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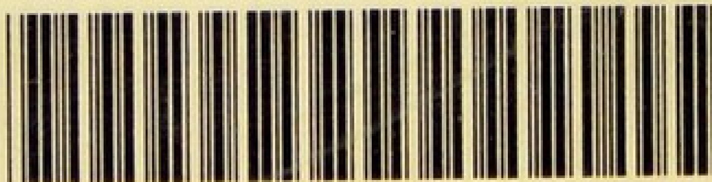
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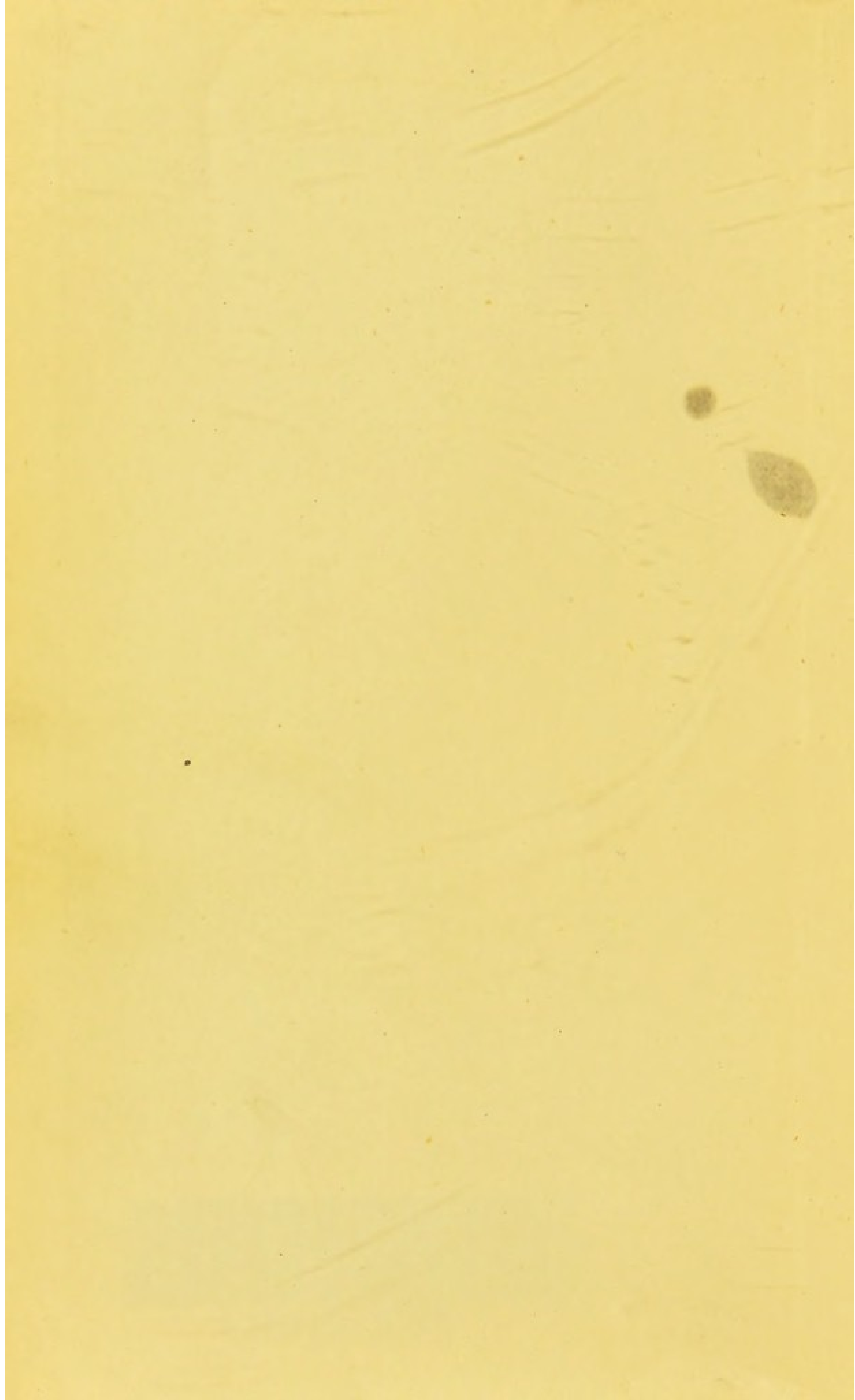

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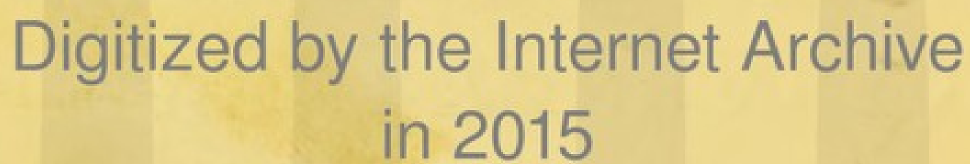
DYSMENORRHEA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DYSMENORRHEA

ITS PATHOLOGY AND TREATMENT

BY

HEYWOOD SMITH, M.A. M.D. OXON.

PHYSICIAN TO THE HOSPITAL FOR WOMEN AND TO THE
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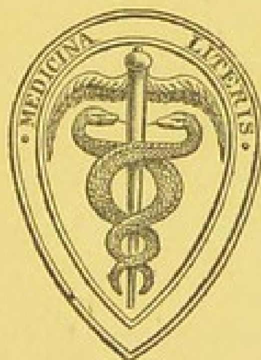
AUTHOR OF "PRACTICAL GYNÆCOLOGY"



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TO

ALEXANDER PATRICK STEWART, M.D., Etc.

My dear Dr. Stewart,

I have great pleasure in dedicating this book to you, and thereby publicly expressing my gratitude for your kind friendship extending over many years. I am also glad to be allowed to associate some of my work with your name, which is justly held in affectionate esteem by the whole of our profession.

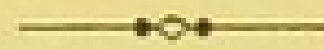
I remain,

My dear Dr. Stewart,

Yours most sincerely,

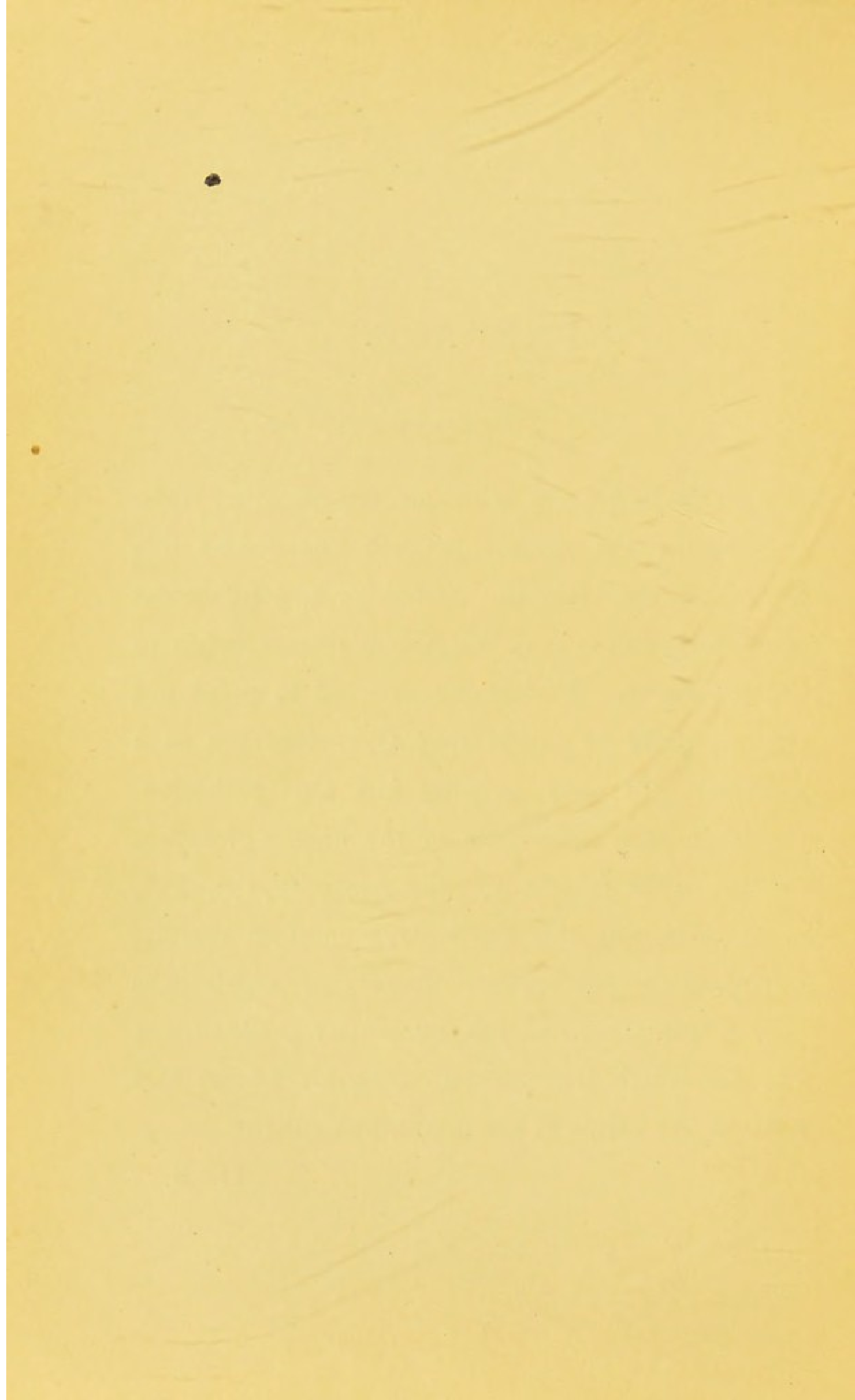
Heywood Smith.

PREFACE.



WRITTEN originally with an object other than publication, the author nevertheless deems this attempt to elucidate the pathology and treatment of Dysmenorrhea may not prove unacceptable to the profession. He has endeavoured to point out the propriety of considering Dysmenorrhea as a symptom not only existing but also pathognomonic in many disorders of the organs of reproduction in the female, and the necessity, therefore, of treating not this particular symptom merely, but specially the various diseases of which it is only a symptom, though often that predominant one for which the patient seeks for advice and relief at the hands of her medical attendant.

H. S.



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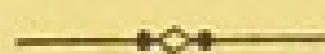
DYSMENORRHEA.



INTRODUCTION.

Of all the miseries that fall to the lot of mankind, perhaps there is none which, in its severest form, entails so much suffering, both of mind and body, as that frequent symptom, variously manifested, the outcome of various diseases, which we term Dysmenorrhea.

The weaker sex is alone attacked by the malady, and it has no analogue in the male. The period of attack is during the time of highest vital energy, and therefore of highest nervous sensibility and highest appreciation of pain. Its persistent recurrence, unlike the single onset, it may be, of other diseases, aggravates its intolerability; for no sooner does the sufferer gain an interval of comparative ease, than she looks forward with dread apprehension to the approach-

ing period of unrest; she suffers premonitory pain which may be diminished at the occurrence of the flow, but which also may more often be intensified; and even during the catamenial subsidence the patient is not left by the enemy without, perhaps, a prolongation of torture, or a final rending and tearing before a departure, which has nothing of finality about it, but is only a short leave-taking before the most unwelcome visitor returns, by no means lessening the poignancy of his wounds in compensation for the frequency of his attacks.

Such is one of the multitudinous heads of that monster which we spend our lives in combating, and the object of the present essay is, both by investigating the enemy's method of warfare, and well looking to our own armoury, to do some slight service in helping each other to stand shoulder to shoulder in that fight from which we cease not until we pass to "where the weary are at rest."

DEFINITION.

The subject of the present essay is "Dysmenorrhea, its Pathology and Treatment," and at the outset it is well that we distinctly understand

that dysmenorrhea is a symptom and not a disease *i.e.*, the word does not bring to our mind, as, *e.g.*, metritis would, a definite, pathological condition that would hold good, with certain individual variations it might be, in numerous instances; but it merely expresses a certain symptom, and that not at all constant in character, duration, or severity, the result of different pathological conditions, themselves associated with various and wholly independent diseases.

Dysmenorrhea, from *δυς, μήν, ῥέος*, signifies hard, difficult menstruation, and then, inasmuch as nearly all difficulty in the human economy is productive of pain, it comes to mean more generally painful menstruation in all its varied forms and degrees.

I will here just remark that I have purposely written dysmenorrh*e*a, as *ῥέος* (rrhea) is better Greek than the problematical *ῥοία* (rrhœa); whereas in, *e.g.*, dyspnœa, the diphthong should be retained, as its derivation is *δύσπνοια*.

For the better consideration of this all-important subject, it will be well for us to dispossess ourselves of the idea which has obtained for so long, and has been fostered by the erroneous arrangement of most of the text-books on diseases of women, of treating of dysmenorrhea as if it was an uniform

pathological condition, or even a phase of mischief arising in various forms; and to pursue our inquiries scientifically and *seriatim* into the different maladies of the various anatomical regions of the organs of reproduction in the female, that present dysmenorrhea as one, if not the most prominent, symptom.

It will not, therefore, be necessary here to enter into any particulars of the differentiating points of dysmenorrhea as to its position in the history of each catamenial period, nor into its varying duration, intensity, and results, as these differences will be fully entered into in the consideration of those diseases wherein painful menstruation asserts itself as the symptom for the relief of which advice is most frequently sought.

As the systematic consideration of dysmenorrhea will lead us into the study of a wide range of the diseases of women, it would necessarily follow that a strict limit must be placed on the scope of this essay, or otherwise it would grow into the magnitude of a large volume; it will, therefore, be imperatively necessary to restrict our investigation to the pathology of this one symptom, disregarding all others, save such as present themselves as indissolubly associated with the symptom in question.

Though this plan may lead to a somewhat fragmentary dissertation, it will at all events fulfil the desire of keeping well within the bounds of the subject.

OVARIAN DYSMENORRHEA.

CONGESTION.

IN organs subject to periodic or even irregular functional increase of blood supply, such increased flow takes place in such organs in the healthy condition without pain or inconvenience to the subject, as, *e.g.*, in the stomach during digestion, or the ovary in menstruation.

The organs are so constructed, whether in their substance or stroma, or in the arrangements of their vessels, as to allow for the requisite distension without unduly pressing upon neighbouring parts, or causing disturbance of their nerve supply. But where, from any cause, whether from within or without, the blood supply is either in excess of that for which provision has been made, or the onward flow becomes impeded, so as to throw at one time a greater burden on the organ than it is constructed to bear, inconvenience and (if such

condition persists) pain are the results. Such a condition may happen in one or both ovaries, accompanied by a feeling of fulness and weight in one or both inguinal regions, and a fulness of the mammæ, beyond the slight sensation of sympathetic accord that obtains in many women during the catamenial nisus.

For the proper elucidation of the pathology of dysmenorrhea in the conditions of ovarian hyperæmia, certain causes must not be overlooked as indicating the *fons et origo mali*, and so helping towards a correct diagnosis, and thence the proper treatment to be pursued in each case. And though, for what I am about to say I may run the risk of severe criticism, yet no true gynæcologist can undertake the due consideration of the female organs of reproduction and their diseases, and shut his eyes to the fact that the sexual sensations and functions constitute that for which they, and indeed the whole woman, are formed, without incurring the blame of having overlooked the most important factor in the entire range of causation of such diseases. The sexual orgasm is brought about by, or is associated with, an intermittent hyperæmia of the reproductive organs, which organs in health are capable of bearing the strain

without detriment or inconvenience. Where the appetite is satisfied, the subsequent nervous exhaustion provides against the immediate recurrence of the hyperæmia, and gives the various parts time to recover their tone; and where even circumstances compel its repression, mental effort with a well-disciplined will may suffice to allay the temporary vascular disturbance. But where morbid craving is indulged without any hope of the appetite being appeased, by the will and act, or even against the will, of a woman; where love has been called forth towards an object, and that love, producing, as it must at times, sexual feelings, has received a sudden check by disappointment or otherwise; where even sexual passion being aroused, it is prematurely cut short by the incompetence of a consort; or where, as age advances, a woman finds herself without the prospect of an alliance for which she was formed, and without any other means of occupation for the superfluous nervous energy of her nature—then I unhesitatingly say that she bears about in her conditions which greatly predispose to disease of the organs, whether abused or starved, that sooner or later develop into a state inseparable from misery, despair, and pain.

Inflammation of the Ovary.—Acute.

Where acute inflammation invades an organ such as the ovary, consisting, as it does, of a more or less dense stroma, bounded by a membrane of some considerable firmness, it follows that the distension, the outcome of the vascular engorgement, associated, it may be, with actual increase of the area of vascular supply, is productive of severe pain.

True dysmenorrhea may not, however, necessarily be associated with this condition, for it not unfrequently happens that ovaritis is the result of cold, or fatigue, or violence, happening at the outset of a catamenial period, and the disease arresting the natural function, dysmenorrhea cannot be said to exist. So, too, should the exciting cause happen during the intermenstrual period, the ovaritis may have reached such a stage as to arrest the catamenia. Should, however, the inflammation be partial, or of the investing membrane only, the hyper-vascularity would produce severe dysmenorrheal pain, acute, throbbing, and intolerable.

It follows from the above considerations, that dysmenorrhea in acute ovaritis is rare.

The treatment in such a case must be directed to subduing the inflammation, locally by absolute rest in the recumbent position, leeches freely applied over the affected inguinal region, as well as perhaps to the cervix uteri, followed by continuous poulticing to the hypogastrium. Internally, the exhibition of small doses of calomel (gr.ij.) with full doses of opium (gr.j.) every four or six hours.

Chronic Ovaritis.

When inflammation of the ovary passes into the chronic stage, it is then that we have presented to us dysmenorrhea as a prominent and most distressing symptom.

By the constantly recurring hyperæmia the ovary becomes enlarged, first of all by an increase not only of the calibre of its vessels, but also by an increased vascularity as exhibited by the multiplication of vascular channels. These primarily press upon, and then encroach upon, the stroma; leading to true hypertrophy of tissue; and in some cases the increased blood supply leads to increased, though morbid, growth of the Graafian follicles.

This condition produces an enlarged, painful,

and tender ovary: pain is felt when pressure is made over the inguinal region, while examination, *per vaginam* or *per rectum*, reveals the organ, which in the natural state is scarcely discernible, as swollen, and by its increased weight generally displaced, either deeper into its lateral cul-de-sac, or into the retro-uterine pouch ; the least pressure calling forth the expression of pain, such pain being not merely limited to the organ pressed upon, but sending a dart of pain into the mamma on the corresponding side.

A patient the subject of chronic ovaritis, is scarcely at any time free from pain, except sometimes when she is at rest in the middle few days between two catamenial periods, or more frequently in the few days following the end of the week subsequent to a period. For the process of denidation being completed, the organism sets to work to prepare for the next nisus, and the accompanying hyperæmia sets up in the diseased organ the precatamenial pain of dysmenorrhea; this increases until the period is at its onset, when maybe it is temporarily relieved by the flow of blood, only to return at the stage of subsidence; this latter pain doubtless being due to the gradual shrinking to a certain extent of the organ, its very

alteration of size disturbing to a painful degree its nervous sensibility, and in a similar manner (though to a less extent) to the pain produced at the commencement of the process by its gradual distension.

Whereas, too, in normal menstruation mammary sympathy is by no means an unfrequent concomitant, in chronic ovaritis it becomes more intense. Normal menstruation produces a sensation of fulness and tingling of the mammary glands not unlike, in a minor degree, that felt during the flow of milk; and in many cases the glands themselves swell and are felt to be somewhat hard and knotty. But to the dysmenorrhea of chronic ovaritis mammary pain adds an important factor; for then the breasts become swollen, hard, and painful, the pain being of a sickening character with occasional stabs of acuter suffering.

The treatment of dysmenorrhea arising from chronic ovaritis, and so of its cause, is tedious, difficult, and often very unsatisfactory and disappointing. The disease often extends over a long period of time; tending, unless taken in hand early, to increase in severity, or to pass into other conditions hereinafter to be considered, but which are none the less productive of dysmenorrhea.

The sufferer dreads the approach of the period of pain, extending, it may be, over two or three weeks, and she is thereby often obliged to withdraw herself from society, and to seek by enforced rest some mitigation of the pain.

Temporary measures applied during the seasons of pain are of but little avail: on the patient resuming her ordinary avocations the predisposing causes are again presented; exertion, and in fact any motion, tending to increase the hyperæmia which is so important a factor in the production of the pain.

The patient should be told that a cure will involve much patience, both on her part and on that of her medical attendant, and preparations should be made for a considerable period of rest and treatment; for it cannot be too much insisted upon that a too early return to the ordinary occupations of life may undo the work of weeks, or even months, of judicious treatment.

For the immediate treatment of the oncoming pain, the bowels should be freely opened, lest the distension of the rectum should by pressure aggravate the suffering; the patient should have one or more hot sitz-baths, at a temperature of 105° to 110°, and generally maintain a supine posture.

Internally, gr.j. doses of the extract of Indian hemp, or ♏x. to ♏xv. of tincture of gelseminum, may be administered from time to time, or pessaries of atropia gr. $\frac{1}{20}$ to $\frac{1}{16}$, or of conia ♏ij. The actual flow usually in these cases brings some relief, but after its cessation the recurrent pain may perhaps be best combated with belladonna in some form, or full doses of the bromide of potassium.

The main duty, however, of the physician is to direct his attention to the cure of the disease which is producing the dysmenorrhea; and for this he must enjoin absolute rest. If the ovaries are lying low, gravitating by their weight, it is a good plan to have the couch elevated at the feet about six or eight inches ;* this is better than any arrangement with pillows, as the gentle declination tends to lessen the dragging sensation.

For the general treatment, much has been tried

* This method for relief in many diseases of the pelvic organs I brought to the notice of the profession in an article in *The Medical Examiner* for Nov. 22, 1877, on "The *Tilted Bed* for the relief of Pelvic Pain." It is of great value in the treatment of many cases, such as prolapse of the ovaries, fibroids of the uterus, retroflexion of the gravid uterus, etc. And its method of relief is probably that the inclined plane backwards takes off the weight of the superincumbent intestines, and lessens the pressure of the viscera on the pelvic nerves.

with various means and remedies, and each case must be considered and treated on its own requirements. In most cases the application of two or three leeches to the cervix uteri or to the inguinal region is productive of much benefit: the application of a series of small blisters (½ inch to 1 inch in diameter) over the affected ovary, the exhibition of mercury in small and long-continued doses, until the gums are just touched, and afterwards iodide of potassium with or without the bromide.

SEQUELÆ OF CHRONIC OVARITIS

(*a*) Following closely and dependent upon chronic ovaritis, comes a condition that greatly aggravates the dysmenorrhea arising from that disease. It is where *adhesions* take place from peri-ovarian inflammation, whether of the adjacent peritoneum, the broad ligament, or the subperitoneal connective tissue. Where the ovary becomes involved in inflammatory products in either of these tissues its mobility is greatly interfered with, if not altogether destroyed; the recurrent hyperæmia produces pain not only by the natural distension of the diseased ovary itself, but also by

its encroaching upon the tissue which is the subject of contiguous inflammation. This pain is more severe, tense, and local at first, and as the period progresses it extends upwards into the lumbar regions, through to the hips, and down the thighs. It is very persistent and very intractable, and a cure is only to be looked for after prolonged and careful treatment, which must be directed to the absorption (?) of the products of the inflammation. For this anodynes are of temporary use for the relief of the pain, but attention must chiefly be given to the general health by gentle laxatives, good diet, and change of air, especially to the sea-side. Internally, mercury in small and prolonged doses, followed by iodide of potassium in full doses, may be tried, and found to give relief.

In cases of peri-ovarian inflammation involving the ovary itself, it is of the utmost importance that the patient during and before the menstrual epoch, be kept in the most favourable condition for avoiding cold, or fatigue, or strain ; for the condition under consideration may with very little provocation be aggravated into so-called ovarian abscess, *i.e.*, either abscess of the ovary itself, or, so involving it, as to lead to its greater or less destruction. Should such a contingency arise, the life of the

patient is thereby in great danger; for although the conservative progress of such cases may end in rupture of the abscess *per rectum* or *per vaginam*, yet interference in the wrong direction, or some cause over which we have no control, may lead to rupture into the peritoneal cavity, which would inevitably prove fatal, unless such an accident should at once be diagnosed, and a bold practitioner be found who would not hesitate to open the abdomen and by the evacuation of the abscess, or the removal if possible of the adherent mass, give the patient a last chance, though a feeble one, of recovery.

(β) When congestive ovarian dysmenorrhea has existed for some time, or in that arising from chronic ovaritis, the ovary undergoes a change within it which may occasionally be recognized on examination, and is often the precursor of a condition to be noticed below; such change being an increased vascularity; not merely from increase of the calibre of the vessels, but an actual increase of the vascular supply as shown by the very large number of vessels to be seen when such an ovary is cut across.* When this condition exists, the

* Case of Oöphorectomy. *British Medical Journal*, July 12, 1879. Plate, Fig. 5.

symptoms of congestive ovarian dysmenorrhea are exaggerated, the sensation of fulness and weight is increased from the increase in size of the ovary itself, while the dysmenorrheal pain does not subside as the period progresses, for the flow is not in these cases necessarily increased, and the ovary does not readily return, if indeed it return at all, to its normal size. On examination *per vaginam*, and by the conjoined examination, the ovary is felt decidedly swollen and tender, the swelling not presenting to the finger the sensation of firmness as from hypertrophy of stroma or cyst formation; although these may both be going on, not only by small cysts being formed in the stroma, but superficial cysts, generally of small size, and filled more or less with blood from rupture of some of the vessels, may form at the surface of the ovary. The ovary then feels full, somewhat soft, and not unlike a varicocele. In nearly every case of ovarian dysmenorrhea, there is present more or less a cause of aggravation, varying in different persons in kind and degree, which may be designated in one word—worry. By this I mean not that mental shock or strain that may have been associated with the first onset of the malady, but those constantly recurring incidents of disturbance,

whether arising from domestic circumstances, or associated with the daily employment, or some deeply lying trouble or grief that refuses all at once to be put away, that is ever present or frequently recurring, and which keeps up, in a way that nothing else seems to do, the ovarian pain.

Cases such as these are ever presenting themselves to the gynæcologist, and though we may for a time relieve pain, yet the worry from which we may have temporarily excluded our patient is ever liable to reassert itself, and our work is apparently undone and our patient has a relapse. A woman may be employed in some work that involves mental strain bringing with it endless worries; or her domestic circumstances may be such that her own relations or companions are, perhaps unwittingly, the cause of roughening her path of life; but from whatever cause, recurrent worries are, I am sure, a most important factor productive of ovarian pain. The enforced rest, the absence from home or work may for a time bring peace and relief to the harassed nerves, but on the return to the usual mode of life, the usual worries soon undo the good that may have been done. It is then our duty, as medical men, to search for any such cause that we may suspect as the drag upon

the wearied mind, and remembering the important place that the ovary has in the economy of the female, we must, while pursuing the requisite course of physiological and therapeutical treatment, or even as a preliminary measure, eliminate, if possible, that which by its recurrence will ever tend to mar our work, and to render our patient—the suffering one—ever a sufferer.

And should her mode of life be inseparable from such worry, it will be our duty to point out its gravity as a factor in the maintenance of the ovarian pain, and to advise such a change of scene and occupation as will afford the best chance of escape from that predisposing element of mischief which by preying on her delicate nervous sensibility may prove a permanent bar to recovery.

Some relief may be afforded in such cases by relieving the pelvic circulation by purgatives, leeches to the inguinal region or anus, anodyne pessaries, and Indian hemp, not forgetting at the same time the above-mentioned need of rest from all those innumerable sources of trouble which we so continually find exaggerating the dysmenorrhea.

(γ) Next in order in the progress of the above condition is—to use an Irishism—a stage of retrogression. The coats of the vessels become thickened,

and the sometime hypertrophied stroma becomes denser, and that state of the ovary is finally arrived at, which is often loosely termed atrophy, but which, following the analogy of other organs, is fitly termed "cirrhosis" of the ovary. It is only by carefully watching any given case through a long period that a correct diagnosis can be arrived at under such circumstances. Where, however, we have carefully examined, and found an ovary the seat of chronic inflammation or of congestion, and have found it enlarging in the way above described, so as to indicate its being the seat of increased vascular distribution, and then, after a time, observed its decrease in size without any abatement of the dysmenorrhea, we may, other conditions being absent, presume that we have probably cirrhosis of the ovary to deal with. Such a condition may be recognized more easily in thin subjects, for the ovaries, being small, are difficult to find and fix; but when this can be done by the conjoined examination, the ovaries are found denser than in their normal state, and their surfaces are felt to be rougher than in the natural condition. When such an ovary is examined after death, its surface, instead of presenting the normal smooth appearance, is divided into vermicular ridges, not

unlike the surface of the convolutions of the cerebrum ; this is due to the shrinking of the vascular walls, and the consequent indrawing of the ovarian stroma. The dysmenorrhea in this and the former condition (β) may be thus explained : The primary increased vascularity of the organ leads to increased nervous development and sensibility, and the oncome of the catamenia in the former case disturbing and filling the vessels, encroaches on the whole ovarian tissue, involving the nerves in the undue pressure and increased vitality. Then when the condition of cirrhosis (γ) is arrived at, the vessels, retaining a certain amount of elasticity, allow a greater amount of blood to circulate than can conveniently be borne by the diseased ovary, and the pressure thus induced, acting upon the organ in its contracted condition, sets up a degree of pain in proportion to the amount of contraction of tissue, and the antagonism between the tension of the blood supply and the hyper-sensitiveness of the nerve fibres.

Treatment.—Such cases as the above present for their relief a problem very difficult of solution. If the patient is approaching the menopause, it would be advisable to try and hasten the progressive atrophy of the organs by the administration for

a considerable time of the bromide of potassium, or, perhaps, if it could be borne, the iodide with the bromide, with occasional doses of iodine, would prove most effectual.

But when the dysmenorrhea is severe and the patient fairly young, we have a state of disease that holds out the prospect of but little relief from the ordinary modes of treatment. The pain often begins to assert itself fully a week before the period ; the period itself is a season of intense suffering, often of severe mental and nervous disturbance, rendering the sufferer wholly unable to follow her usual occupation, and effectually shutting her out from society ; the period of subsidence of the molimen is also full of pain ; so that the woman has to pass at least three-fourths of her existence in a condition from which, as she herself may be forced to confess, death would be a happy release.

It is in such cases that the operation, long ago suggested, but brought into notice more recently by Battey, affords a prospect of cure, of which we should not hesitate to avail ourselves. It is true that the results have hitherto not been encouraging, and the public as well as the profession have some prejudice against the "spaying" of women ; nevertheless, if we measured the benefits of an operation

by the results of the early operations, or were deterred by unreasoning prejudice, ovariotomy would not have saved, as it has done, thousands of lives.

Oöphorectomy presents some difficulties and dangers that should be borne in mind by the operator in order that special care and treatment may be employed with the view of reducing them to a minimum.

(1) The peritoneum is usually in its normal condition, and is therefore more likely, from its activity, to take on traumatic inflammation, whereas in the case of ovarian or other tumors of large size, the pressure and friction of the tumor render the peritoneum less sensitive to further injury.

(2) The abdominal incision is preferable in nearly every case, as a larger opening can be made, and so more room be obtained for manipulation; and, moreover, should any difficulty or hæmorrhage occur, the part can be got at with greater facility; whereas, in the operation through the vagina in its posterior cul-de-sac, should there be any adhesions difficult to break down, or should the pedicle slip and hæmorrhage supervene, it is extremely difficult and hazardous to separate the adhesions, or to secure any bleeding point through so narrow and long a passage.

(3) In ovariotomy, after the cyst has been tapped, the flaccid abdominal walls permit of the wound being held widely open, and there is plenty of room for the necessary manipulations ; whereas in oöphorectomy, even under full anæsthesia the recti remain somewhat tense, rendering the introduction of the hand a matter of some difficulty.

(4) Again, even in favourable cases it is not easy to pull up the ovaries much higher than just to the lower angle of the wound, rendering the ligature of the pedicles a somewhat tedious matter.

(5) Because, too, of the contracted space it requires extreme caution in the breaking down of adhesions so as to provide against oozing of blood ; the intestines at the same time filling the pelvis, adds to the difficulty.

(6) The intestines lying, as they do, immediately below the incision, the greatest care is requisite in opening the peritoneal cavity.

I consider the cases most favourable for operation those in which there is severe dysmenorrhea undermining the health of body and mind, where the pain is due to extreme congestion of the ovaries, and more so in those cases where prolonged congestion or inflammation, as above described, has led to that form of disease termed

cirrhosis, when, as a rule, the ovaries are non-adherent.

In deciding upon the operation, the age, general health, and social position of the patient should be taken into consideration ; the last because the poor have no resources in their constantly recurring pain as the rich have, and because the malady totally incapacitates them from earning their livelihood, or doing their necessary domestic work. In all cases both ovaries should be removed.

Cyst of the Ovary.

In the early stage of cystic disease of the ovary, dysmenorrhea is not an unfrequent symptom, for the same factors exist as have been noticed in treating of ovarian inflammation and hyperæmia. If the history of cases of ovarian tumors be carefully traced, it will generally be found that they began with ovarian pain, the result of some form of ovaritis ; this state may persist for many months or even years, before the ovary develops into a true cyst or collection of cysts. But as the disease progresses it may happen that the dysmenorrhea, or, at all events, that character of the symptom

that is associated with the former condition, becomes less, owing to the diseased organ ceasing to exercise its normal function; the other ovary remaining healthy and giving rise to no catamenial pain. The further consideration of cyst of the ovary and its treatment would unnecessarily burden this work, as they are fully treated of in most text-books on diseases of women.

CANCER OF THE OVARY.

In malignant disease of the ovary, when it exists alone and has not yet involved the neighbouring organs, in its early stage, and before the ovary has become greatly disorganized, the menstrual molimen superadded to the inherent pain of the disease itself, produces an aggravation of that pain, possessing the character as to severity and sharpness, that belongs to cancer. If such a condition can be diagnosed sufficiently early, and there is reason to hope that the ovary alone is the seat of the disease, and it is yet mobile, the only justifiable method of treatment would be the removal of both ovaries.

Ovarian Neuralgia.

Neuralgia, or nerve-pain, is the convenient designation we are accustomed to give to pain in any locality or organ whose cause we are unable to certify as arising from any definite lesion or pathological condition.

Yet there are undoubtedly cases where, even after careful watching and painstaking examination, we fail to find sufficient organic mischief to account for the suffering manifested in the patient. Such cases are not unfrequently, and perhaps correctly, put down to be hysterical dysmenorrhea, for although hysteria primarily presupposes some uterine disturbance as its chief factor, yet it must be acknowledged that functional disease of the ovaries is the more frequent cause or accompaniment of this distressing malady. And it is distressing both to the physician and patient; to the latter, inasmuch as it is unsatisfactory for her to learn that her suffering can be traced to no definite or named disease; and to the former because he is baffled in his attack by the indefiniteness of the thing to be attacked. Nevertheless, when we come carefully to consider such a case, we are led, and that chiefly

by its history, to a conclusion as to its cause that may safely lead us also to the proper therapeutical line of treatment.

Ovarian neuralgia is most commonly the result of mal-nutrition of the organ, the outcome, as other neuralgias are, of mal-assimilation generally, producing a low tone of nerve force or vitality; or a nervous exhaustion of the reproductive centres from excess of sexual excitement, whether naturally, or more often unnaturally; or a perversion of the nervous energy, which, deflected from its natural safety-valve, has been thrown back on the organ from whence it took its origin.

In some subjects also it may result from undue drain upon the nerve-centres, as the brain, at such a time when the girl should have had the opportunity by proper food, rest, and exercise of developing those organs which are, as it were, the mainspring of her whole health. Such cases are seen when undue study is pressed upon young women at the time when the catamenia are as yet incompletely established.

In all these cases it is useless to attempt to lay down any hard and fast line of treatment. Each case must be carefully considered and honestly thought out, and that line of treatment pursued

which aims at rectifying, as far as possible, that vicious condition of health which is judged to be the primary cause of the malady.

(1) In cases of mal-assimilation the general health must be looked to, with the view of building up the whole economy, improving the digestion, and adding tone to the system. In many cases a faulty action of the bowels is a frequent cause of illness.

(The cause of the frequency of constipation in the female will be referred to more in detail when we come to consider the subject under the head of general diseases, p. 111.)

This, I need hardly point out, is a most frequent factor in the production of ovarian disease; for the loaded rectum presses on organs ill calculated to bear such pressure, stagnation of the vascular system in the pelvis is the result, and general mal-nutrition of the body supervenes, with all its accompanying troubles. The ovaries being thus badly nourished fail in their proper function; the uterus falls short of its healthy work in nidation, and functional or neuralgic ovarian dysmenorrhea is the result.

(2) In those cases where the organs of re-production are exhausted by frequent sexual ex-

citement, the cause is at first with difficulty discovered, owing to the natural shrinking from confession of such causes, and the treatment is proportionally difficult from the moral element imported into the case. When ovarian neuralgic dysmenorrhea arises from the above cause in married women, it may be relieved by enjoining a single life for a sufficient period for the organs to recover their healthy tone, aided by proper food and exercise in the open air, with tonics, as strychnine and iron. When, however, the exhaustion is dependent upon vicious practices, it becomes exceedingly difficult oftentimes to arrive at the truth, but considering that the health and happiness of our patient depend upon our arriving at a correct diagnosis of the cause of the suffering, it is incumbent upon us, however painful both to the patient and ourselves such an inquiry may be, at all costs to eliminate if possible this cause of deep-lying misery. The truth may often be arrived at by judicious questions as to restlessness at night, sensations of irritation in the vagina or about the vulva, profuse glairy leucorrhœa, nocturnal dreams, etc.; but often the patient's manner and expression of countenance is a sufficient indication of the probable cause of the mischief. As a symptom of

masturbation persisted in, some have drawn attention to a darkish brown pigmentation of the upper eyelid, as a similar duskiness of the lower lid may be observed in some women during menstruation. For the treatment of ovarian neuralgic dysmenorrhea dependent on masturbation, it is necessary to get the confidence of our patient, as the chief prospect of a satisfactory result depends upon the moral restraint we are enabled to bring to bear on each particular case. If our patient can be fully convinced of the depravity of such practices, and has a sufficiently firm will, she may, by a vigorous and well-sustained effort, break off the habit, and, by being induced to lead a more healthy life, ward off in time the serious sequelæ that sooner or later supervene.

I have already, under the head of congestion, indicated the line of mischief that follows too frequent hyperæmia of the ovaries.

But it often happens that the very evil itself has already preyed upon the mind, and induced a condition that places the unhappy patient in a state from which she has not the necessary power of will to extricate herself.

In these cases we must try to soothe the hypersensitive organs by the exhibition of bromide of

potassium or ammonium, with Indian hemp, by cold sitz-baths, by exercise, by cool coverings at night, and, above all things, by healthy mental employment. Failing to effect a cure by these means, we must resort to more severe measures, such as blistering the clitoris, or the inner aspect of the nymphæ, or "ringing" the clitoris with a ring of silver wire, care being taken that it does not remain in long enough for the parts to become insensitive to its presence. When, however, all these plans, or others in the same direction, fail, then there remains another procedure, justly in disrepute as a general method of cure, but nevertheless one which has proved effectual in many cases, and for the resort to which many women retain the deepest gratitude to a medical man who has thereby cut short a condition that in its misery made their lives a burden to themselves and a source of anxiety to their friends. Clitoridectomy, though from ill-judged performance avoided by most gynæcologists, affords in some cases the only prospect of cure, but that it does produce such an effect, I and others have sufficient testimony. To be effectual the nymphæ should be removed entirely, with scissors, and then the clitoris being pulled well forwards with a pair of forceps or a

hook, it should be removed down to its very base ; the resulting hæmorrhage is easily controlled by pressure on the pubes, or by the actual cautery. When the effects of the operation have passed off the patient is often at once relieved from her distressing malady, and the consequent ovarian pain and congestion subside. Patients on whom this operation has been performed are, in most cases, not devoid of proper sexual feelings, nor is it any bar to impregnation. When, however, we know that its performance has often stayed the progress of insanity, we need never shrink from the honest recommendation of that which may rescue a fellow-sufferer from a doom to which death itself would be preferable. It has been said that the operation of oöphorectomy, inasmuch as it unsexes a woman, deprives her of sexual feelings ; but that this is not the case has been proved in those patients that have been subjected to the operation.

TUBAL DYSMENORRHEA.

SALPINGITIS.

INFLAMMATION of the oviduct unassociated with endometritis, parametritis, pelvic cellulitis, or ovaritis, is rare. When it exists it may be diagnosed, though with difficulty, by the locality of the pain, which though located in the inguinal region, differs from that of ovaritis by lacking the peculiar depressing and sickening character of the latter, and possessing in addition, something of an expressing and bearing down sensation. Examination *per vaginam* may reveal the oviduct swollen, tortuous and tender, unlike any simple inflammation of any contiguous structure. Menstruation during the persistence of this condition is necessarily painful, as the oviduct consisting of tissue that is quasi-uterine, partakes of the local hyperæmia, and being thereby subjected to distension in its inflamed condition, produces an exaggeration of suffering that is to a certain extent relieved by the menstrual

flow, but does not entirely subside until the period has passed off. The treatment must be directed to the immediate relief of pain by anodyne suppositories, vaginal injections of hot water, and leeches and poultices over the inguinal region.

Stricture of the Oviduct.

Stricture of the oviduct may be (but rarely is) congenital; or it may follow inflammation, especially when the inflammation has proceeded to suppuration, and when the natural conservative action has sealed the ends of the tube to prevent the escape of morbid products.

When the uterine end is closed, the menstrual molimen may result in the regurgitation of some fluid into the cavity of the peritoneum, producing a small hæmatocele with its consequent distress. Or if both ends are sealed, the oviduct will be gradually distended by the fluid of progressive periods until it assumes the shape and size of cyst of the oviduct. Active treatment is here almost wholly inadmissible; nevertheless, should the gravity of the symptoms demand interference, it might be advisable to cut down upon and remove the dis-

tended oviduct. In cases, however, where there is partial stricture of the oviduct, dysmenorrhea will result from the periodic distension of the tube and the slow evacuation that must necessarily take place from the efforts of contraction acting on the narrowed calibre of the tube. The pain then, though mainly located in the ovarian region, will partake more of the character of expulsive uterine dysmenorrhea, though to a less extent. Catheterization of the oviduct has been suggested, and according to some authors, actually carried out ; and when the stricture exists at the uterine orifice, perhaps a fine probe might be got through the stricture, and so relief obtained ; but such treatment is of necessity difficult and somewhat hazardous. It would be better to allay the pain by sedatives and hot vaginal injections, and trust to the gradual establishment of healthy menstruation in time overcoming the resistance.

DISEASES OF THE BROAD LIGAMENT, ETC.

Pelvic Cellulitis.

In pelvic cellulitis, where morbid effusion and inflammatory deposit have bound down and matted together the organs and structures in the immediate locality, severe dysmenorrhea may be the result. For, uniting to produce the pain, we have the periodic hyperæmia of the ovary producing distension, together with that of the oviduct as well as of the uterus itself, which is involved in and pressed upon by the morbid deposit. This deposit being, for the most part, hard and unyielding, the pressure produces a dull persistent aching pain all through the pelvis, affecting the sacrum towards that side where the deposit is; passing through the hip and upwards on the side of the abdomen, accompanied by bearing down pain. The dysmenorrhea resulting from this condition will not at once yield to treatment, and all treat-

ment must be only palliative until such time as, in the progress of the malady, the deposit is removed, whether by resolution or suppuration. Poulticing must be kept up, or a blister over the seat of pain may take its place; anodyne suppositories, perhaps leeches to the hypogastrium, and iodide of potassium in full doses.

Pelvic Peritonitis.

When the menstrual molimen occurs during an attack of pelvic peritonitis, the pain already existing and inseparable from the disease, becomes greatly increased. The disturbance may produce inflammation of the contiguous districts of peritoneum, and increase the gravity of all the symptoms; the pain becomes more acute, especially owing to the fixidity of the parts, till the occurrence of the flow may, by lessening the distension, bring some relief.

The treatment should be directed to the relief of the inflammation by free leeching over the hypogastrium, followed by continuous poultices, anodyne suppositories, and the exhibition of mercury in small doses with opium.

Pelvic Hæmatocele.

Pelvic hæmatocele being itself but a symptom or outcome of a pathological condition or lesion, the dysmenorrhea resulting from it must be considered as a concurrent symptom. It will be seen on due consideration that the pain accompanying menstruation in such cases is referable more to mechanical interference than to any pathological change. It will be beside the purpose here to go into the question of extra- or intra-peritoneal hæmatocele; as the mechanical lesion, if we may so express it, is the same to a certain extent in both conditions; viz. an effusion of blood that presses upon and encroaches on the space wherein lie the reproductive organs. The uterus is often pushed forwards against the pubes, and occasionally to one or the other lateral aspect of the pelvis; nay, more, the uterus and ovaries are partly surrounded by the mass, and thereby bound down, at all events temporarily.

The menstrual hyperæmia is usually the chief factor that together with the morbid condition of some vessel produces the mischief, helped by some accident, it may be, such as a blow or jerk.

When, therefore, the organs are thus hampered, and their mobility interfered with, the periodic menstrual congestion tends to an increase in the size of the organs, such increase being antagonized by the surrounding mass of blood-clot. This at first is hard and to a great extent unyielding, so that the action of the uterus produces in that organ the pain of tension with its corresponding pain of impeded extrusive effort, and the ovaries when involved in the mass also suffer and produce their characteristic pain. The resulting dysmenorrhea is therefore a combination of uterine and ovarian pain, with a sense of fulness and bearing down, referable not only to the sacral region, but more or less involving the whole pelvic region, and creeping up to the region of the flanks, besides a heavy pain down the thighs. As the hæmatocele progresses towards resolution the symptoms pass off, as the mechanical pressure is lessened; but where the hæmatocele tends to the formation of an abscess, a new process adds a further complication, and the uterus and ovaries become implicated in the progressive suppuration: we then get dysmenorrhea as the result of the morbid process; menstruation becomes scanty as well as painful from the more or less constriction from pressure

on the vessels supplying the parts, in some cases being wholly arrested ; and, also, the uterus may be affected by the suppurative process, and active metritis with its consequent pain may be set up.

The abscess may also be determined to one side or the other, involving the ovary of that side ; and, interfering with its proper function, may produce considerable pain, which may go on until the ovary itself is somewhat disintegrated and disorganized. The treatment of the dysmenorrhea must of course be secondary to that of the hæmatocele itself. To this end we must enforce absolute physiological rest, so that if possible the suppurative process may be warded off. The patient should be kept in bed and not suffered to exert herself, nor indeed to rise for any purpose whatsoever ; she should have light nourishing diet, fluid for the most part ; the bowels should be kept freely open, and opiates administered *per rectum.* On no account should the swelling be interfered with by puncture, unless the mass should remain fluid and urgent symptoms supervene ; but even in these cases, I believe that patience and rest will tide over the necessity for operative interference, which may bring with it the risk of septic mischief, and the patient will have a better chance of recovery if let alone. It

is otherwise when the blood-tumor passes into the suppurative state; and even in such a case an attempt should be made by rest, poulticing, and opium to favour resolution; but if the suppuration progresses, and the symptoms urgently demand it, the cyst should be evacuated by the aspirator with anti-septic precautions. The patient's strength should be sustained by a generous fluid diet, with probably wine; and tonics, such as quinine, and perhaps iron, should be administered.

UTERINE DYSMENORRHEA.

Metritis.

If menstruation should occur during an attack of *acute* metritis, severe dysmenorrhea will be the result. For the periodic hyperæmia supervening in an organ already the subject of inflammatory engorgement, increases the blood pressure in the whole uterus, and produces great increase of suffering; the stagnant condition of blood in the vessels, and especially in the capillaries of the mucosa of the uterus, interferes with the proper formation of the decidual membrane, the normal efflux of the blood is hindered; irregular ecchimoses may happen, giving rise to the formation of small clots, which in their extrusion produce the dysmenorrhea that invariably accompanies their expulsion. The menstrual hyperæmia, too, necessarily by its pressure produces severe pain in an organ already exquisitely tender from its condition of inflammation; this increases the general pyrexia, and exag-

gerates the symptoms of the metritis, such as high temperature, tenderness, furred tongue, frequent pulse; besides not unfrequently giving, as it were, a fresh access to the disease as manifested by additional rigors.

The treatment of this condition in its onset should be either by free venesection or the application of twelve or twenty leeches over the hypogastrium, followed by continuous poultices and the exhibition of small doses of calomel and opium. A full dose of Dover's powder at night will also be of service. It must be borne in mind that the dysmenorrhea in these cases is only a concurrent symptom synchronous with a grave disease, and our efforts must be directed not to the relief of the dysmenorrhea *per se*, but of that morbid condition of which it is an exaggerated manifestation. When, however, we have to deal with *chronic* metritis, and its accompanying dysmenorrhea, we usually have a history of suffering prolonged over some considerable time, the result of the disease itself, with the monthly exacerbation of pain which often is that for which the patient seeks advice. For in chronic metritis women may get so accustomed to the constant aching, and at the same time so shrink from going to a doctor for their malady, that were

it not for the dysmenorrhea, the disease might be allowed to hold its own unrelieved for a considerable period. In chronic metritis we find the uterus permanently enlarged, its walls thickened, its lining membrane exquisitely tender, and a muco-purulent discharge issuing from the os. All attempts merely to relieve the dysmenorrhea are so much waste of time and the patient's strength, and we must therefore set ourselves to remedy the condition of chronic metritis, and when that is cured, the dysmenorrhea, which is its result, will vanish. For the treatment absolute rest must be strictly enjoined. Leeches should be applied to the cervix uteri at intervals of eight or ten days, especially two or three days before the catamenial nisus; mercury, as the perchloride or bibromide, should be given just short of salivation, but all local interference with the uterus should be avoided, with the exception of vaginal injections of hot water at a temperature of 105° or 110°. The diet should be light and nutritious, the bowels should be kept freely open; pain may be relieved by opium, or morphia suppositories, and after the mercury has done its work, iodide of potassium in full doses should be given. Vaginal plugs of cotton wool saturated with glycerine, applied freshly morning

and evening, are of great service in lessening the congested condition of the uterus. After the more severe symptoms have subsided, and the uterus has become less tender, in order to restore the lining of the uterus to a healthy condition intra-uterine medication may be resorted to. Sponge tents may be introduced gradually, no tent being allowed to remain in over twelve hours, and in many cases it is better to remove the tent in six hours, syringe carefully with Condy and water, and then to introduce another. When the uterine canal is sufficiently patent, a strip of lint soaked in glycerine with one-third of tincture of iodine or sulphurous acid added to it is to be passed with a fine whalebone probe up to the fundus, and this changed and repeated every day for ten or fourteen days. Should the discharge remain muco-purulent, it may be advisable to mop out the uterine cavity with strong carbolic acid (nine parts of acid to one of water), and should this not prove successful, then fuming nitric acid, or the acid nitrate of mercury may be applied carefully in a similar manner.

Endometritis.

In Endometritis, the pathological condition being different from that of metritis, the resulting dysmenorrhea differs also somewhat in origin and character. The whole lining of the uterus proper is in a state of congestion with increased proliferation of mucous elements, and their too early disintegration. This condition gives rise to a discharge of abundant mucus, generally blood-stained, from the over-distension of the superficial capillaries. The cavity of the uterus is very sensitive to the passage of the sound, the introduction of which may produce mischief, and there is a constant pain in the back, loins, and hypogastrium. The onset of the catamenial nisus in such a case produces increase of the above-mentioned pains, and in addition, owing to the increased thickness of the lining membrane, pains of an expulsive character. It is in these cases also that we find that severe class of dysmenorrhea which is called membranous, and which will be noticed separately hereafter. The menstrual molimen causes great disturbance of the general health consequent on the exaggeration of the inflammation and its accompanying

pain. As the disease is rather intractable, so also is the dysmenorrhea. The indications for relief are physiological rest, light diet, and anodyne suppositories during the catamenia. The chief efforts at cure must be made during the inter-menstrual epoch. The patient should lie up in an airy room in a healthy situation; leeches may with benefit be applied to the cervix uteri, or the perineum, and when the tenderness has subsided local treatment may be had recourse to. A sponge tent should be carefully introduced for not longer time than six to twelve hours; and after it has been withdrawn some hours, a Playfair's or a whalebone probe, as described in the last section, covered with cotton wool and charged with fuming nitric acid, is to be passed rapidly up the whole cavity of the uterus. This should not be done until, whether by leeches, or in addition, by the administration of the perchloride of mercury, the inflammatory condition has been modified.

In some cases the solid nitrate of silver may produce as good a result as the nitric acid, though the latter has in the hands of some practitioners been productive of much benefit. If one application should fail to cure the disease, a second at the end of two weeks may be required.

In some less severe cases the probe may be charged with solution of iodine, or iodine and carbolic acid one to four, or a hollow sound fitted to the thermo-cautery may be passed rapidly into the dilated cavity of the uterus. This treatment should be followed up by tonics, the next catamenial epoch carefully watched, and no return to ordinary duties or those of married life permitted until the symptoms subside.

ENDOCERVICITIS.

Endocervicitis differs from endometritis in the inflammation being confined to the cervical zone. The pain produced, and also the dysmenorrheal pain are located more in the sacrum; the cervix is tender to the touch, and felt to be swollen and puffy, the lips everted, the os patent, and the discharge glairy, or in some cases muco-purulent. Coïtus is at the same time extremely painful. If the sound is used, after it has passed the cervical canal it gives no further pain, nor is its introduction ordinarily followed by bleeding as in endometritis, nor does it leave behind it the prolonged aching that its passage in the former disease does. Just before the menstrual epoch the lips of the

uterus should be freely scarified, or more properly deeply punctured, and vaginal injections of hot water (105° to 110°) used. In the intermenstrual epoch the general health should be attended to, the bowels freely opened, and kept so; puncturing of the cervix should be carried out once or twice. N.B. It is worth mentioning that occasionally there is not much blood lost at a first puncturing, the swollen condition of the cervix favouring the closure of the wounds; but two days afterwards a pointed sound should be passed carefully *per speculum* into the wounds so as to open them afresh, when it will be often found that a much freer flow of blood is induced. Glycerine plugs should then be passed *per speculum*, and carefully packed up against and round the inflamed cervix: these should be renewed morning and evening every day for at least six days, the vagina being syringed with warm Condy's fluid and water between each application. This produces a free discharge of glairy fluid which greatly relieves the tension of the part, and this procedure may be termed "colourless bleeding." Afterwards the cervix may be dilated with a sponge tent, and the pernitrate of mercury or fuming nitric acid or strong carbolic acid applied over the whole cervix and up the cervical canal.

If the patient is easily affected by mercury, the nitric acid should be used. The treatment may have to be extended over several periods.

Flexions of the Uterus.

That flexions of the uterus do produce dysmenorrhea no one who is experienced in gynæcology will readily deny, though some good authorities state that to such flexions is often erroneously attributed much of the pain that may be otherwise explained. Many such cases will be considered under the head of spasmodic dysmenorrhea.

Anteflexion.

When a patient gives us the history of scanty menstruation, with dysmenorrhea preceding and, in many instances, relieved by the flow; and when, in married life, this condition is associated with sterility, we may often correctly presume that she has anteflexion of the uterus in some degree, which subsequent examination confirms. Space in an essay on dysmenorrhea only, precludes my going fully into the various forms of anteflexion, the methods of diagnosis, and its various symptoms,

but the notice of a few salient points is necessary in order to render the pathology of the dysmenorrhea clear.

Anteflexion may be either congenital or acquired. In the former case the natural fœtal ante-curve has, as the organ has become developed, gradually assumed a more decidedly flexed condition, until the fundus is found to be pressed downwards and forwards, carrying the cervix at a more or less acute angle, often as little as, or even less than, a right angle. In such cases the cervix is found more flattened from before backwards than in the normal uterus, the anterior wall of the body is slightly more bulging than natural, and the os is small, sometimes round (pinhole), and occasionally taking the form of a narrow transverse slit. On attempting to pass the sound, the point is arrested at the bend in the uterus, and it requires some dexterity to pass the straight sound at all; or it may need to be much curved in order to get it past the point of flexion. Such a uterus may be said to be somewhat arrested in its development, and provided the patient is otherwise healthy, the catamenial nisus produces a determination of functional activity with its accompanying hyperæmia in an organ scarcely

fitted to sustain it. Hence arises an undue tension, not so much of the uterine cavity as of the tissue forming the uterine mucosa. This produces a feeling of fulness and weight in the uterus with some amount of bearing down, which is greatly relieved by the establishment of the flow, lessening, as it does, the vascular tension. Then, too, the hypertrophy (periodic) of the uterine mucosa, naturally lessens the uterine cavity, and undue pressure is produced at that spot where the flexion has already lessened the calibre of the uterine canal, usually at the internal os. Probably the degeneration of the decidua is less rapid at the point of pressure, and so a hinderance is at first present at that point, which produces the characteristic dysmenorrhea, until the flow from behind has forced by the obstruction, or until the whole lining membrane has proceeded to its complete destruction. For the treatment of the dysmenorrhea in these cases several plans may be pursued, the end to be attained being the restoration if possible of the uterus to its normal rectitude. One of the milder methods is to pass the uterine sound, or sounds of gradually increasing size, say from No. 7 to No. 12 or 13, every three or four days into the uterus, carefully make the turn, and hold the uterus

for a few minutes in the direction the reverse of its congenital curve, *i.e.*, to retrovert it. In many cases, if carried out perseveringly, this may suffice for a cure. Where, however, the uterine bend persists unrelieved by this procedure, it is advisable to attempt means whereby it may be held straight for some considerable time. For this end various so-called anteflexion pessaries have been devised; but in the majority of cases these instruments give but unsatisfactory results. For, as a rule, they are intended to act by a sort of leverage whereby the flexed fundus is supposed to be sustained and pushed higher up. But as the uterus is a mobile organ, any pressure on the anteflexed fundus carries the cervix more or less with it, as there is in such instruments no *point d'appui* whereby the cervix may be held in one plane, while pressure is brought to bear on the fundus. The only scientific method is therefore to straighten the uterus, while, at the same time, it is held in the normal direction. For this purpose an intra-uterine stem, of a length about one-eighth of an inch shorter than the uterine cavity, is to be passed, and the whole uterus maintained by some pessary in its normal position. The pessary that fulfils both these conditions is the stem and shield of Dr.

Wynn Williams. It consists of an intra-uterine stem of vulcanite, having a small button at its lower extremity which fits into a small pocket in a perforated diaphragm which forms the flooring, as it were, of a modified Hodge's pessary. This instrument, though somewhat difficult of application, yet when in position accomplishes its desired end, and may be worn for some considerable time, either throughout the catamenial epoch, or only during the intermenstrual periods. Some discredit has arisen in the minds of gynæcologists as to the use of intra-uterine stems, because they are often applied in cases where tenderness of the uterus renders their presence intolerable, and where consequently grievous mischief may arise from their use. Intra-uterine stems should therefore never be used, as long as there remains any tenderness on passing the sound. Means should be taken for depleting the uterus by leeches, and by the exhibition of mercury, with, at the same time, complete rest, until the uterus is well able to tolerate the sound, when a stem may be introduced and worn for some considerable time, without the risk of producing any ill results. All attempts to relieve anteflexion by bilateral incision of the cervix are worse than useless, as no division of a curve in a

plane at right angles to the plane of the curve can at all alter such curve or much modify its point of constriction.

The method of operating devised by Dr. Marion Sims holds out the best prospect of a cure in severe cases of congenital anteflexion. Its *rationale* aims not so much at straightening the acute curve, as by cutting a new canal, as it were, to give free exit to the menstrual flow. Without going into the details of the operation, it will suffice to say that it consists in freely dividing the posterior aspect of the cervical canal from within backwards ; this gives a funnel-shaped opening that produces a canal more in line with the abnormal direction of the uterine portion ; a narrow knife is then carried upwards into the cavity of the uterus with its cutting edge forwards, and as it is withdrawn an incision is thereby made through the elbow, as it were, of the bend, care being taken, of course, not to cut too deeply ; a dilator is then passed up into the uterus and opened so as to stretch or somewhat tear through some of the uterine fibres, and a glass stem is inserted and kept in its place by a plug, soaked in carbolized glycerine. In about a week this stem is removed, and the cure is generally found to be complete.

There are, however, cases of acquired anteflexion, where the flexion happening after the full development of the uterus, a condition is produced differing in some respects from the case of congenital anteflexion. The more common causes of such lesions are falls, blows, jerks, or strains, and habitual constipation ; such constipation producing a loaded rectum, which presses the cervix upwards and forwards against the fundus, and not, as often alleged, by pressure of the fundus downwards. In these cases menstruation may have been normal and painless before the accident, and the dysmenorrhea clearly traced as having come on subsequently to the injury or condition that produced the flexion. The uterus, hitherto well developed, becomes hampered by the flexion, the fundus often becomes enlarged, especially anteriorly, and the cervix becomes the seat of cervicitis, with some deposit nearly always in the anterior lip—areolar hyperplasia. The dysmenorrhea in these cases is often severe, partaking of the nature of that of endocervicitis from the interference in the normal menstrual flow, and also of that of cervicitis with areolar hyperplasia, viz. weight and aching in the sacrum, with pain through one or both hip joints. When this condition exists, the recourse

to mechanical treatment must be withheld until all inflammatory symptoms have been removed. The cervix should be leeched at intervals, the induration of the anterior lip treated, as will be explained when we come to speak of uncomplicated hyperplasia, and then some of the methods mentioned under the head of congenital anteflexion may with benefit be put in practice.

Retroflexion.

In retroflexion of the uterus we have most persistent dysmenorrhea as a rule, which defies treatment, except such as results in the cure of the malposition. Whereas anteflexion is found chiefly in the unmarried and sterile, retroflexion is a disorder for the most part of multiparous women, although we occasionally find it also in the unmarried as the result of overstrain or falls. When the uterus becomes retroflexed, it usually has a predisposing cause in some fibroid deposit of the fundus, or in subinvolution with chronic hypertrophy of the body, or in a certain relaxation of tone in its contractile tissue, the result of malnutrition. The immediate cause of the flexion may be the supine position in prolonged convalescence

after parturition, associated with loaded bowels, or some blow or overstrain acting on a weak organ insufficiently supported by weakened ligaments. Retroflexion produces a train of symptoms that induce a considerable amount of constant suffering which is invariably aggravated at menstruation and on exertion. There is almost always constant back-ache, with a sense of bearing down and aching all through the pelvis, occasionally continued into the thighs and through one or both hip-joints. The position of the fundus gives rise to painful defæcation with tenesmus, and the pressure forwards of the cervix often produces frequency of micturition.

The chronic inflammation that so often accompanies retroflexion leads to a constant discharge of glairy or of muco-purulent secretion, which keeps up irritation of the cervix and even of the vagina. There is, associated with most cases of obstinate retroflexion, a swollen condition of the posterior lip, with often an indurated deposit of fibroid hardness and a granular inflammation or abrasion, or more often protruding granulations, erroneously called "ulceration," of the surface of the posterior lip lying over the induration. When menstruation comes on the fundus becomes congested and swollen and more tender, the symptoms

above enumerated become intensified, the hypertrophied condition of the uterine walls leads to menorrhagia, and the flexion itself is an additional factor in producing the severity of the dysmenorrhea.

In the treatment of dysmenorrhea arising from retroflexion of the uterus our first consideration must be to relieve the flexion, and the cause being removed the result will be in time the relief of the painful menstruation. It is dangerous to attack a case of retroflexion by attempts at immediate reposition. I have seen death ensue from the sound being passed into a retroflexed uterus the subject of chronic endometritis, the organ replaced, and a Hodge's pessary inserted.

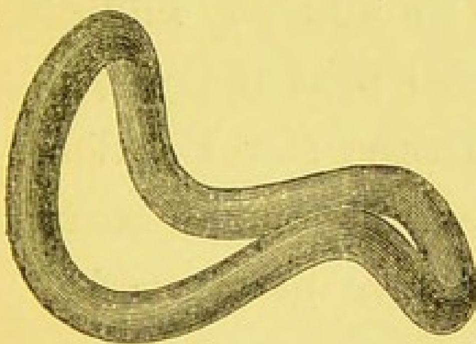
When a retroflexed uterus is felt to be tender, when, moreover, the attempt to pass the sound produces pain when the sound reaches the point of flexion, all attempts to replace the uterus should be avoided until this condition of inflammation has been remedied. The patient must be kept at absolute rest with a low or light diet; leeches should be applied to the cervix uteri or to the perineum two or three times, at intervals of four or six days; glycerine plugs should be inserted and packed against the cervix uteri night and

morning for about six days; this may be done during one of the intervals of leeching. Mercury in some form (the perchloride is best, or calomel in doses of gr. $\frac{1}{8}$) should be administered until there is slight indication of its effects; then, after all tenderness has subsided, the uterus may be carefully replaced, when there are no adhesions the result of former perimetritis; and it will suffice that at first the uterus be merely gently replaced, perhaps once every other day. Should frequent reposition fail, recourse must be had to some form of pessary.* It would be endless in the compass of a treatise such as the present to attempt even to indicate a tithe of the various pessaries that have been devised for the sustentation of the replaced uterus. In many cases a simple Hodge's pessary will suffice, or one having

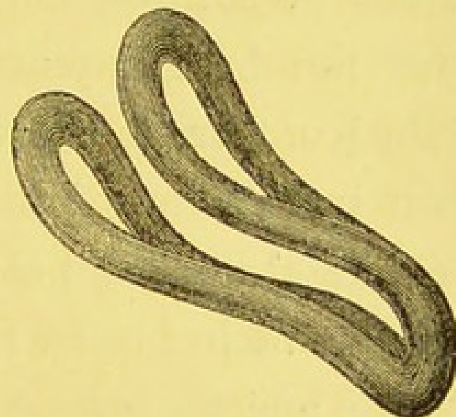
* A paper has recently been published in the American *Journal of Obstetrics*, vol. xiii., No. iv., Oct. 1880, on a method of treatment of retroflexion of uterus with adhesions in the hollow of the sacrum by forcible separation of the adhesions, by Dr. Aug. F. Erich, of Baltimore. This procedure occurred to the author also, but he has hitherto hesitated to carry it out, but the publication by Dr. Erich of seven cases induces the hope that in certain cases this method of operating may prove of great service.

On January 20th, the author performed an operation which he believes is entirely new, in a case of retroflexion where the utero-sacral ligaments were shortened and very tense. The operation consists in passing a knife *per rectum* and slightly cutting through the ligament near its sacral attachment.

its posterior aspect more bent upwards than usual, so as to support the fundus, and its anterior aspect more bent downwards so as to avoid pressure on the urethra. The shape thus described is that carried out and used in The Hospital for Women by the author, and it was after I had been accustomed thus to modify the Hodge in treating cases of retroflexion that I learnt that Dr. Albert Smith, of Philadelphia, also used the same modification. The name, therefore, of this form of pessary,



The Smith-Hodge pessary.



Dr. Protheroe Smith's elastic pessary.

the Smith-Hodge, has two Smiths as its authors. Dr. Protheroe Smith has also devised a form of pessary for retroflexion, which he calls the "elastic pessary." It consists of, as it were, two Hodges joined in front, made of watch-spring, and the tendency of the free ends to separate keeps up a gentle lifting pressure on the retroflexed fundus.

In many cases these intra-vaginal, extra-uterine pessaries fail to keep the uterus in position, the strong tendency to retroflexion tilts the organ backwards in spite of the pessary. It therefore becomes necessary to use means whereby the uterus may be not only straightened, but also kept in position. To this end an intra-uterine stem must be used. It is of course unnecessary to insist on the importance of subduing all inflammatory action before subjecting the uterus to the trying ordeal of the constant presence of a stem. Perhaps the best appliance is to insert a vulcanite stem $\frac{1}{8}$ or $\frac{1}{4}$ in. shorter than the uterine canal, and then introduce a Hodge's pessary: or Dr. Wynn Williams' stem and shield, devised for anteflexion, may prove beneficial; or the new pessary of Dr. Routh, which consists of a stem fixed to a strong india-rubber band in the middle of a sort of Hodge, whereby the uterus, while held in its normal position, has a certain amount of play afforded to it. I have found in some cases that Dr. Routh's pessaries, after having been worn for several weeks when the flexion is strong, lose their efficacy owing to the india-rubber band becoming permanently bent by the flexion, and so failing to exert the sufficient forward tilting that they so

well do on being first introduced. In cases that require more restraint, Dr. Meadows' retroflexion pessary is most useful. It consists of a stem fixed at the posterior extremity of a pessary, and having an india-rubber spring whereby the uterus is kept tilted forwards. In some obstinate cases, it may be necessary to employ Simpson's stem, which is fastened to a wire frame resting on the pubes; but this has to be used with caution, as it does not allow of sufficient mobility to the uterus.

When all other means fail, it may be advisable to remove a portion of the surface of the posterior wall of the vagina, and bring the edges together by sutures, so as, by producing a contraction of the posterior vaginal wall, to pull back the cervix, and so maintain the uterus in a more normal position. When the retroflexed uterus is bound down by adhesions it will be necessary to proceed with extreme caution, lest another attack of inflammation should be lighted up. A course of mercury followed by iodide of potassium may in some cases lead to absorption of the deposit, and so prepare the way for the further treatment of the flexion. In many cases it is advisable to intermit the local treatment by pessary or stem during the catamenia, in order to lessen the pain produced by

menstruation, and obviate any attack of inflammation. In other cases it will be found that the instruments not only can be well borne throughout the whole period, but that even their presence is productive of immense relief. To relieve the dysmenorrhea it is a good plan to anticipate the pain by leeches to the cervix, and during the catamenia to give tincture of gelseminum sempervirens in doses from ℞x. to ℞xx., or tincture of cannabis Indica ℞x., or gr.j. of the extract; or suppositories of morphia or atropia, or of both combined—say gr. $\frac{1}{3}$ to $\frac{1}{2}$ of morphia with gr. $\frac{1}{18}$ of atropia.

Stenosis of the Cervical Canal.

So-called stricture of the cervical canal, or of the external or internal os uteri, as productive of dysmenorrhea is extremely rare unassociated with flexion. There is a condition of apparent stenosis which will be considered under the head of spasmodic dysmenorrhea. It does, however, sometimes happen that the os uteri is naturally very small, so as scarcely to admit of the finest probe; while the inner os will seldom offer any hindrance to the sound because of organic stricture, even in cases

where the external os is small. Cases, however, are sometimes met with where there is distinct stricture of the inner os. In these cases the dysmenorrheal pain is caused by the mechanical obstruction to the free passage of the flow, especially where there is menorrhagia, or where the flow is accompanied by small clots, though this possibility is denied by some authors. The pain is that of uterine action, the uterus putting forth efforts to extrude the clots, and the pain being therefore intermittent as in labor pains.

Where the os then is truly small, it will be best treated by slight bilateral division with a knife, followed by forcible dilatation by some dilator, or by the passage of a series of graduated sounds, say from five to eleven. Tenting is not of much service in this case, as the uterine canal, even after considerable dilatation alone, tends to return to its usual calibre. Tents should never be introduced soon after an incision, as septic absorption is thereby greatly favoured: neither should an incision be made soon after tenting, as there is danger of some pent-up septic discharge being absorbed into the wound. In cases where incision has been accompanied by forcible distension, after the wound has quite healed, it may be advisable

to introduce a stem to maintain the patency of the canal, and so obviate any return to the former condition of stenosis.

Elongation of the Cervix.

Where the cervix uteri is abnormally elongated, whether congenitally or acquired, dysmenorrhea will be present probably as a result of the hypertrophy itself, or of some amount of constriction of the os uteri that is generally present. The catamenial nisus produces congestion of the cervix, and this enlarged body presses backwards, and also tends to make the uterus prolapse; then ensues backache, with a sense of weight in the pelvis and round the loins, rectal tenesmus, and a sensation of fulness in the vagina. If this prove intractable to leeches, glycerine, or iodine plugs, it is advisable in some cases to amputate about half an inch of the cervix. This is generally sufficient to relieve the symptoms by lessening the sense of weight, and the cervix is found to shrink to an extent greater than that produced by the mere amputation. It may be done either with the ecraseur, with the galvanic ecraseur, with scissors, or with the flat blade of the petroleum cautery.

Spasmodic Dysmenorrhea.

There is a form of dysmenorrhea occurring under the class we are now considering, as having its locality especially in the uterus, yet not dependent on any apparent structural impediment to the menstrual flow, although it arises from temporary functional derangement of that organ.

To this species of dysmenorrhea the term *spasmodic* has been given, and it has been specially elucidated in a recent able article by Dr. Matthews Duncan.

Spasmodic dysmenorrhea is often put down in the category of mechanical or obstructive dysmenorrhea ; but these latter expressions should be limited to those conditions of flexions, or hindrances by the growth of fibroid tumors, which really give rise to some more or less obstruction to the menstrual flow, whereas that class of dysmenorrhea to which we give the name *spasmodic* should be placed under the head of functional disease. The pain is of the character of a neurosis, and the cause contractions more or less firm, occasionally intermittent or clonic, more usually persistent or tonic, of the uterus itself. Clonic

spasmodic dysmenorrhea arises when from some cause (as before noticed) the exudation of the blood is in clots, and when the uterus strives to expel these as foreign bodies by a series of painful contractions, as in after-pains. In tonic dysmenorrhea the exciting cause may be the presence of an incipient fibroid, which by its constant irritation sets up a constant spasmodic effort, or series efforts, on the parts of the uterus, as if to expel it ; the immobility of the mass, however, allowing but little intermission in the uterine efforts of contraction. In spasmodic dysmenorrhea the pain does not seem connected at all with the ovarian function. It usually sets in before menstruation properly begins, continues to increase in intensity up to the beginning of the flow, and is relieved by the flow itself.

The cause of this variety in the pain is perhaps not difficult to explain. The uterine contractions happening at the time when the lining membrane is undergoing its hypertrophic growth, seem to antagonize the natural increment of the uterine body; or the contractions, which have existed to a certain extent all along, are made manifest as pain in consequence of the hypertrophied lining opposing a certain antagonistic force to the pres-

sure of the uterine contractions. The pain increases in severity *pari passu* with the progress of the menstrual condition of the uterine mucosa, until at last the flow takes place,—when the pain decreases, partly because the extrusion of the *débris* leaves more room, as it were, in the uterine cavity, and so lessens one factor of the antagonizing forces, and partly because the flow of blood lessens the vascular tension in the uterine contractile fibres themselves.

The diagnosis of spasmodic dysmenorrhea may be arrived at by carefully passing the uterine sound and watching the effect produced. On reaching the inner os, and more especially when it touches the inside of the body or fundus, severe spasmodic pain is produced exactly similar to that experienced at the time of menstruation. The cases most subject to this form of dysmenorrhea are those in which the uterus is small and badly developed. The uterine canal is not in these cases, as in those of obstructive dysmenorrhea, contracted or narrowed at any portion, but may be sufficiently patent to make one wonder why there should be any suffering at all ; nevertheless there does exist a so-called obstruction, such obstruction arising from the produced spasmodic contractions. The

treatment of these cases requires care and patience. It is worse than useless merely to administer sedatives, for their effect, besides being only temporary, is to engender a craving for opiates which may prove more ineradicable than the disease they were intended to alleviate. It is advisable, as the period draws near, to administer laxatives freely with the view of lessening the congested condition of the pelvic viscera. Hot sitz-baths will also produce soothing effects. But the most efficacious method is the mechanical treatment. The uterus must be subjected to a process of not altogether gradual dilatation. A set of uterine sounds from 3 to 12, should form a portion of the gynæcologist's tools. The smallest that can be conveniently borne should be carefully passed into the uterus, and allowed to remain *in situ* until all the pain that its introduction has produced has passed off. In many cases, when there is any tenderness of the cervix, it is a good plan to apply leeches to the cervix two days previously. Then a larger sound should be introduced. It is not necessary always to ascend through all the series of sizes, as after, *e.g.*, No. 5 has been introduced, No. 7 may be next passed, and so on, taking the odd numbers. Perhaps one or two sizes may

suffice for the first day, then, beginning with the size next below the largest last used, we may go on at intervals of two or three days until No. 11, or even 13, can be passed without any pain or inconvenience. In many cases this method of procedure will be found to have cured the patient; but if after a few periods there should be a recurrence of the symptoms, it will be necessary to have recourse to the same method of treatment. We shall thus have the satisfaction of having cured our patient without having submitted her to any severe or dreaded course of treatment.

HYSTERIA.

What a strange vista of disease opens up to our mental vision at this word *hysteria!* It seems to baffle all pathological investigation; its neuromimeses seem to defy all systems of classification; and to enter upon its consideration in the limits of an essay such as the present, seems a presumptuous task, that should only be attempted in a volume which aimed at elucidating the pathology of all known maladies. Yet to write on dysmenorrhea without reference to hysteria would be a grave

omission, and our observations must be as far as possible limited to those manifestations that come within the bounds of our subject. That the term is a misnomer need be no objection to our using it; for has not modern science shown that theories expressed by the relicts of old terms have broken down under the light of increasing knowledge, yet the old names are retained as current coin of thought?

The uterus, as taught us by comparative anatomy, is merely a diverticulum in the generative tract developed in special forms in various classes of animals; and in mammals its special function is the retention of the ovum during a certain process of development, as in birds its analogue subserves for its gradual propulsion during its development. The ovary being the head-centre of the organs of reproduction in the female, it is to it we are to look for the primary factor, as far as those organs are concerned, for most of the manifestations of disease that are ranged under the term neurosis. Yet we are not always to saddle the ovary with being the *fons et origo mali;* we must look farther back in the economy for the primary mischief; and doing so, we shall find that perversion of nutrition,

and consequent constitutional disturbance, is the original spark, which lighting upon the ovary as the most easily inflammable (I use the term metaphorically) neurotic organ, kindles in it a train of symptoms whose destructive energy preys upon the whole organism. The time of puberty in the female transcends in all importance the similar epoch in the male, in proportion as the female is formed, as it were, as the casket in which the chief reproductive organs in the whole vital economy, whether of the animal or vegetable kingdom, are safely locked. It stands to reason, therefore, that anything which interferes with the proper and healthy condition of the envelope may without much stretch of thought be held to affect more or less seriously the health and well-being of the enclosed jewel.

The young of our species of both sexes may be trained in parallel lines until the period of puberty, but thence they widely divaricate; for the male may continue his training of mind and body without in any way affecting his organs of reproduction, which are, as it were, outside his systemic life, whereas the female overstrains either her mind or body at that epoch generally at the risk of health, from the nerve-tension falling as it does

with undue severity on the centre of her organization. Where, then, we find a girl subjected to excessive nerve-strain at the time of puberty, whether constitutional ill-health hinders the proper assimilation that is necessary for the development of the highly organized nerve centres; or whether severe study deflects the nervous energy from the ovaries to the brain, or whether mental shock or distress warps in any other direction the nerve-growth that the ovary needs—in such cases we find the elements of that deviation from perfect health which has its outcome in those varied and distressing manifestations to which we give the name *hysteria*.

Hysterical dysmenorrhea is not, therefore, to be taken as a malady unworthy of our scientific consideration, nor are we to think such pain of no moment because we call it hysterical; nay, rather, because it is involved in a certain nervous obscurity, we should carefully trace in its history, if possible, its origin, and by a diligent process of elimination arrive at such a causal diagnosis as may help us to relieve its most pressing symptoms. When mal-assimilation is the result of nerve perversion following mental overstrain, the ovaries fail to attain to their proper development, and a con-

dition allied to that which Dr. Goodell calls neurasthenia produces a train of symptoms which reach their climax in the periodic dysmenorrhea. The patient taxed, at the period of life when the natural forces should be consolidating the reproductive functions, by over study or other brain work, becomes the subject of neuroses of the organs from which the nervous energy is wrongly deflected; pains arise in the ovaries themselves of the so-called neuralgic type; increased reflex irritability produces irregular and painful uterine contractions or spasms, and this is accompanied by some other spasmodic affection, as dysuria, tenesmus, dyspnœa, dyspepsia, associated with headache, backache, etc.

When the cause is recognized the remedy should be applied at once. If the symptoms are chiefly manifested at the catamenial period, then all brain work or other mental strain should be intermitted as the period approaches, and the patient should be placed in a condition most favourable for the proper exercise of the function in question. The dysmenorrhea should be combated by fresh air and good food, by rest in the recumbent position, by hot sitz-baths, by electricity, by friction, and by the administration of those medicines which soothe the nervous system while they stimulate

the uterine functions; as Indian hemp, pulsatilla, gelseminum, and perhaps ergot. In these cases it not unfrequently happens that the distress which reaches its climax at the menstrual epoch does not wholly cease in the interval. The case then is more serious and the process of cure more tedious. It will be necessary to enjoin entire rest for a time from all nervously exhausting study or occupation: to prescribe definite exercise of an invigorating kind in good air in a bracing situation, to coax the enfeebled digestion till the appetite is normal and vigorous, to keep the body warm with suitable clothing; to build up the system with tonics, such as nux vomica and iron; and at each period to insist on rest and quiet of both mind and body. When, however, the cause can be traced to mental shock—and that kind of mental shock is the most distressing sexually that arises from the sudden disruption or perversion of sexual affection, from disappointment in love, or the death or absence of the lover—the symptoms become more centric, more concentrated in the sexual organs, and the dysmenorrhea is more intense. For in such cases the ovaries have to a certain extent responded to impressions which are associated with, or depen-

dent upon, their natural function; the cherishing of these impressions has tended towards their growth and activity, and it stands to reason that any mental blow which the discriminating brain transmits to that part of the organism in direct nervous and sentient relation with those manifestations of the mental state which we call affection wounds that organism in proportion to the state of advancement of its development and to the suddenness and gravity of the blow itself.

Hence, in such cases the general symptoms, and those specially which make up the consequent dysmenorrhea, need the most careful treatment, and often defy the skill of the most watchful physician. If there is no prospect of reinstating the former "smooth course" of events, there is imperative call for not only change of air, but a change of scene such as travelling only can bring; and it may be that the very rest from mental toil which is necessary in the former cases will have to be reversed in these, and it may be found that the serious and earnest employment of the mind in some all-absorbing work may create a diversion of nerve energy which, resting for a time the organs taxed in another direction, may prove eventually a means of cure. It must not be for-

gotten that the whole body usually suffers in such cases, and we shall have to combat loss of appetite, loss of sleep, loss of energy, and general indifference to surrounding circumstances, as well as to direct our attention to the medical relief of the pain set up in the offended organs. And for this relief perhaps no drug is capable of affording more benefit than large doses of bromide of potassium (with perhaps the bromide of iron and bromide of ammonium, or a combination of bromide and iodide of potassium), which subdues ovarian excitation, and which, if pushed or alternated with iodine or the iodides, may result in temporary or permanent atrophy of the ovaries.

Hysteria, therefore, producing dysmenorrhea as described in this section, is by no means to be lightly or harshly dealt with, but considered as a veritable disease, studied in each case, and treated as the exigency of each case requires.

Fibrous Tumors.

Dysmenorrhea arising from fibrous tumors of the uterus varies in its pathology somewhat, and to a considerable extent in its treatment, according

to the class of tumor present, whether sub-peritoneal, mural, intra-uterine, or polypoid. It is essentially an uterine dysmenorrhea, almost mechanical, if we may so say, in its origin, and the direct product of the diseased condition. It is therefore, as in the foregoing sections, to be considered as a symptom; its pathology is the pathology of the particular malady of which it is a symptom, and its treatment consists in that of the tumor itself.

(*a*) Sub-peritoneal Fibroid.

Fibrous tumors of the uterus are called sub-peritoneal when their main bulk protrudes on the peritoneal surface of the uterus, producing a raised swelling of variable size, whether covered only with peritoneum, or having in addition a more or less thick investing capsule of the uterine tissue. If the tumor projects considerably above the normal external boundary of the uterus, and is not covered to any great extent with uterine tissue, it may not give rise to much dysmenorrhea. Some of these tumors would seem originally to have commenced chiefly as intra-mural tumors, but situated more

towards the external than the internal surface of the uterus; then, as they grow and become obnoxious to the uterus, the gradual contraction of the uterine walls tends to drive them towards the direction of least resistance, viz., towards the peritoneum, and they eventually become sub-peritoneal. During this process, however, they, by setting up uterine action, produce uterine pains, such pains being aggravated at the periods of the catamenia by reason of the then hyperæmia of the uterus. The dysmenorrhea thus produced is characterized by irregular pains, both as to degree and locality, especially if there exist more than one tumor, the pain being referable to the region of the umbilicus; and in the history of the case such dysmenorrheal pain may gradually alter in character and somewhat lessen in intensity as the tumor proceeds towards the circumference of the uterine fundus. The pain, at first depending upon the presence of the tumor partly imbedded in the uterine walls, is of an intermittent character, due to the rhythm of the uterine contractions, but as the tumor is projected from the peritoneal surface, it becomes more of an aching kind, the tumor is tender to the touch, and the suffering is allied to that arising from congestion or incipient inflammation of the

peritoneum. In many cases, however, the sub-peritoneal fibroids may produce but slight dys-menorrhea, and as they are far removed from the uterine cavity give rise to no menorrhagia. At the catamenial period the tumors may feel more prominent, and manipulation may produce pain, but as a rule these tumors may exist for some time without calling for interference. In the condition of partial localization in the uterine walls, the administration of ergot may tend to their further extrusion, rendering them more prominent and more evident to abdominal palpation.

If they should grow to any inordinate size they may prove inconvenient to the patient, or painful from interfering with the bladder, or even the ovaries. As a rule their existence would formerly not have called for any operative measures, but now that abdominal surgery has made such strides, and Listerism has rendered otherwise grave operations comparatively safe, it might be advisable in some cases to open the abdomen and remove them by ligature, écraseur, or the cautery.

(*b*) Intra-mural Fibroid.

When a fibrous tumor is situated wholly within the boundaries of the uterine walls, it constitutes a disease of graver moment, it gives rise to dysmenorrhea of a more intense degree than when it is only sub-peritoneal. For in these cases the tumor acts, as it were, as a foreign body in the contractile tissue of the uterus itself, and as it does not present towards either surface specially, so in the progress of the case there does not seem any tendency to the amelioration, naturally, of the symptoms. The uterus then is subjected to continuous and somewhat irregular and painful contractions; and as the tumor grows the pain and inconvenience resulting from its presence increase, until the uterus becomes bulky and heavy, and, rising above the pelvis, constitutes an abdominal tumor. At the menstrual molimen the periodic turgescence produces an augmentation of size and pain, though there may be no consequent menorrhagia; the pain being of a more forcing character than in cases of sub-peritoneal fibroid, until, the period passing off, the suffering subsides to its normal level until the subsequent period.

The diagnosis of purely intra-mural fibroids is occasionally difficult, but a careful examination bi-manually and with the uterine sound will generally lead to a truthful result. The cavity of the uterus is usually elongated as the tumor adds to the bulk of the uterus itself; if it is situated in front of the uterus the bulging will simulate an anteflexed fundus; if posteriorly, a retroflexed uterus; and similarly if on one side, the tumor will be felt in the region of the broad ligament, or, if large enough, will appear as a tumor in one of the iliac fossæ.

The uterine sound will alone help us to arrive at a correct diagnosis; for the cavity of the uterus, though more or less elongated, will be nearly straight, and the deviation of the uterine figure from its normal shape, may be inferred to be due to the presence of a fibroid embedded in its walls. The history of the case is also a most important factor in the diagnosis. For a fibrous tumor, whether mural or sub-peritoneal, may by its position simulate a retro-uterine hæmatocele, or pelvic cellulitis in either broad ligament, whereas these diseases have each their characteristic symptoms, and specially that of the suddenness of their onset and accompanying febrile disturbance, which should be sufficient to guard us from error.

For the immediate treatment of the dysmenorrhea arising from mural fibroids the indication is the relief from pain. This may be lessened by lessening the uterine turgescence by leeches applied to the cervix uteri just before the expected period; this will afford in many cases considerable relief. As anodynes, perhaps the best is the extract of Indian hemp, in gr.j. pills twice a day, or pessaries of conia, ♏ij. But for the definite treatment of the disease, that which is the most scientific and tends to the best results is the persistent exhibition of ergot in full doses, either by the mouth as fluid extract, by intra-uterine pessaries containing three grains of ergotine, or by the hypodermic injection of ergotine, three grains every six hours.

This drug, by acting on the contractile tissue of the uterus, tends gradually to drive the tumor to its nearest surface; that is, to the place of least resistance, either towards the peritoneum, where its extrusion will lead to the lessening of the tension in the uterine walls, or towards the cavity of the uterus, where, in addition to this result, it will become more accessible to radical treatment; or should it not move towards either surface, the persistent pressure to which it is subjected tends to lessen its vitality, to consolidate its fibres, and

so, lessening its size, to lessen the gravity of the symptoms, and especially of that dysmenorrhea of which it was the cause. The favourable progress of the case may be watched by the gradual lessening of the abdominal tumor if it is large, or by the shortening of the uterine cavity.

(c.) INTRA-UTERINE FIBROID.

In this class of fibrous tumors the tumor projects more or less into the uterine cavity, covered by a varying thickness of uterine tissue. The diagnosis of these tumors is more easy than of those in the class last considered, but the investigation has to be conducted with care to exclude all errors. An uterus is found enlarged: we must exclude all possibility of pregnancy before proceeding to explore the uterus for the cause; but a careful examination should give us all the information we require, though it may be only after a patient investigation that we shall arrive at the truth. Usually the cervix is natural, though its position may deviate in many directions from the normal situation. In passing the sound through the cervical canal, the point may be arrested by some acute

flexion to which the pressure of the tumor has given rise, or it may impinge on the presenting portion of the tumor itself. With careful manipulation, however, and by observing in which direction the uterus bulges most, the sound may be so bent, or a straight sound so directed, as to be passed without difficulty the whole length of the cavity, in some instances even to seven or eight inches. And here an observation of Dr. Kidd, of Dublin, is of the greatest use in determining the situation of the sessile portion of the tumor. He has noticed that in the growth of intra-uterine fibroids their base does not project deeply into the uterus, but their free aspect in growing bulges out that portion of the uterine wall opposite to their point of attachment; so that, *e.g.*, if on the sound impinging against the presenting portion of the tumor, we find on passing this point that the sound travels towards the left anterior aspect of the uterus, and especially if we have curved the sound and it seems to go round, as it were, upwards, forwards to the left, and then slightly backwards and to the right, we may infer that we have passed round the free surface of a tumor that springs from the right posterior aspect of the uterine cavity. The dysmenorrhea in cases of intra-uterine fibroid is

characteristic and pathognomonic when other intra-uterine growths are excluded. There is a sense of fulness and tension, the uterus increases in size, and the pain is of a forcing bearing-down character, similar to that of labor pains, due to the ineffectual attempts of the uterus to expel the offending body. There is also, in many cases, a persistent pain in some particular spot, usually above the inguinal region, due to the pressure of the tumor on the pelvic brim or on some of the pelvic nerves.

All immediate treatment is merely palliative, and consists of anodynes as referred to above. To lessen the bearing-down pain in these cases, and in the mural fibroids when their size presses on the pelvic nerves, it is a good plan to tilt up the bed at the feet by placing two blocks of wood, eight inches high, under the legs of the bed; this gives a flatter inclined plane backwards than can be obtained by any arrangement of pillows (see p. 14). The permanent cure of internal fibroids, and so of the consequent dysmenorrhea and dangerous flooding that they give rise to, is, in many cases, one of the most serious that the gynæcologist has to undertake, calling for the greatest judgment, patience, and skill. In some cases, when the base is of no great thickness, the administration of ergot may

tend to push down the tumor, to make it become polypoid, and eventually to force it through the internal os uteri, where it may be successfully reached and removed. But where the tumor is large and has a large base or point of attachment, the process towards its extirpation becomes fraught with great difficulties and no inconsiderable risk to the life of the patient. In many cases, where the pressure and pain are great, much relief may be obtained by a free bilateral division of the cervix. This lessens the tension, and by opening up the cervical canal gives a wider passage for the natural expulsion of the tumor. To be successful the division must be made freely, and as deeply through the fibres of the inner os as is consistent with safety. But where the os uteri is already patent, and the tumor seems within fair reach, the best way is to dilate the cervix without previous incision. Or if it is deemed advisable to incise first, several weeks should be allowed to elapse between the incision and any attempt at tenting; for it is extremely dangerous to introduce a tent into the uterus when there is any chance of opening up a wound through which septic matter may be absorbed. When it has been determined to open up the uterus with the view of removing an intra-

uterine fibroid, the tenting should be carried on steadily day by day, and the patient's condition carefully watched; for should the temperature rise or any other signs of mischief occur, the process should be at once stopped until all febrile symptoms have subsided. Some operators have advised that a rest of twenty-four hours should be occasionally given during the tenting process. On no account should any attempt be made for the removal of the fibroid, whether by enucleation or by the écraseur, until the inner os is sufficiently dilated to warrant us in the belief that it can be removed without delay; for although we may dilate the inner os sufficiently to be able apparently to get at the tumor, yet, unless we are sure we can reach its base, it is better to wait than try to get at it through an imperfectly dilated os. I speak from considerable experience in such cases; and I consider that, unless the uterus is acting with energy, it is extremely hazardous to cut a tumor in half, and leave a raw and bleeding stump, which, as its vitality is interfered with, will invariably slough, and the patient will be exposed to grievous risk from septic absorption. When, however, the cervix has been sufficiently dilated to admit several fingers, the removal of the tumor may be proceeded

with. The galvanic écraseur is not to be recommended in such cases, for the platinum wire being soft, it is with great difficulty applied to the whole base of the tumor, and the length of time necessary to sever a thick tumor exposes the uterus to too much heat. If the écraseur is used it is best to employ the single steel wire, for the elasticity of the loop enables it to be compressed sufficiently to be passed into the uterus, and on arriving at the cavity it springs open, so as to embrace the tumor, and its rigidity enables it to be pressed upwards quite to the base of the tumor. The other method employed is that of enucleation ; and here I would again urge that the operation should be done at one sitting, so as to avoid the risk of septic mischief. The investing capsule should be freely divided through the whole length of the tumor, the capsule peeled away from off the tumor, a strong hook (Marion Sims') fixed in its most depending portion, and the tumor shelled out from the uterine tissue. In some cases the capsule is so thin that it is not necessary to divide it, but the connection of the tumor with the uterine wall may be broken down with the finger (or less safely by a blunt hook), and traction being made on the tumor, it may be removed by the hand alone ; or if

its base should prove too unyielding, the écraseur may then be passed up and the pedicle severed. Ergot should then be freely given, and unless the bleeding is excessive, plugs should not be introduced, lest septicemia should arise. If they are found to be necessary, they should be steeped in carbolized glycerine and removed as soon as possible. There are many details in an operation of this importance, reference to which would render this essay too lengthy.

(*d.*) FIBROUS POLYPI.

Fibrous tumors that become polypoid, and are more usually called polypi, give rise also to dysmenorrhea, though their chief characteristic is the menorrhagia that they produce. The existence of fibrous tumors as polypi is doubtless a subsequent stage in their pathology. Originally formed in the uterine walls towards its inner surface, they become acted upon by the contractile tissue of the uterus until they project into its cavity, and this process is continued until they become prominent with a more or less defined pedicle. When they assume this condition they are in the most favourable state

for removal, and hence it is a disease, in the majority of cases, not difficult of cure. The presence of a polypus in the cavity of the uterus gives rise to steady intermittent bearing-down pains, the result of uterine contractions. As the period approaches, the polypus, in common with the rest of the uterus, swells and becomes still more obnoxious to that organ, the contractions become more painful, owing to the hyperæmic state of the uterus, and at last, when the flow begins, severe menorrhagia is the result, owing to the largely increased surface of uterine lining membrane that participates in the act of denidation. In some cases relief may be obtained by the administration of ergot, with the view of increasing the expulsive efforts of the uterus, and so bringing the polypus through the inner os, or even the external os, when its removal is easy and devoid of risk.

When, however, the polypus is large, and does not seem inclined to come down easily; when, too, the efforts that the uterus makes for its expulsion are unusually painful, and the patient's health is thereby suffering; or where the hæmorrhage, not only at the catamenial nisus, but also in the intervals, is excessive, and is lowering the patient's vitality, no time should be lost in attempting its

removal. The same precautions must be taken as in the removal of intra-uterine fibroids. On no account should the attempt be made to remove an intra-uterine polypus through an inadequately dilated os ; for even though the polypus may seem to be within easy reach, it may, and probably will, happen that the necessary manipulations will induce uterine contractions which, by narrowing the internal os, will render the application of the wire of the écraseur difficult, leading probably to only a portion of the polypus being cut off, and leaving a ragged stump, which will probably slough and be a centre of septic absorption. The process of tenting must be carried out carefully and persistently. It is better at first to pass several laminaria tents the full length of the uterus, and on their removal to insert a sponge tent as large as will fit the cervical canal and pass into the uterus ; then, when the uterus is still further dilated, it is a good plan to place a large tent, butt end first, and place alongside it another with its point first. If this tenting is properly carried out a sufficiently wide canal will be available for the operation. At the time of the operation the tents should be removed, the uterus quickly syringed out with carbolic water, neither sufficiently hot nor cold to stimulate the

uterus to contract; a steel-wire écraseur should then be placed round the polypus, and by careful manipulation coaxed onwards until it is well pushed up to the base of the tumor. If then the screw is turned very slowly, so that the process of severing is prolonged, the polypus may be removed with little or no bleeding. This is very important, as it is not advisable to place any plugs in the uterus, which might, by the retention of discharge, produce septic mischief. If ergot is then freely exhibited, the uterus by its contractions will soon obliterate all trace of the site of the pedicle, and the patient will be cured.

(*e*.) FIBRO-CYST.

Fibro-cystic disease of the uterus consists of a fibrous tumor containing alveoli, or cysts, of greater or less size. These may exist as partly sub-peritoneal, but more usually involve the greater part of the body of the uterus. The catamenia cause considerable swelling of the whole tumor, and produce a dysmenorrhea more of a steady aching, than of an expulsive character. The diagnosis of fibro-cyst of the uterus is beset with much difficulty, owing to the partially solid and partially fluid

nature of the tumor giving signs that simulate those of a multilocular ovarian cyst, or even of extra-uterine fœtation. The history of the case will, however, be of some service, and whereas ovarian tumors are usually characterized by spam-menorrhea, in cases of fibro-cyst there is more often menorrhagia. But the passage of the uterine sound will generally clear up the difficulty, as in the latter the cavity of the uterus will be found elongated. When the tumor is large and rises above the pelvis, relief may be afforded by aspirating the contents of the largest cysts, and at the same time the administration of ergot may, by producing contraction in the more solid portion of the tumor, lead to its ultimate lessening. Inasmuch, however, as fibro-cysts tend to grow faster than solid fibroids, and where the health is becoming much damaged, or life is threatened, the best plan is to remove the tumor by abdominal section, the probably healthy cervix being left as a stump.

Where the diagnosis is certain it is better to make an exploratory incision with the view of removal early, as otherwise the operation becomes very formidable, as the size and solidity of the tumor necessitates so large an opening in the abdominal parietes.

Areolar Hyperplasia.

A case is brought to us with the following history: a multipara, recovery after parturition slow, or retarded by getting about too soon, followed by backache (sacral), with bearing-down pain; the pain described as going through from back to front, with special pain in one or both hip-joints, some tenderness in defæcation, occasionally "irritable bladder;" all these pains exaggerated at the time of the catamenia, which is longer than usual and more profuse; leucorrhea excessive, and of a muco-purulent character. On examination the uterus is felt bulky, the cervix especially being thickened and tender, lips full, often everted, and one or both the seat of an indurated deposit which is chiefly felt on the proximal surfaces. *Per speculum* the cervix appears full, injected, sometimes dusky, more rarely pale, sometimes smooth, more often covered with coarse red granulations. The uterine sound reveals a state of subinvolution of the uterus. Such is a typical sketch of a case of induration following or associated with chronic cervicitis, such condition constituting areolar hyperplasia. The deposit in these cases is slowly formed,

and consists of a proliferation of the connective tissue of the cervix, until there exists a sort of fibrous deposit which in some cases seems to involve the greater part of the cervix, in others to exist as a more or less isolated mass. In many cases of severity and long standing, it is difficult to distinguish the disease from epithelioma of the cervix. The dysmenorrhea is marked and severe, though more usually the constant pain is that for which the patient seeks advice. In these cases all immediate treatment of the dysmenorrhea with the view of palliation is waste of time, for though the suffering may be for a time relieved, such relief is at best only temporary, and nothing but the cure of the disease will relieve the dysmenorrhea. For this it is necessary that the deposit should be removed, and the main indication is so to destroy the vitality of the morbid deposit as to lead to its being thrown off by the uterus itself. In slight cases the application of the actual cautery may produce the desired effect, but the induced slough is not very deep, and the treatment is more prolonged than where a more severe caustic is used. The first step towards a radical cure is to deplete the cervix ; and here puncturing will scarcely subserve our purpose ; for the submucous tissue is so

hard and non-vascular, that enough blood is not lost to relieve the congestion and so to lessen the risk of more active inflammation. Leeches should therefore be applied *per speculum* to the cervix, and repeated, if necessary, at an interval of four to six days; an issue is then to be made in the mucous membrane with potassa caustica, care being taken to guard the vagina from the deliquescent caustic by a pond of neutralizing acid, as vinegar; the cauterization may be carried even deeper, to the formation of a distinct depression, which may be done in the course of one or two minutes; the speculum is then to be syringed out with vinegar and water, cold, to arrest the action of the caustic, and a plug of cotton wool soaked in vinegar applied against the cervix; this may be removed in about six hours. It is advisable to use the strong potassa, in preference to the potassa cum calce, as the excavation is made more rapidly, and we are not tempted to leave any portion in apposition to the cervix, which might injure the neighbouring parts. The case then may be left alone for a week or ten days; all that is required being to syringe the vagina daily with Condy's fluid and water, and occasionally to touch the slough with strong carbolic acid. Ergot should be freely given

during the treatment, as thereby the uterus is stimulated by contractions to aid in the extrusion of the morbid deposit. At the end of a week or ten days the process is to be repeated, and the excavation may then be carried to a greater depth, as the uterus will have begun to get accustomed to the treatment. The appearance of the excavation immediately after the application of the potassa shows a dark charring at the edges where the tissue is softer, consisting of thickened mucous membrane, and presenting a yellowish smooth depression in the centre, where the caustic has eaten into the fibroid deposit; this tissue may be recognized by its peculiar feel of hardness and roughness as the potassa is being rubbed into it. In many cases the uterus acts so vigorously that at the end of a week that which was left as a depression has been pushed forwards until the surface is level, or even protrudes beyond the adjacent tissue. This destruction of tissue is to be continued, a thick slough being thrown off each time, until all hardness has been removed. The parts are then to be allowed to heal up. During the process of healing the uterine sound is to be passed to the extent of an inch and a half, every two or three days, to prevent any occlusion of the os uteri; and

even after it has apparently quite healed, it may be necessary to keep the os patent in the same way for several weeks.

It is very important that great care should be taken that the patient is not exposed to cold during this treatment, nor the sound used so as to produce pain, otherwise an attack of pelvic cellulitis might supervene.

During the application of the caustic the characteristic pain, viz. that through the hips, is often exaggerated ; proving, I think, that the seat of the original mischief is being attacked.

Another method of treating areolar hyperplasia of the cervix is to apply one or more sponge tents, until the cervical canal is well distended, and then by means of a whalebone probe to pass into the whole cavity of the uterus a small strip of lint, soaked in glycerine with about one-third of tincture of iodine or sulphurous acid. This lint is to be changed daily, and the application continued for about ten or fourteen days, when it will in many cases be found that the cervix has become much smaller, and has resumed its natural consistence.

Or a number of deep punctures may be made into the hypertrophied cervix by means of a sharp-pointed petroleum cautery, and as the sloughs thus

produced are thrown off, the uterus contracts, and the cervix returns to its natural size.

Emmet of New York has recently advocated a more rapid method of treatment in these cases, cases often associated with fissure of the cervix: viz. to cut away the hypertrophied portions of the lips of the uterus on their proximal aspect, and bring the edges of the excavation together with sutures. This operation results in the restoration of the cervix to a healthy and normal condition, and in his hands has proved a great success.

Cancer.

Cancer of the cervix uteri, or that more rare manifestation of the body of the uterus, induces dysmenorrhea more as a secondary symptom than as a pathognomic sign. For the morbid infiltration of the disease interferes with the natural resiliency of the uterine tissue, and the recurrent hyperæmia producing vascular tension exaggerates the lancinating pains that are so characteristic of this fearful malady. When the disease commences as epithelioma of the cervix the symptoms are not unlike that of chronic cervicitis as referred to in the

previous section, but a careful examination will not fail to reveal the nature of the disease. In cancer of the fundus the uterus, becoming engorged with the periodic hyperæmia, is the subject of increased pain, which may partake of a bearing-down or extrusive character. But as the disease advances, whether in the cervix or body, the excavating ulceration or destruction of tissue forms an outlet for the blood, so that in advanced carcinoma uteri there may be scarcely any dysmenorrhea at all. Of course, when cancer is recognized in time, the entire removal of the diseased portion is the only method of procedure that holds out any prospect of relief. Lately, however, Dr. Clay has drawn attention to the benefit in such cases of the administration of Chian turpentine, and although the verdict of the profession is not as yet favourable, yet I would strongly advise a fair trial to be given to the drug. In some cases, where I have tried it, and especially when the trial was made with Chian turpentine that was found as old stock in the stores of many chemists before the run upon the drug led to its free adulteration, I found decided amelioration in some of the symptoms; and I would urge that more careful experiments be made; for in so fearful a disease

no means should be left untried that hold out a prospect, however remote, of alleviation, or, as Dr. Clay maintains, in some cases even of ultimate cure.

Membranous Dysmenorrhea.

The term Membranous Dysmenorrhea is given to that condition where at each recurring period a membrane is expelled; whether such membrane is expelled in one piece, as a finger of a glove, or when it comes away in several shreds. It is happily a rare affection, as the pain is often severe and the cure is difficult and tedious.

The membrane thus shed consists of the decidua vera, and its etiology may be thus explained. In normal menstruation the mucosa of the uterus in the process of nidation forms the decidua for the reception of the ovum; and when impregnation does not take place, the useless decidua undergoes disintegration, and is thrown off in impalpable particles with the menstrual flow, and, denidation thus taking place, the uterus sets to work to build, as it were, a new nest against the subsequent period of ovulation. This natural process should be carried on without producing any special pain.

But when a woman is in poor health this process of degeneration and disintegration of the decidua may be retarded, and as the capillaries of the uterine mucosa continue to increase in their activity, and the uterine contractions are called into play, separation occurs between the decidua and the uterine surface, the activity of such surface probably leading to a certain amount of disintegration at the surface of contact, and the decidua being thus loosened, is thrown off whole. Or the patient may be the subject of a perverted hyper-nutrition of the part, which may lead to the formation of an abnormally thickened decidua. In this case the process of degeneration does not proceed *pari passu* with the subjacent activity of the vessels of the uterine mucosa ; and such degeneration taking place first of all at the surface of contact, the decidua is thrown off whole or broken up ; or the rupture of the capillaries giving way beneath the decidua, pushes it off and so sets it free.

The dysmenorrhea in these cases is characterized by severe expulsive pains, the decidua constituting a more or less foreign body which the uterus strives to expel. Also, inasmuch as the giving way of the capillaries of the mucosa may precede the separation of the entire decidua, small clots

form beneath it, which are also expelled with uterine contractions and pain.

The treatment should first of all be directed to improving the general health by fresh air and exercise, purgatives and tonics, such as nux vomica and iron. Should the improvement of the general health not be followed by a corresponding amelioration of the symptoms, local measures must be had recourse to. And, first of all, an attempt may be made by the use of graduated sounds to keep the cervical canal and cavity of the uterus more patent, for patients suffering from this malady are usually sterile and have a contracted os uteri. Should this fail, it will be advisable to introduce a tent in the middle of the inter-menstrual epoch. This acts not merely as an uterine dilator, but also engenders a more healthy condition of the lining of the uterus itself. If this, too, prove of no avail, the whole lining of the uterus should be freely cauterized with the solid nitrate of silver, or a Playfair's probe passed, charged with fuming nitric acid or strong carbolic acid, or a solution of one part of iodine in four parts of carbolic acid; and should all of these methods prove ineffectual, it may be advisable to pass a red-hot sound (made specially as part of Paquelin's Thermo-cautery)

into the uterus, or even a stick of potassa caustica, which, by producing a slough, might lead to the formation of a more healthy lining membrane to the uterus. Even after a cure has apparently been made, such cases will need watching from time to time lest a relapse should occur.

GENERAL DISEASES.

RHEUMATISM.

WHEN rheumatism is chronic, or associated with the gouty diathesis, it may happen that the uterus becomes the seat of neuralgic pain that admits of scarcely any explanation save that due to the constitutional disturbance.

In such cases the contractile tissue of the uterus, bound in no true muscular sheath, is free from the so-called rheumatic pains; but the cervix uteri—consisting as it does of contractile tissue interwoven with connective tissue, which, on the provocation of chronic inflammation, tends to pass into a more or less fibrous tissue—may be the seat of occasional pain that seems referable to the so-called rheumatic infiltration which sets up severer pain in those parts of the body that are made up of tissues more obnoxious to the morbid influence. Then, when the menstrual molimen occurs, the hyperæmia, producing a relative alteration of the tissue-nutri-

tion, gives rise to dull aching and tensile pains that are not easy to differentiate from pain otherwise produced. It is only when we have a clear history of the invasion of the disease that we may put it down as a not improbable factor, and proceed to treat it generally with the view of lessening the by no means severe dysmenorrhea that is its result.

Liver.

When the liver is seriously diseased, as in passive congestion, cirrhosis, lardaceous disease, or any other malady whereby the circulation through the portal system is impeded, the reflexion of the circulation to the pelvic viscera produces menorrhagia, and often accompanying dysmenorrhea, the cause of which may be vainly searched for in the organs of reproduction themselves. It thus behoves the practitioner to be by no means only a specialist; to guard against the tendency to locate the origin of uterine suffering only in that organ itself, but to be broad-minded in his investigation, and to leave no region unexplored if he would prove himself a scientific observer and a successful

healer. When the dysmenorrhea exists in otherwise healthy organs, it is necessary, as a general does, to cast one's eye over the surrounding districts to see if pressure on any outlying region is producing mischief on organs in nutritive relation with the organs that are apparently bearing some of the brunt of the distant attack.

Constipation.

A fruitful source of dysmenorrhea is constipation. It acts in several ways, constitutionally and mechanically. Where constipation exists as a habit of body, the intestines become inactive and congested, active circulation is impeded, a greater weight is thrown on the pelvic organs, and menorrhagia and dysmenorrhea result. Moreover, the mechanical effects of constipation induce conditions of the organs of reproduction that bring about dysmenorrhea as a secondary symptom. Where a mass of fæces remains impacted in the descending colon, or in the neighbourhood of the cæcum, the temporary tumor thus formed presses more or less on the uterus, and in that condition any undue strain or exertion, or a fall, may produce

a version or flexion of the uterus, which the persistence of that condition may render difficult of cure. When the rectum itself is the seat of the arrest of the fæcal mass, it produces a tumor usually below the level of the cervix, and so pressure being made from below upwards, the cervix is forced upwards and forwards, and a condition of anteflexion is the result. Constipation as a habit is more often met with in women than in men. With men health is of the utmost importance, and as their occupations lead them mostly from home early in the day, they are careful to get a proper evacuation of the bowels before commencing their daily work; or, as some prefer, with regularity also, in the evening. So, too, as their time is money, should they be attacked with constipation, the resulting ill-health drives them to find a remedy early, lest they should suffer loss. It is not so, however, with women. Their occupation lies for the most part at home, and the knowledge that at any time in the day they can have the opportunity of relieving the bowels, leads to irregularity in their action; and our bodies being susceptible of habit, such irregularity sooner or later degenerates into a habit—if such a term may be applied to any irregularity—and the neglect brings about disease. Another factor in the

production of constipation in the female is the mismanagement so common in girls' schools: the inadequate supply of water-closets, combined with the little allowance of time, say between breakfast and the daily tasks; the sedentary lives; and, above all, that absurd mock-modesty, and perhaps gross ignorance of even the elements of physiology, in those that have the charge over them, prevent the poor girls from receiving that instruction in the management of their health which might save them from much misery and disease.

When, therefore, we are consulted about dysmenorrhea in young girls, we should not at once rush to the conclusion that the uterus or ovaries are necessarily primarily at fault, but by careful investigation see if habitual constipation be not the actual cause of the suffering. At all events, even if subsequent observation eliminates this from the exciting causes, we have done our duty in our attempt to postpone until all other methods of arriving at a diagnosis have failed, that examination of young girls which, in every case where possible, is to be avoided.

The remedies prescribed should at first be of the simplest kind. And first of all we should try to antagonize the bad habit by the substitution of a

good. The patient should be told to retire to the closet every day at the same hour, whether the bowels seem inclined to act or not. This, if persevered in for some time, will often of itself work a cure, though the result may not be at once encouraging. Or, as a simple remedy, a glass of fresh cold water may be prescribed to be taken immediately on rising in the morning. Should these remedies fail, some mild laxative, such as a mineral water or the compound decoction of aloes, may be administered ; taking care that the amount should be the smallest possible to produce the desired effect. For what we wish to inculcate is a healthy habit, not a habit of medicinal purgation. When there is not a revulsion against castor oil, the taking of a very small quantity, as, *e.g.*, half a teaspoonful regularly in the early morning for several weeks together, will often produce the most satisfactory results, relieving the constipation, and restoring the uterine functions to healthful activity.

SPANNÆMIA.

So-called "anæmia," which is a misnomer, is a by no means infrequent cause of dysmenorrhea. For spannæmia, or scantiness or poorness of blood,

the result of mal-assimilation, brings with it all the train of perverted functional health that manifests itself in neuralgia in various organs, and specially so of the organs of reproduction. Present as this condition more usually is in young girls, we have another indication for the administration of constitutional remedies that will obviate the necessity for the much-dreaded examination. And it is not sufficient merely to exhibit ferruginous tonics, which may act only as goading into a dangerous activity organs weakened by the general mal-assimilation, without paying attention to that probably enfeebled digestion which is the prime factor in the production of that condition of spannæmia which is one of its results. Constipation, if it exists, should first of all be successfully combated; the digestive function should be restored to its proper condition of health, by change of air and suitable tonics; and when the stomach has assumed a more healthy tone, then the exhibition of iron in some form or other—with, in some cases, cod-liver oil—will give back to the blood its proper tone and colour, and the patient who was brought to us spannæmic and chlorotic will at no distant time put on the appearance of perfect health.

VICARIOUS MENSTRUATION.

An essay on dysmenorrhea would be incomplete without some reference to vicarious menstruation; for is it not a true distortion of menstruation, and in its various manifestations as difficult and disagreeable as many another form of dysmenorrhea? It is, however, happily rare, and as such, has not received much notice at the hands of writers on diseases of women. Graily Hewitt and Churchill both have written upon the subject in their respective treatises; but in Dr. Barnes' work we find a very comprehensive *resumé* of its several organic manifestations. By vicarious menstruation we mean that, in lieu of the ordinary normal menstrual flow *per uterum*, we have presented to us some bleeding, or, in some rare cases, serous effusion, the result of the periodic catamenial hyperæmic vascular tension. Strictly logically this is not true menstruation, yet, as it seems to be an alternative

flux, and as its periodicity points to its connection with some arrest of the flow by the ordinary channels, and as we are liable to be consulted on such inconvenient abnormalities, it will be advisable to consider the various symptoms that have from time to time been classed under the head of vicarious menstruation. In most of the cases spannæmia or chlorosis will be found present as the predisposing cause: and on examination of the case, more usually some congenital malformation will be found as pointing to the determination of the malady; as, *e.g.*, absence of the uterus or arrest of its development, the ovaries being, however, present and exerting their dominant influence; or the uterine cavity may be abnormally contracted; or the uterus itself functionally incapacitated for the proper evolution of the process of nidation.

Head.—It occasionally though rarely happens that at the menstrual molimen some symptoms may arise pointing to cranial mischief. It may be that there is transient giddiness and a sense of fulness in the head, with severe headache; this condition may be extended until even the production of apoplexy and paralysis. Following in the same train of symptoms are conditions of alteration of vision and partial amaurosis from

retinal hæmorrhage; there may be also conjunctival ecchymosis. In these cases the hyperæmic pressure may have resulted in serous effusion, or there may have been at some time intra-cranial hæmorrhage, as serious as that arising from other causes, but, when the cause is known, more amenable to treatment. Epistaxis is by no means a rare manifestation of this malady. Beyond its inconvenience it is not much to be deplored, as it allows of the escape of blood, and so of the balance of pressure, by an easy and ordinary safety-valve.

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oozing of blood took place from it. As the case proceeded, this latter symptom passed away, and great swelling of the tongue, so as to impede articulation and mastication, took its place.

Lungs.—Hæmoptysis is a not infrequent manifestation of vicarious dysmenorrhea. It may take place, not only when, from natural delicacy of the lungs, there is a predisposing tendency to such hæmorrhage, but also when the lungs are otherwise healthy. It need not be pointed out that great care is requisite to exclude the mistake of our having a normal case of phthisis to deal with, as upon the differential diagnosis rests our arriving at a favourable prognosis or otherwise. The hæmoptysis may take place to a slight extent at the onset of the period, or may be severe and last during the whole of the catamenial epoch.

Stomach and Intestines.—Similarly the hyperæmic periodic pressure may find an outlet through another mucous membrane, such as that of the stomach, and produce hæmatemesis. Here, too, we must be careful to exclude other sources of the symptom, for though it may happen that the hæmorrhage may take place from an otherwise healthy organ the presence of ulcer of the stomach may deter-

mine the hæmorrhage more easily to the diseased spot.

It not unfrequently happens that even during ordinary menstruation, when the determination of blood is more marked in the pelvic organs, bleeding takes place from already existing hæmorrhoids, for when the periodic vascular pressure finds no outlet through the proper channel, rectal congestion leads to the formation of piles and to their subsequent bleeding.

Skin.—The skin, in subjects predisposed to cutaneous diseases, becomes a favorite outlet for the hæmorrhagic tendency of the menstrual molimen, as exhibited in erythema nodosum, purpura, and other ecchymoses ; and especially where ulcers exist, their healing is arrested, they look more angry, and finally free hæmorrhage takes place from the denuded surface.

There are some other manifestations of the disturbance of the system that are undoubtedly due to the catamenial nisus : such as in cases where menstruation should not ordinarily take place, but where the abnormal activity of the ovaries produces symptoms that are clearly traceable to such activity. During pregnancy a

spurious menstruation may occur from the cervix uteri where there exists an extensive granular inflammation of the lips of the uterus. Or, during pregnancy also, there may arise periodic attacks of hæmatemesis, especially in those cases where an hereditary predisposition to vomiting may be traced. So, too, there may sometimes happen bleeding from the nipples, evidencing the connection that exists between the ovaries and the mammæ. *Vice versâ*, it occasionally happens that suckling produces uterine hæmorrhage; and the secretion of colostrum has been noticed (Barnes) to accompany each menstrual epoch.

The rational treatment of vicarious dysmenorrhea consists in deflecting the abnormal flow into its normal channel. For this purpose we must have recourse to stimulants to the uterus. The patient should have fresh air and exercise; she should prepare for the catamenial period by a course of hot baths, especially at the time using the hot sitz-bath with the hot douche. Leeches should be applied to the cervix uteri or perineum, Faradization should be used to the uterus, and special trial should be given to the ice-bag to the lower lumbar region, the beneficial effect of which in promoting the menstrual flow in many cases cannot be over-

rated. A galvanic stem may with advantage be worn in the uterus, when practicable, for some weeks. As internal remedies ergot, iron, turpentine, and pulsatilla, with some drastic purgatives, may be most advantageously exhibited.

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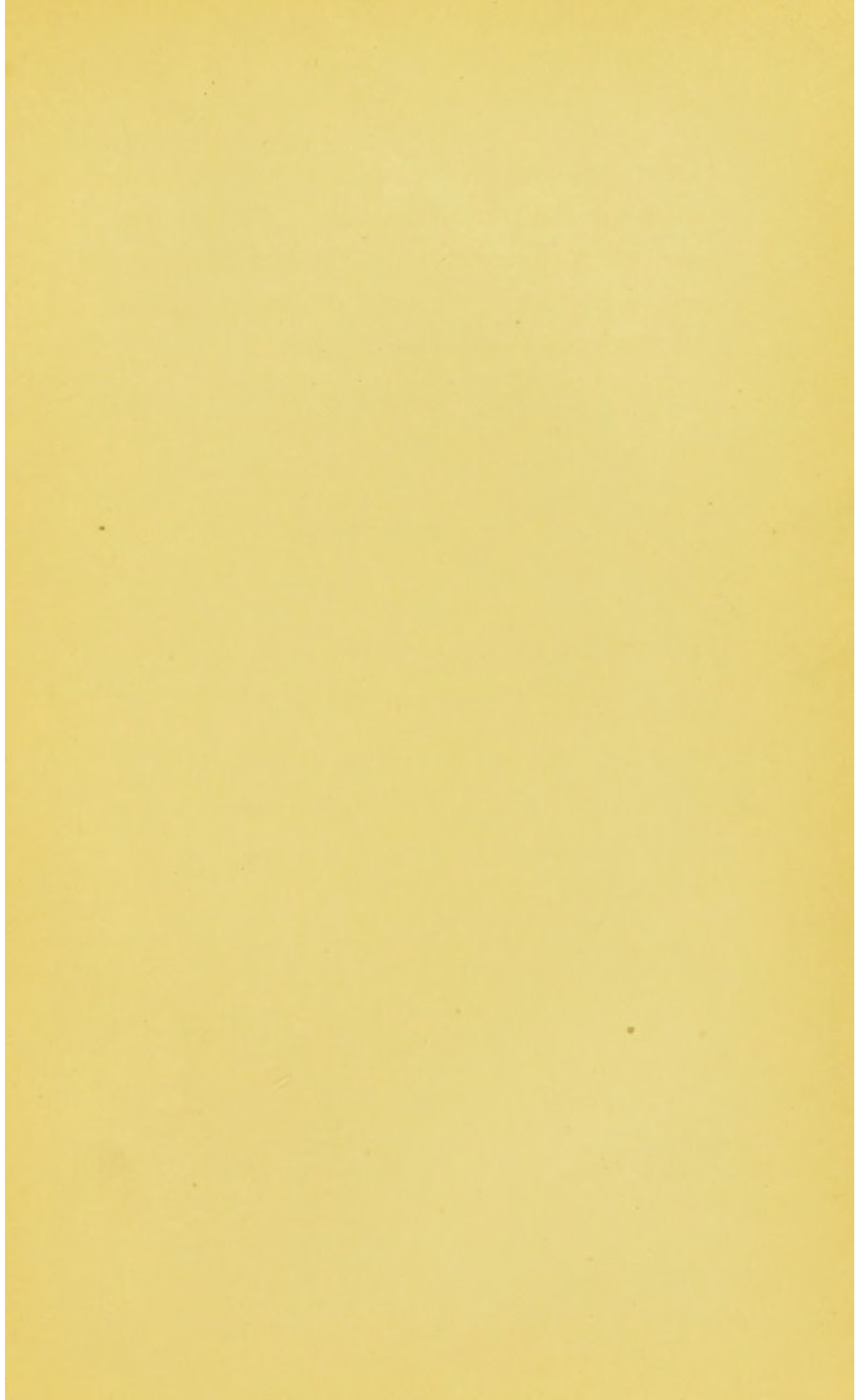

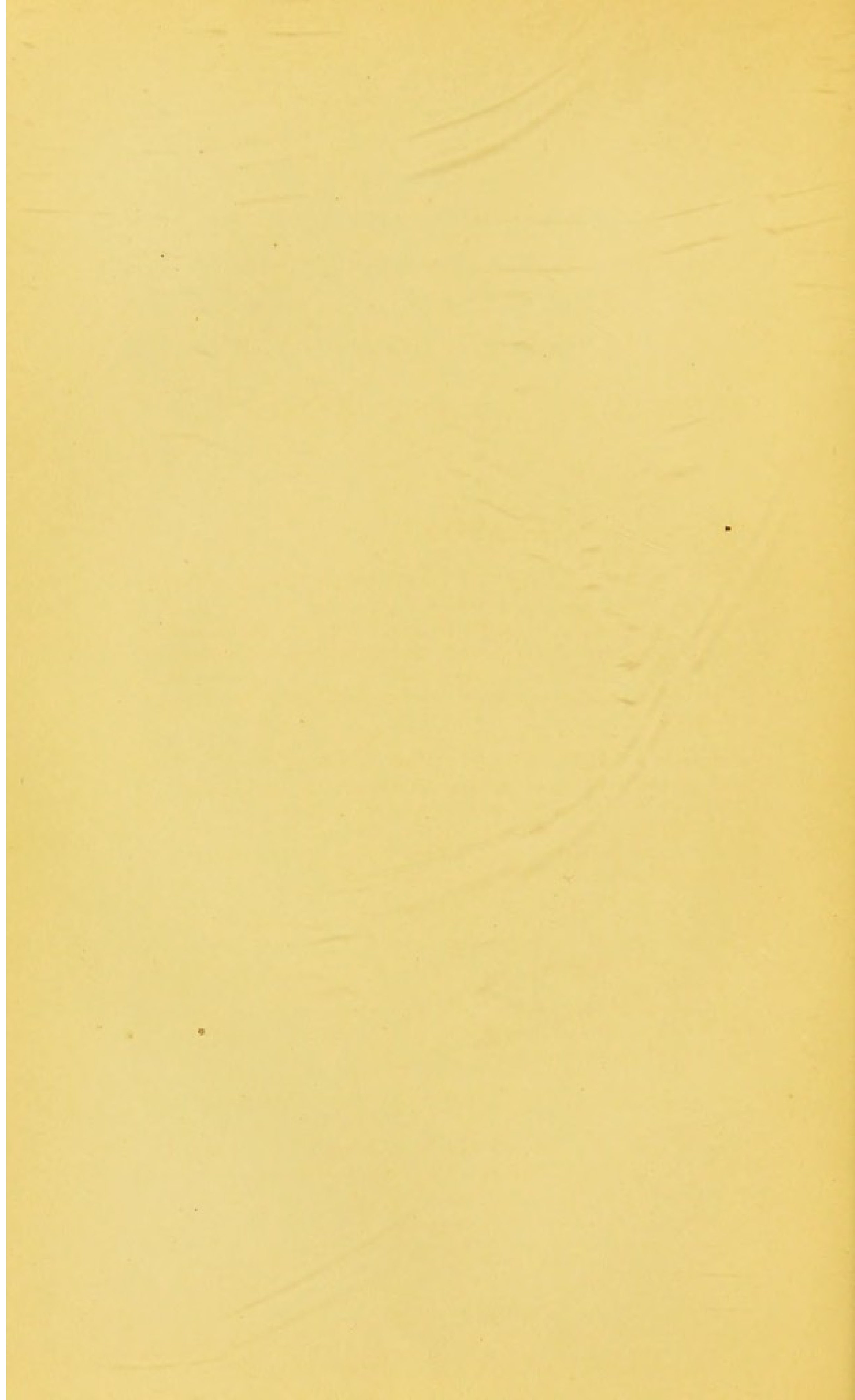

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