with the irritation of this organ. What is meant, however, by inflammation of the uterus? and what are the particular cases which are liable to be attended with vomiting? The answer to these questions is, that distortions of the uterus, coupled with engorgement or congestion of the organ, are most commonly the cause of this particular

FIG. 26.¹

reflex phenomenon. Flexion of the uterus is directly or indirectly responsible for its occurrence. I have carefully observed the frequency of the symptom, have watched its commencement, seen its increase, and witnessed its decline and disappearance, in a large number of cases. It is not constantly observed in cases of flexion; but in cases where there is reflex uterine sickness, it may be confidently stated that, excluding organic and

¹ Fig. 26 represents the second stage of anteversion of the uterus.

ovarian causes, the cause will, on examination, be found to be flexion of the uterus, more or less marked in degree. Indeed, I may go so far as to say that severe reflex uterine sickness is invariably so associated. It is most marked and most alarming when there is considerable congestion of the uterus accompanying the flexion. In such cases every movement of the body calculated to exercise pressure on the uterus excites the attack; even the sitting position may give rise to it, and, clinically it is demonstrably aggravated by precisely those alterations in the position of the trunk which would be likely to increase temporarily the degree of the flexion present. The more chronic, slighter cases, where only nausea is present, are very frequently found to be due to a slighter degree of the affection, coupled with a very decided softness of the uterine tissues. The erect position of the trunk in such cases temporarily produces increase in the flexion, and consequent nausea. In such cases the patient is often able to take food when lying down all day, whereas the moment she attempts to sit up to dinner the nausea becomes evident, and the food is sent away untasted.

There is a class of cases to which special attention is directed, and in which the continual presence of nausea leads finally to a state of extreme feebleness, simply in consequence of starvation. They occur in an insidious way; the appetite fails, and less food is taken than before. After some weeks or months the appetite is less, the idea of food producing nausea. So the case runs on, until in two or three years' time, or sooner, we find the patient, not unfrequently a young woman from seventeen to five-and-twenty years of age, a feeble, almost helpless invalid. In these cases the uterus is found to be unduly soft; there is flexion; this flexion is aggravated by the upright position, and the nausea is thus produced. Dietetic errors, as I have previously explained, cause weakness of the uterus. It is ill-nourished, loses its tonicity, any over-exertion distorts and displaces it, and from that time nausea, more or less severe, sets in. The remarkable feature of these cases is that the power of taking food is restored, sometimes at once, in such cases, by enforcing the horizontal position. I have witnessed this se-

quence of cause and effect so frequently that there can be no doubt about it. The power possessed by this slow, never-ceasing irritation of the uterus to produce such constant nausea, and in the end to give rise to such profound derangement of the whole economy, constitutes a fact of the highest therapeutical interest.

2. *Hysteria*.—On the subject of hysteria I propose next to say a few words. I should like to say much, but want of space forbids. I have for some time past held views on this subject which I will now venture briefly to lay before you. *Hys'eria* is a general term implying presence of symptoms, which I need not describe, in a more or less marked degree. And it would seem not to be a disease absolutely limited to the female sex. But it may be said that it is almost, though not entirely, a disease peculiar to women. In the female sex it may originate in two ways. 1. From external emotional disturbance, fright, mental shock, &c. 2. It is excited by some internal disturbance. All gynæcologists are aware that when due to an internal disturbance, the internal disturbance resides in the generative organs almost exclusively. Those not well acquainted with diseases of the female generative organs do not admit this. The real question for us is, what is the nature of the internal disturbing element which causes these hysterical phenomena? Is the ovary or is the uterus the organ chiefly concerned?

I do not pretend to criticise the statements of other writers or observers, but will simply state the result of my own observations, and they will go for what they are worth. I must confess that I have not, in a practice extending now over some years, met with a very large number of cases of well-marked hysteria. And I must further state that I am unable to give a full account of those cases which came under my notice formerly. But, for these last six or seven years I have had my attention particularly directed to the investigation of this symptom, and have been engaged in testing, whenever an opportunity presented itself, the correctness of an idea which I had been led to form on the subject.

I say nothing of what may be termed slight hysterical symptoms. I wish only to speak of cases which may be described as follows: The hysteria is more or less chronic, and generally present in a greater or less degree of severity. There is, in fact, a general chronic state of hysteria. Here it is not a question as to a single emotional outbreak, but there is a more or less constant presence of severe troublesome hysterical symptoms, recurring at various intervals, and causing more or less inconvenience. There is in short a decided liability to severe hysterical attacks. I have seen some few such cases and have investigated them carefully. The result of such examination is, that in every one of them there was found to be present a well marked distortion of the uterus. Not only so, but the worst cases of hysteria were those in which the distortion was most severe. Five years ago in writing on this subject, I stated 'when a young woman having enjoyed good health up to a certain time has become suddenly liable to hysterical attacks, it is almost certain that the uterus in such a case will be found to be affected with marked flexion.'¹ And subsequent observation confirms the accuracy of this statement. Want of leisure has hitherto prevented the further development of this interesting subject. I feel certain, however, that cases of hysteria, such as I have alluded to, only require to be investigated in order to substantiate the connection I have pointed out.

Anteflexion is the common form of uterine distortion present; but I have known hysteria of a very great degree of severity in cases of retroflexion also.

I have a further statement to make, which is simply this. Not only have I found severe flexion associated with severe hysteria, but it has been always observed that the hysterical symptoms cease altogether or undergo a most decidedly marked amelioration on restoring the uterus to its proper shape. And I have observed this amelioration generally to occur suddenly and immediately. Experience and observation have led me to consider

¹ *Diseases of Women*, 3rd ed. p. 410.

hysterical symptoms as liable to occur in cases of acute flexion of the uterus. They do not occur in all cases. There is probably something in predisposition, all women not being equally liable to suffer in this way.

3. *Convulsions*.—Between hysteria and convulsions, another reflex symptom of disorder of the uterus, there is but a step. In certain cases of hysteria, convulsions constitute a part of the phenomena present. On the other hand, women occasionally suffer from convulsions without hysterical complications. The convulsions known as puerperal convulsions belong to this latter category. It is not, however, my intention to speak now of puerperal convulsions, but of convulsions occurring in unmarried women and evidently associated with the uterus. I have seen a few such cases and have followed their history with care. They offer instances of convulsions pure and simple without prodromata and without after-consequences. Cases of this kind are rare: they are noticed in young women from eighteen to twenty-five years of age. They are due to the same cause as severe hysteria, and their explanation as regards origin is the same. They are undoubtedly produced by reflex irritation starting from the uterus, and that irritation is a chronic flexion of the organ. I have published some of the cases which have come under my notice in the third edition of my work on 'Diseases of Women,' together with certain reflections on this interesting subject. The distinction between such cases and cases of epileptic convulsions, seems generally capable of being easily made; but I know that they are occasionally confounded.

4. *Cephalalgia*, is another reflex symptom deserving mention in connection with the uterus. I have observed it in some cases in a very intense and troublesome form, the facts of the case conclusively showing its dependence on some morbid condition of the uterus. Fibrous tumours growing on the walls of the uterus are, I believe, not uncommonly the cause of this symptom. I have not particularly associated it with chronic flexion of the uterus, except in a very few cases.

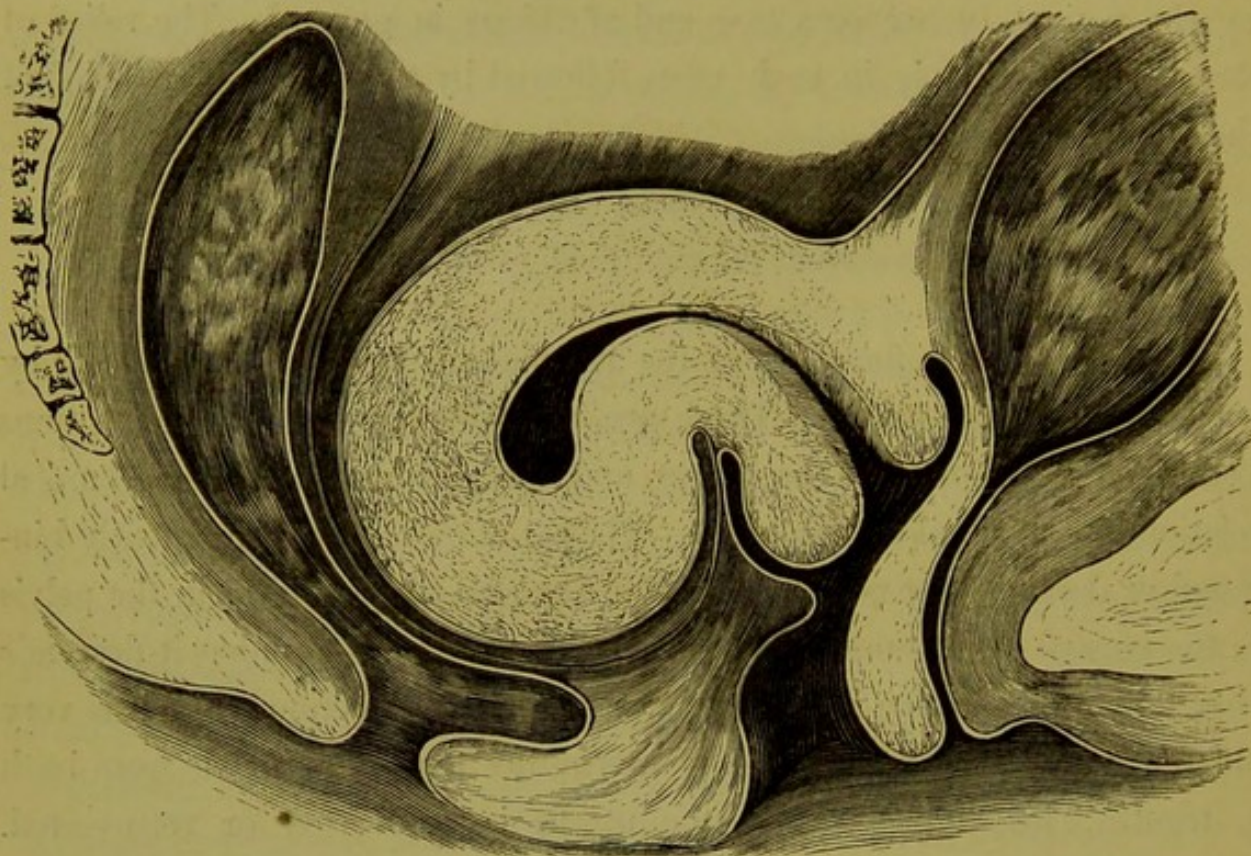
5. *Melancholia*.—A not inconsiderable number of cases are observed in

which decided mental disturbance is produced by chronic flexions of the uterus. The equability of temper and thought is lost; various forms of derangement may result, but the most noticeable one is a species of melancholia not attaining such dimensions as to render it a matter of actual solicitude, but materially interfering with the patient's enjoyment of life. It is an incapacity for thought or mental exertion, a dislike for conversation, for social intercourse, and it shows itself by the desponding views taken by the patient of her own case and of things in general. The relief of the uterine flexion is in such cases followed by a corresponding relief of the mental disorder.

Disorders of the Functions of the Rectum.

Disorders of the functions of the rectum are frequently produced by some change in the uterus. There are, no doubt, sympathetic connections between the two organs, the uterus and the rectum, but the mechanical relations are much more important. The act of *defecation* is frequently hindered or deranged by uterine causes. The axis of the uterus in the pelvis in the normal state is nearly vertical, and in this position, unless it descends very low, no disturbing pressure is exercised on the rectum; but it is very different when the long axis of the uterus lies across the pelvis from back to front. This happens when the uterus is anteverted or retroverted. Thus, when the uterus is retroverted, and particularly if, at the same time, it be enlarged, the fundus lies posteriorly on the bowel, and the pressure downwards exercised by the abdominal muscles in the act of defecation only serves to compress the rectal tube still more. The more the patient strains the more complete is the blocking of the tube. In fact, in many cases of retroversion and flexion of the uterus, constipation of an obstinate kind is one of the common symptoms. It is not a constant symptom, for it occasionally happens that the fundus uteri lies not immediately on the rectum, but a little to the side of it. I have witnessed some curious effects

in cases of retroflexion of the uterus in regard to the process of defecation. In some instances the straining efforts in the end propel the fundus uteri actually into the bowel, and even as low as the sphincter of the rectum. The fundus is then driven violently downwards into the bowel, invaginating it, and acting as a complete ball-valve. The repetition of this process may even mould the top of the uterus into a conical shape, as I have seen in

FIG. 27.¹

more than one case, and was much puzzled to account for it, until I found the uterus actually in the rectum. These latter cases are not common, but they indicate how seriously the act of defecation may be interfered with by the downward pressure of the retroverted and flexed uterus.

Another effect of retroflexion, which is of precisely the opposite kind, is diarrhœa. It is not common, but in a few instances I have witnessed it. It is hardly a diarrhœa, but more properly a frequent, painful tenesmus

¹ Fig. 27 represents the third stage of retroflexion producing much pressure on the rectum.

with passage of small quantities of mucus ; and the symptom may persist a considerable time, unless the cause be detected and removed. It appears to be due to the friction and pressure produced by the retroflexed fundus on the lining of the bowel.

In cases of anteversion or flexion also constipation is frequently observed, and may be due to a like cause : viz., the blocking up of the rectum by actual pressure. It is a by no means uncommon result of anteflexion, particularly when the uterus lies rather low in the pelvis, and it is particularly noticeable when the uterus is more anteverted than flexed.

But another symptom is not uncommonly observed in cases of uterine displacement. The act of defecation is sometimes excessively painful, or when not actually painful it is productive of discomfort. It is particularly in cases of retroflexion, when the uterus is congested and very sensitive to touch, that this symptom is observed in its greatest intensity. The straining necessary exaggerates the flexion, the tender, sensitive fundus is compressed more and more, and this has the result of producing intense pain.

In a few cases I have known very troublesome prolapsus of the rectum caused by uterine displacement ; and, curiously enough, there have been cases in which the uterus was anteflexed, the whole uterus descending in its anteflexed state so low that during expulsive efforts it invaginated the rectum, and produced considerable prolapsus of the bowel.

Disorders of the Functions of the Bladder.

The bladder and the uterus are most intimately related ; a considerable portion of the anterior aspect of the uterus is adherent to the bladder, and to a certain extent the one necessarily follows the other organ in any change of position.

Alteration of the shape and position of the uterus often markedly disturbs the position and shape of the bladder, and thus deranges its functions.

Anterior displacements of the uterus, as a rule, depress the bladder. The body of the uterus comes to occupy the space of the bladder, which it invaginates. The posterior wall of the bladder is thus pressed downwards until it actually touches the floor of the organ. The bladder becomes distended laterally more than usual as urine enters it, instead of equably, and its spherical shape no longer remains. In certain forms of prolapsus

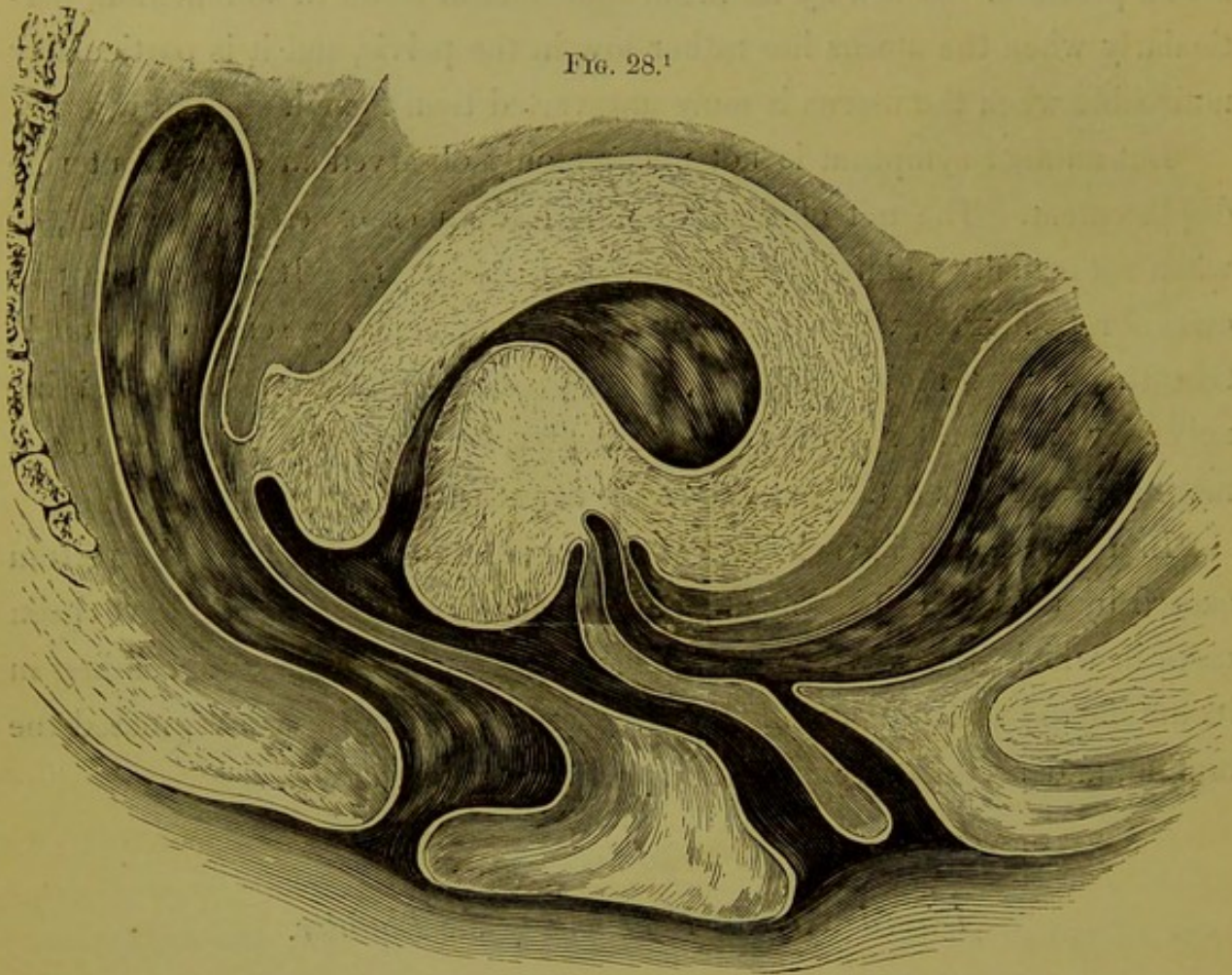


FIG. 28.¹

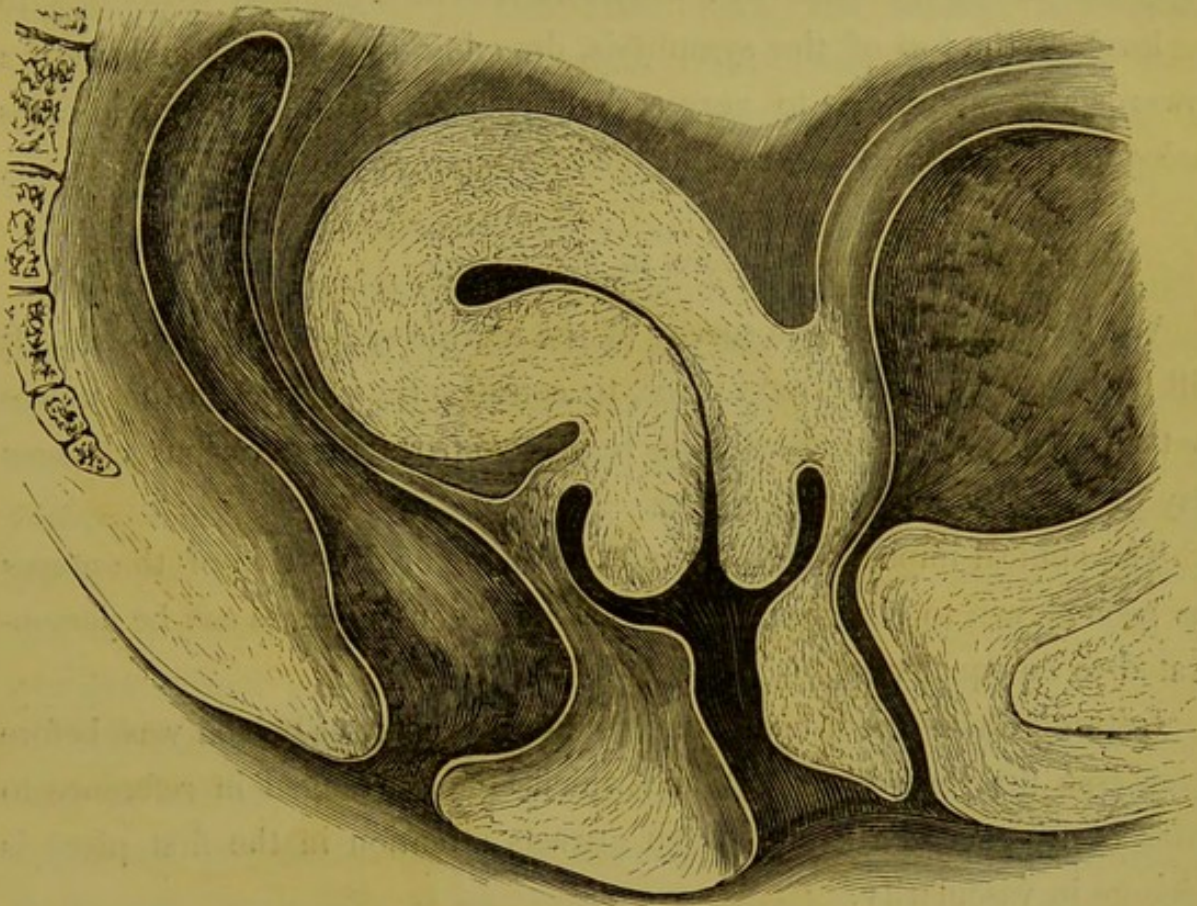
the bladder, as is well known, may be actually protruded at the vulva, with the uterus behind it urging it lower. Anteversion and flexion of the uterus occasion very commonly *frequency of micturition*, the patient often suffering extremely from the constant desire to empty the bladder. It is a very nearly constant symptom of this form of displacement, and it is sometimes

¹ Fig. 28 shows the third stage of anteversion, the uterus occupying the space for the bladder.

so distressing that the patient thinks only of it. It is relieved by the recumbent position. Difficulty in micturition may be observed, but not often, in this form of displacement.

Another symptom I have observed in a very few cases of anteflexion is violent pain after emptying the bladder. It appears to be due to the

FIG. 29.¹



contact of the posterior with the anterior wall of the bladder, produced by the pressure of the fundus uteri.

The backward displacement and flexion of the uterus are also capable of violently disturbing the bladder function. Retroversion frequently occasions *retention of urine*. The os uteri is tilted upwards and somewhat forwards; it drags the urethra and floor of the bladder upwards, and

¹ Fig. 29 shows the second stage of retroflexion, with dragging on the neck of the bladder and other effects.

prevents the escape of the urine, sometimes by the mere tension on the urethra, which probably interferes with the muscular action of the sphincter, or by actually compressing the urethra against the back of the pubic symphysis. When the uterus is much enlarged these efforts are proportionately intensified. It is well known, for instance, how commonly retention of urine accompanies retroversion of the gravid uterus, where the enlarged organ fills the sacral concavity: the os uteri is then elevated sometimes to the level of the top of the symphysis, dragging the bladder and urethra upwards and giving rise to very serious effects. In the non-gravid cases analogous effects are observed, but the symptoms are less severe in degree.

Changes in the Uterus.

We have completed the survey of the uterine symptoms observed. It will be necessary, in the next place, to consider the changes in the uterus by themselves, and to indicate the respective parts these various changes play in the pathology of the uterus.

The clinical importance of change of shape or distortion of the uterus has been shown to be great. Its pathological consequences can be demonstrated to be equally so.

Looking down the list of possible uterine changes which was before given (see first lecture, p. 32), and which is not arranged in reference to order of frequency, the one which attracts attention in the first place is 'change in vascularity.'

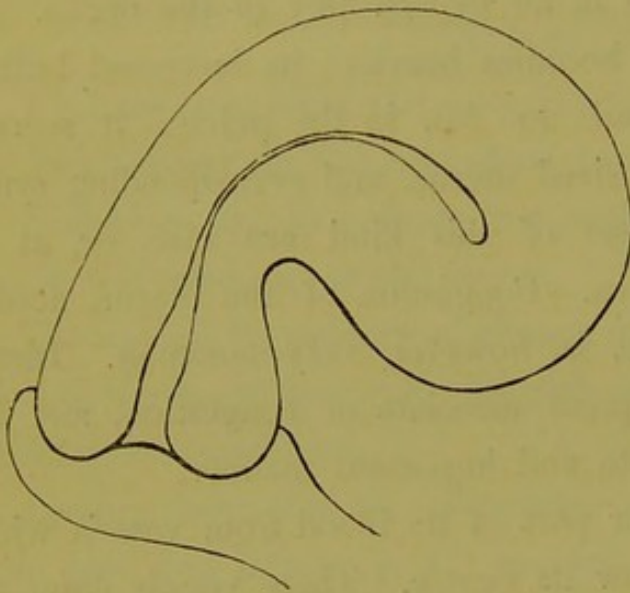
The change in the vascularity of the uterus which very prominently stands forward as an important one is *congestion* or *engorgement of the uterus*. Attentive consideration of the facts renders it evident that engorgement of the uterus or of certain parts of this organ has an exceedingly intimate connection with alteration of shape, and we find the two conditions so interwoven that care is required to disentangle them. Hence, also, the varying opinions as to the respective importance of congestion and of flexion of the uterus.

Finally, the question to be resolved is really, What is the cause of the congestion? Congestion or engorgement of the uterus is undoubtedly very common. The congestion may be the sole alteration present. This simple congestion may probably be produced in many ways. Luxurious living, sedentary modes of life, undue sexual excitement, are causes of congestion, and others might be mentioned. But it does not appear that congestion of this kind, pure and simple, is clinically noticed, or even decidedly noticeable. Such cases do not apply to us for relief. Undoubtedly, in the end, important effects may result. In some cases, the long perpetuation of an unduly full condition of the bloodvessels of the uterus results in an hypertrophy of the organ. As a whole, the uterus enlarges, and becomes heavier; its increased bulk is a source of discomfort; it descends too low in the pelvis; it secretes more profusely than the normal sized uterus, and corresponding symptoms show themselves. But cases of this kind are rare, or, at all events, they rarely come before us. Congestion of the uterus, accompanied by other uterine changes, is, however, very common. Distortion of the uterus is a very frequent associate of congestion, and the two are related in a most intimate and important manner.

The uterus receives the greater part of its blood from vessels which enter it laterally at and just below its centre. These vessels enter the organ and pass out of it at this situation. Consequently the circulation at the two extremities of the organ is necessarily affected by any physical alteration, such as compression, condensation, &c., taking effect at this situation. It is a matter of necessity that the circulation should be less free and natural at the fundus, for instance, if the uterus be sharply bent at its centre, for the calibre of the vessels at the flexed portion is lessened thereby. The effect is as if a ligature had been tied round the uterus. It is true that a flexion of the uterus may not effect very materially those vessels which have not yet entered the organ, and which enter it just above and below the bend, but it is sufficient for

the argument that some vessels should be physically compressed. This physical effect of flexion in inducing congestion is recognised by Klob, also by Thomas. The clinical proofs of the operation of this compression in producing congestion are of the most convincing kind. I have over and over again found acute congestion of the uterus disappear in the most rapid manner on simply straightening the flexed uterus, or so elevating the fundus as to lessen the degree of the flexion. The congestion thus produced may, and frequently does, affect both extremities of the uterus, the os and the fundus, or it may affect principally the fundus or cervix alone.

FIG. 30.



Anteflexion.

The distension, swelling, and increased vascularity of the cervix are obvious enough to the eye as well as the touch. The engorgement of the fundus can be measured by the touch, by the increased size of this part of the uterus, and by its inordinate sensitiveness to the touch.

Various views are held as to the relation of the congestion to the flexion. One view is that congestion causes flexion. Dr. John Williams opposes this view, his arguments showing pretty conclusively that the weight of the additional blood would not account for that amount of change of shape we find in cases of decided flexion. In fact mere congestion of the fundus cannot be regarded as a cause of flexion.

Another view is, that flexion is only important when associated with congestion; and the fact that cases in which the two are associated are so much relieved on removing this congestion by application of leeches, by rest, &c., is put forward as a proof of the unimportance of the flexion.

But, in point of fact, most of this may be readily conceded. There can be no doubt that the advent of congestion materially aggravates the suffering ; it is equally certain that its removal is a blessing and a comfort to the patient. But to those who argue from these facts that the flexion has no importance, it must be replied that it is so important that by lessening or removing the flexion you at once get rid of, or materially lessen, the congestion.

The state of the congested and flexed uterus may be likened to that of the arm bound up ready for the operation of venesection. The hand and forearm are turgid with blood ; the veins are distended ; the bandage is the agent by which this distension is produced and kept up. The congestion of the uterus is produced by the constriction consequent on the flexion, and the two extremities become turgid with blood, and remain so to a greater or less degree so long as the flexion persists.

It is merely necessary to observe carefully the behaviour of the uterus when affected with acute flexion to become convinced of the very close connection between the congestion and the flexion. We see the aggravation of the flexion immediately followed by increase of pain, by increase of swelling of the uterus, by fulness and increase of size of the one or both extremities of the uterus ; and we see how rapidly the swelling, the pain, and the irritation generally subside when such assistance is given, by position of the body or by internal treatment, as tends to lessen the flexion.

There are many varieties of congestion ; or rather, it should be said, the condition of the uterus varies much in different cases, and congestion, added, assumes naturally different complexions. Thus the uterus attacked by congestion may be normal in texture ; it may be very soft, owing, as already pointed out, in the first lecture, to malnutrition or like causes ; or it may be extremely hard, owing to long-standing disease ; it may be very large, owing to subinvolution following labour, or owing to long-standing disease ; and the physical condition of the organ, on examination, is therefore not alike in all cases.

It appears to me to be of the greatest importance to distinguish congestion from that condition which I have described as *softness* of the uterus. Formerly I was in the habit of confounding them : but it seems quite certain that there is such a condition as abnormal softness which may be entirely unaccompanied by congestion. It is undoubtedly the fact also that *when* the uterus is unduly soft, it is very liable indeed to become congested. But the congestion is added on, and produces distinct effects of its own. Pain is thereby produced, and the uterus, losing its softness, becomes harder and firmer than before.

The relation of congestion to enlargement of the uterus—*increase in size*—is of great importance. Chronic congestion of the uterus has the effect of producing, in the end, a permanent increase in its size. This I propose to term *congestive hypertrophy*. Thomas, of New York, designates this condition of the uterus *areolar hyperplasia*.

In chronic cases of flexion of the uterus it is frequently observed, especially in women who have had children, that the os uteri is very much hypertrophied, the lips of the os presenting two large tumefied bodies. These are instances of long persistence of chronic congestion, giving rise to local hypertrophies. Although the fundus cannot be seen, it can be felt, and it is found larger and weightier than normal.

Congestive hypertrophy of the uterus not arising from flexion is occasionally met with, but its most common cause is, as I believe, a chronic flexion, which has been the means of keeping up a more or less persistent congestion of the uterus.

The attention of uterine pathologists has been much occupied with the changes observed at the os and cervix uteri. These changes are certainly important ; but they appear for the most part to arise in the manner just pointed out. We find the os swollen, turgid, vascular ; we see the secretion of the glands of the cervix largely increased in quantity ; we see abrasion of the epithelium covering the os ; we observe the lining of the cervix to have its colour deepened and to be thicker than normal.

These various appearances are as a rule connected with the disorder of the circulation produced by the changed shape of the uterus. The mechanical origin of this congestion is frequently shown to us by the alteration in the form of the lips of the cervix. Thus, in cases of ante flexion, the anterior lip is often much more swollen than the posterior; whereas, in retro flexion, it is often the posterior lip which is the more swollen of the two. These local hypertrophies in time come to present themselves as substantial ailments, and remain even after the original cause of the hypertrophy, viz., the flexion, has undergone material change for the better.

Congestion of the uterus is a very prominent feature in the cases which appeal to us for relief. And it is not surprising that much attention should have been bestowed upon it. It is, however, the fact that other elements in the consideration have been, as I have endeavoured to show, comparatively overlooked. In speaking of the cause of the painful sensations on motion it was remarked that the worst cases were those in which great congestion was associated with marked flexion. The congestion itself, undoubtedly, adds materially to the pain which the flexion causes. This it does partly by giving rise to a general distension and stretching of the uterine tissues, but mostly, as I believe, by its intensifying the pressure already brought to bear on the uterine tissues at the seat of the flexion.

Concerning *inflammation of the uterus* and its relation to congestion, a word or two may be added. Pathologists have almost agreed to give up the use of the word as applied to the ordinary changes observed in the uterus. What has been called 'chronic inflammation' is more accurately described by the epithet 'congestion.' Acute inflammation of the uterus is one of the rarest of events, and appears to be almost solely observed as the result of actual septicæmic irritation of the organ, the result of wounds, the introduction of tents, certain surgical operations, and the like.

Other Changes in the Uterus resulting from Uterine Distortions.

The changes observed in the walls of the uterus as the result of the various kinds of flexions, are of great interest. Thus, as regards their thickness, the tendency is to produce thickening of the walls of the body of the uterus and also of the lower part of the cervix; but, as regards the middle of the uterus, the tendency is to a thinning of the walls, and in the end to the production of a persistent atrophy of the uterine wall at this situation. It is quite true that occasionally actual thickening occurs at this central spot. Dr. Meadows recently called attention to this as an occasional event. And I have myself noticed in some cases of anteflexion that the anterior wall at the seat of the bend is actually bulged forwards so as to present a kind of ridge. But, as a rule and as a pretty constant effect of chronic flexion, I believe atrophy of the uterus around and near the internal os is produced by the distortion. I have, indeed, found the anterior wall as thin as a piece of brown paper. This atrophy is certainly a very distinctive feature, and one easily appreciable in severe long-standing cases of flexion by the conjoined use of the sound and the finger. And it has a peculiar interest in that the existence of this atrophy is the great difficulty in the way of the perfect cure of flexions of the uterus which have lasted for some years. Thus hypertrophy of the two extremities and atrophy at the centre of the uterus present a combination, not unfrequently rendering absolute cure almost impossible.

Then, again, we have various conditions of texture in these different cases. The acutely anteflexed uterus may be soft and pliable, or after the lapse of years it may have become hard and firm: the degree of the flexion being the same the other conditions are widely different. Again, we find in one case a great liability to congestion, and consequent increase of pain; in another the uterus has lost its susceptibility to congestion. It is hard and firm, acutely flexed, perhaps, but is no longer so

much a source of trouble as formerly. In fact, the variations in cases are infinite, and we find endless combinations of physical changes.

Changes in the Patency of the Uterine Canals.—The effect of acute flexion in producing dysmenorrhœa has already been alluded to. The compression in long-standing cases is found to have had so much effect that a very small probe only can be passed into the uterus; and the hardening of the tissues around this narrowed tube renders its dilatation correspondingly difficult. The Fallopian tubes do now and then become occluded; but whether such occlusion is ever the result of flexion or distortion of the uterus is not known.

Obstruction to the escape of the menstrual discharge from the uterus has in some cases results which are possibly more frequent than is generally supposed. I mean the regurgitation of the menstrual products along the Fallopian tubes into the peritoneal cavity, there setting up irritation and inflammation.

Disorders of Innervation.

These disorders have been already incidentally discussed, and this ground need not, therefore, be gone over again. The disorders of innervation of the uterus appear mainly to be connected with compression of the uterine tissues at some one point. This compression may be due to dilatation of the canal or cavity, to condensation of the tissues in cases of flexion, or to compression by tumours in the walls of the uterus or elsewhere.

There occur as results:—1. Altered sensation, i.e. pain. 2. Tenderness to touch. 3. Reflex phenomena.

Peri-uterine Inflammation.

Nothing has as yet been said of those affections of the periphery and surroundings of the uterus known as perimetritis and parametritis, to use the nosology of Dr. Matthews Duncan. I cannot attempt in these lectures

to do justice to this subject. Undoubtedly there are not a few cases coming before us in which phenomena beyond those described up to the present moment occur, e.g. swelling and tumefaction in the cellular tissues immediately around the uterus; with further effects, actual inflammation of the peritoneal covering of the uterus or parts adjacent. But as a rule, these disorders do not implicate to any considerable extent the texture of the uterus itself. It is the uterus itself and the changes impressed upon it by mechanical forces and disturbances which I have dealt with, and limitation of space has confined me to it.

But I wish to say a few words on the relation of these peri- or para-uterine disorders to the mechanical changes which have occupied our attention. I have spoken of the disturbance to the circulation in the uterus produced by displacement and distortion. In certain cases I have observed facts which appear to show that these mechanical changes may so embarrass the circulation around the uterus as to give rise to tumefaction and to a kind of œdema liable to be mistaken for pelvic cellulitis. This œdema has been located in certain spots near the uterus, and has been produced in the cases I have observed by exertion of various kinds. These tumefactions are not usually tender, and their disappearance after a few days' rest, together with the absence of inflammatory symptoms, seems to me to imply that they were only œdematous effusions due to pressure.

It occurs to me to suggest that many of the more ordinary inflammatory peri-uterine affections may be traceable to the absorption of retained secretions from the uterine cavity which have become partly putrescent. Abrasions of the cervix or os seem undoubtedly to be due to an exco-riating and irritating discharge present in the vagina, and escaping from time to time from the uterus. And mechanical diseases of the uterus may not unreasonably be charged with causing some of these evils.

Principles of Treatment.

It will naturally be expected that something should now be said in conclusion respecting the principles of the treatment of mechanical diseases of the uterus. Certain important generalisations naturally follow from the foregoing considerations. The medicine of the future is 'preventive' medicine. From this point of view certain of the ideas which have been submitted for your consideration have much interest. If it be the fact that the mechanical diseases of the uterus are the most important of its diseases, and if further it be the fact that these mechanical diseases almost never occur unless in cases where the general nutrition of the body is at a low ebb, and the uterus has become greatly weakened and its physical resistance impaired—if, I say, these two ideas are correct, it follows that the greatest care is necessary on the part of those having the responsibility of the training of young women, to nourish and sustain the strength of the body at large in order to secure immunity from uterine suffering.

It will further follow that care should be shown in the regulation of exercises and exertions of various kinds, and that they be kept within the limits of moderation. It will also not be lost sight of that when complaints are made of pains and inconveniences following exertion, they are not necessarily to be treated as fanciful and imaginary. Regard will properly also be paid to the possible weakening effects of exhausting diseases, as fevers, upon the uterus. The insidious effects of prolonged uterine nausea in producing a kind of semi-starvation must be duly recognised.

As regards the cure of these mechanical diseases, the principles of treatment may be succinctly stated.

In the first place it must be recollected that all cases are not alike; some require little treatment, others are cured with great difficulty.

Duration is an element of importance. When the disorder is recognised early, its cure is comparatively easy. When, however, the uterus has been decidedly distorted for some years, complete cure may not be possible.

The consistence of the uterus is a matter much affecting treatment. If the uterus be still softer than normal it is a hopeful feature in the case, for though it may take some months' general treatment to restore its tonicity and firmness, the cure of the flexion is more easy; whereas, when the uterus is very firm, the distortion is so frequently accompanied by considerable atrophy at the seat of the bend, that perfect restoration is difficult.

These general considerations apply in all cases, and a want of attention to them will involve disappointment in many instances.

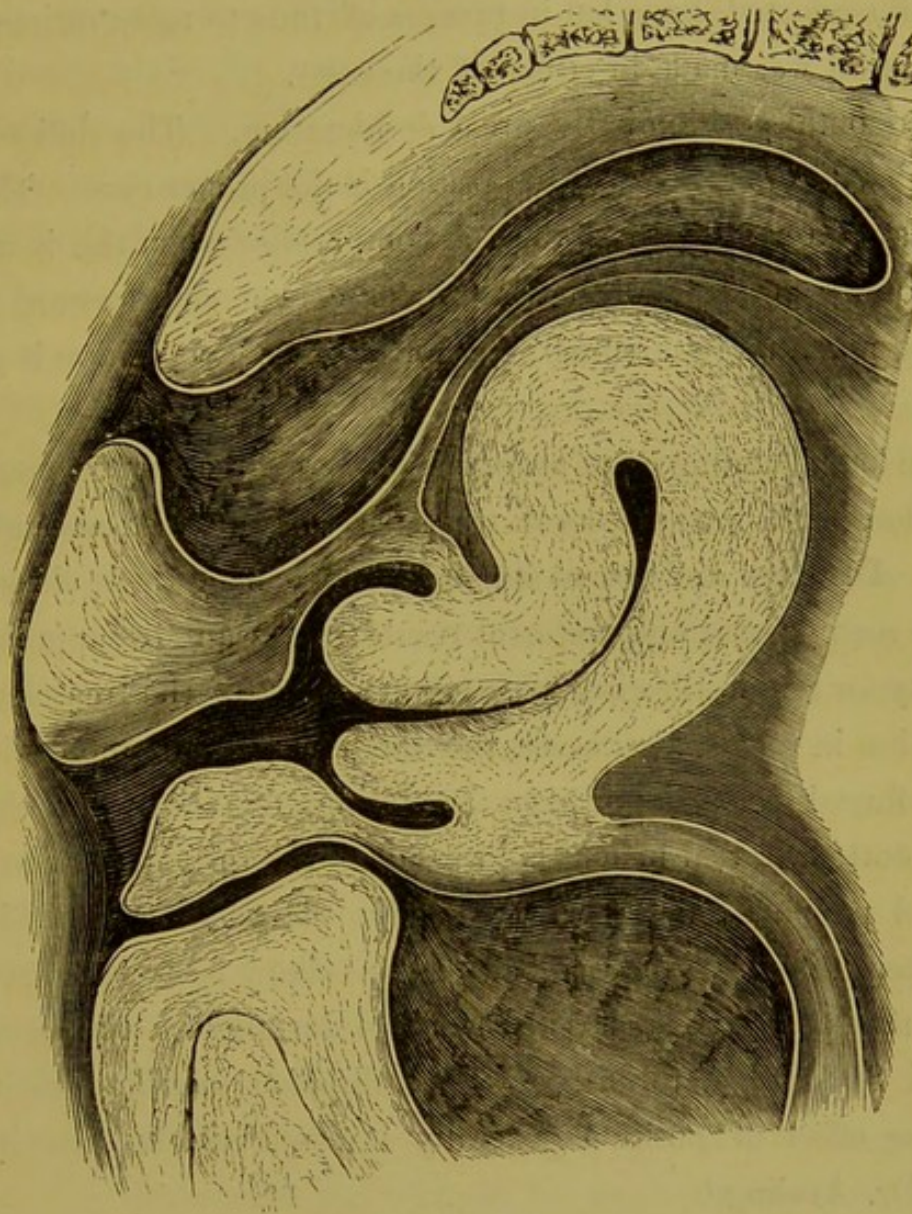
The actual treatment required is, of course, to restore the uterus to its proper shape and position, while the restoration of the health of the body at large is at the same time the object of careful attention.

There are various means of restoring the uterus to its proper shape. 1. By placing the patient in such a position that the force of gravity aids in restoring the organ. 2. By the use of certain internal mechanical appliances.

1. *Positional treatment.*—This is of the utmost consequence in all cases, difficult or not difficult. In slight cases it is alone sufficient. This is most important. Bearing in mind the circumstance that the subjects of these cases are not unfrequently young unmarried women in whom local explorations and the application of internal local treatment are, if possible, to be avoided, it is very satisfactory to know that a rational treatment of slight uterine displacement and commencing uterine distortion can be carried on without recourse to these procedures in certainly the large majority of such cases. It is, of course, different when the malady is of long duration, and the uterus has been, perhaps for some years, in a very diseased state.

One or two instances may be given in illustration of these remarks. A young lady, much addicted to dancing, had not menstruated for nearly a year. No examination was made, but a diagnosis of probable commencing ante flexion was arrived at. The patient was ordered to maintain the horizontal dorsal position absolutely for two months. At the end of one

month, menstruation reappeared, and the case subsequently ended quite satisfactorily. Some years ago, I was consulted in the case of a young lady who had been allowed to over-exert herself in many ways, who had

FIG. 31.¹

been very much under-fed, and in whom menstruation had ceased for a long period. The horizontal position, and great care in the matter of dietary produced a complete restoration to health. Since that time other members

¹ Fig. 31 represents the second stage of retroflexion, but the patient is supposed to be in the prone position. It is readily understood that the force of the action of gravity will be thus made operative in the reduction of the displacement.

of the same family have exhibited like tendencies, and the same symptoms have been combated with the same simple remedies with perfect success, though, from what I know of the history of similar cases, it was evident to me that there was decided mechanical disturbance of the uterus present, such as would, if neglected, have led in process of time to more serious results. No examination was made in either of the cases.

The horizontal position is the great desideratum. The difficulty is to know whether the dorsal or prone position is the proper one. The lateral position may often be accepted as a compromise when this is uncertain. The symptoms generally indicate the proper course, and, forward displacements being much more common, the dorsal or lateral position is generally necessary.

In some long-standing cases also position is of great importance. Even in association with internal local treatment it is in most cases absolutely necessary. Pessaries are not alone capable of curing these chronic cases, and I have seen great disappointment result from want of appreciation of the necessity for rest and horizontal position as part of the treatment. The prone position in retroflexion cases, the dorsal position in ante flexion, must often be enforced for weeks or even for months together, when the uterus is much distorted, if real benefit is to result. The prone position is both tedious and painful, unless the patient be placed on a slight incline of pillows, when it is readily borne. The knee-elbow position is useful as an occasional measure, particularly in backward deviations. Dr. Campbell, of the United States, has recently forcibly directed attention to its value. And on the effect of position generally I would refer to some important papers by Dr. Aveling.¹

By these positional remedies the force of gravity is brought to bear on the fundus uteri, and a reversal of the vicious direction of the fundus is assisted.

2. *Mechanical Internal Treatment.*—Various mechanical apparatus may

¹ *Obstetrical Journal.*

be employed. When the uterus is still moderately soft, vaginal pessaries applying pressure in the upward direction against the fundus are of great service, especially assisted by the horizontal position. For posterior flexions modifications of the Hodge pessary, for anterior flexions modifications of the 'Cradle' pessary are, I believe, the best. These instruments are capable of doing much while the uterus is moderately soft. But when the organ has become hard and the flexion is chronic they are insufficient. The uterus must be unbent and straightened by the sound, or by the use of tents. Repeated gentle bending of the uterus the opposite way is an efficacious method of treatment. The combined use of the sound and a vaginal pessary will effect much in process of time, even in very severe cases. The uterus is a very plastic organ, as is proved by what has been frequently observed in the complete cure of cases of inverted uterus of many years' duration.

On the subject of pessaries space will not permit me to say much. A well-fitted pessary is a great aid in treatment; but there is no middle course. It must be well fitted and really adapted to the peculiarities of the case, or it will be worse than useless. Much has been said as to the multitude of pessaries, but when this remark is made it may be answered that the variation in cases is great, and it is a grievous mistake to suppose that one pessary will suit all cases.

Uterine stems are of great service in certain cases, and many improvements have of late been made in their adaptability by Dr. Meadows, Dr. Bantock, Dr. Chambers, and others.

Various operations for the cure of distortion are occasionally properly practised. The incision of the internal os uteri for the relief of dysmenorrhœa does not, except in a few exceptional instances, appear to be a satisfactory procedure, though it has been much practised. The real difficulty in most of such cases is the flexion. But as an aid to the cure of certain severe distortions this mode of treatment may occasionally be called for.

The treatment of the congestion accompanying flexion of the uterus demands a few words. Leeches have been much recommended, scarifications of the os have also been employed. But I rarely find these measures necessary. The congestion is at once relieved by straightening the uterus, which may be done by position, by the use of the sound, or by a pessary, according to the degree of severity of the case.

The *general* treatment of the patient in cases of uterine disease is of the utmost consequence. One of the principal merits of the system of uterine pathology now enunciated is, in my opinion, the explanation offered of the process by which health passes into disease, and why it is that the sound uterus becomes predisposed to injury from accident, or more slowly by the debilitating influences of semi-starvation, and circumstances lowering the general health. A generous diet is almost always necessary. Food often cannot be taken unless the patient be instructed how to take it. Frequent (every two or three hours) small meals of easily digested food, such as soup, essence of beef, eggs, &c., should be given; animal food in some form is the food particularly required. Various tonics are of service—iron, quinine, nitro-muriatic acid, &c. In some cases moderate quantities of wine are certainly necessary. Fresh air is essential, but long walks are quite inadmissible; also long carriage rides unless in a semi-horizontal position. Baths, frictions of the skin, hip-baths containing sea salt or Kreuznach salt, &c., have their own place, as aids in the treatment. The greatest patience is required to restore the general health in long-standing cases. The effects of four or five years of semi-starvation cannot be got over in a few weeks.

I have now, Gentlemen, as far as space permitted, laid before you the more important of the arguments and the main facts which support the mechanical system of uterine pathology. On many interesting points I have been silent. In regard to the proofs of the various statements made I regret that I have found it impossible, in these lectures, to even attempt any arrangement of the very numerous facts and cases which are adducible

in their support. I have been obliged to speak dogmatically in many cases where I should have preferred to give facts instead of mere arguments. The conclusions which I have expressed may appear to you sound, or they may not. My appeal is confidently made to unbiassed intelligent observation for confirmation of the accuracy of the facts on which these conclusions are based. How far I have succeeded in my endeavours to deduce from clinical facts a rational and intelligible system of uterine pathology, it must be for you to determine. In conclusion, permit me to thank you for the patience and attention with which you have listened to my observations on the subject.













