Result. Good vision; a round pupil. There is a loud cardiac *bruit*.

CASE X. T. G., aged 62, a mechanical draughtsman, healthy, rather feeble, who had suffered a good deal of anxiety of late, had double cataract. The upper section was done in the right eye without accident to the iris or vitreous humour. The incision was slow in uniting, but not so much so as in Case XI—a younger and much stronger subject. No operation was performed on the left eye.

Result. Good sight. The pupil is central and round. The sounds of the heart are natural.

CASE XI. C. B., a nailer, aged 51, had double cataract. The capsule of the right lens was thickened and opaque. The left lens had a slightly greenish shade. The eyes are deep set, and the brows very large and prominent, which give a forbidding aspect to a countenance, which, in other respects, was not disagreeable. An operation for convergent strabismus was performed in 1856, in anticipation of the cataract treatment. Severe headaches preceded the dimness of sight. The lenticular disease is referred by the patient to a contusion of the eyes, from a thrust of a mau's finger, about four years since. The lower incision was executed in both eyes, and on the same day, without accident to the iris or vitreous humour. From the toughness of the capsule, some difficulty was presented in the extraction of the right cataract, and a little vitreous humour escaped. No inflammatory pain followed. Union took place very slowly. Meat was given on the second day after the operation, and ale on the third. Although the patient was a younger and stronger man than T. G. (Case X), the repair of the wound was more tardy than in his case.

Result. Good sight in both eyes. The pupils are central and round; a very small pellet of capsule adheres to the lower margin of the right pupil.

The sounds of the heart are natural.

CASE XII. L. R., aged 77, a female, has double cataract. The left is complicated by retinal disease. The right eye affords a good specimen, as in Case IX, of Morgagnian cataract. The anterior capsule is speckled, which gives the appearance of gruel to the cataract. When the head was turned back, the solid nucleus disappeared, and a general milkiness was substituted. Illness obliged the patient to leave the house before the adoption of any surgical proceeding.

REMARKS. These cases present a very fair practical exposition of cataract as met with in the practice of a public institution. The number of patients submitted to surgical treatment was *eleven*, of eyes *thirteen*.

Nine of the latter were treated by extraction; *two* by reclinatio; *two* by solution. The upper incision was selected in *seven*, the lower *two*. In three patients, the fellow eye of that operated upon was obviously diseased in its deep seated tissues. In one of these, the diseased globe was excised, and an excellent recovery after the extraction of the cataract secured. In the others (*two*), acute sthenic inflammation followed.

Original Communications.

THE PHYSIOLOGY, PATHOLOGY, AND THERAPEUTICS OF THE MOTOR FUNCTIONS OF THE UTERUS.

By H. HANNOTTE VERNON, M.D., Physician to the Great Northern Hospital; formerly Resident-Accoucheur to St. Mary's Hospital.

[Continued from page 827.]

PART III.—THERAPEUTICS.

BEFORE attempting to lay down what I believe to be the true methods of treatment applicable to disordered states of the uterine motor functions, I will pass in review very briefly some particulars relative to the past history of this aspect of the medical art. In no department of medicine, perhaps, has there been a more marked revolution than in that part of it which relates to uterine therapeutics. And not only has there been one revolution, but there has been a second; and obstetricians have oscillated by turns between the wildest credulity as to the virtues of remedies, and the most dogged scepticism.

The very earliest practitioners of obstetrics had very simple ideas on the subject of labour, and as to the objects to be obtained by medication, manipulation, incantation, or prayers. The object of every therapeutic endeavour was to make labour *quick* and *easy*. As regards the part acted on, their idea was that medicines or applications of any kind were of three kinds; viz., such as brought the fœtus down, such as brought the secundines down, and such as brought down both. Now, if this could be done *quickly* and *easily*, then obstetrics had achieved its triumph. As regards the choice of means, the ancients were guided by whether the fœtus was alive or dead; the foundation of such difference in treatment being their belief that the fœtus was the main instrument in its own birth. They speak frequently of births being delayed by reason of the weakness of the fœtus, and evidently thought that it worked its way out just as a young crocodile would wriggle out of its shell. Had not the placenta been such an unmistakably anti-locomotive object, the obscure property of a "*conatus ad partum*" would doubtless have been attributed to it also. So great a share, indeed, did ancient physicians imagine the fœtus took in the process of its own birth, that they never thought of any means of assisting labour during the life of the fœtus, except such as were mechanical. The fœtus was looked upon as exercising a sort of *vis à tergo*; and if this was not sufficient, then it was to be supplemented by a *vis à fronte*—i.e., by some mechanical appliance. Hippocrates, the old man of Cos, who, by the way, was a "general practitioner," gives an elaborate account of the drugs to be used to bring down a *dead* fœtus. He enumerates also the proper drugs for bringing away the placenta, as if the birth of these were a process essentially distinct from the fetal birth, specifying for this purpose mugwort, dittany, castor, spikenard, rue, wine, flower of white violets, leaves of agnus castus, garlic, and small onions. Celsus was evidently under the same delusion as to the active part the fœtus takes in its own birth, for he confines his remarks to cases where the fœtus is dead; he says: "*Si vero infans intus decessit, quo facilius deiciatur, malicorium ex aquâ terendum, eoque utendum est.*" This curious opinion that the child worked its own way out of the maternal nidus, or at any rate assisted itself very much, although abandoned a long time ago as a formal doctrine, nevertheless continued to influence obstetrics up to a comparatively recent date. Thus in all the old herbals and obstetric books oxytocic remedies were arranged in three distinct categories, corresponding with the ancient idea mentioned before; viz., that the live fœtus, the dead fœtus, and the secundines, had each some special properties of their own, which demanded different drugs for their expulsion respectively. And, indeed, so late as within eighty or ninety years of the period when Denman was at the zenith of his reputation, and within fifty years of Smellie's time, this ridiculous distinction as to the action of oxytocics was kept up. Ignorance and credulity are constant associates; for we find that the animal and vegetable kingdom alike were ransacked, and multitudes of substances of the most innocent nature generously invested with the property of procuring "*ease* travel" or "*speedy* deliverance," or "*bringing down* the dead fœtus," or "*expelling* the secundine."

The nature of the remedies in vogue formerly, and the modes of applying them, are curious in the extreme. Poultries and unguents were perhaps the least objectionable appliances; but the favourite mode of proceeding seemed to be to cram an atrocious mass of wool and unguents up the vagina, or to force something still more execrable down the throat. Various kinds of excrement were recommended. Hippocrates gave "*the dung of a hawk in wine.*" His successors gave the excrement of the horse, the goose, the vulture, and even human excrement. Schröder is said to have given bugs. The secundine of various animals, to wit, the cat and the goat, is another of the pleasant medicaments used in the good old times. Powder of earth-worms, to the extent of a $\frac{3}{4}$ or $\frac{5}{4}$, also figures as an important remedy. The powder of horse's testicles, the gall of the scorpion fish, the liver of the cormorant, the flesh of the weasel, and burnt horse's fat, with eel-powts, toads, and newts, complete the list of animal abominations. The list of vegetable oxytocics, though much more copious, is decidedly cleaner. Some of them attained to such reputation as to be popularly named according to their real or supposed virtues; thus the aristolochia was called birthwort; and one of the species of horehound went by the name of motherwort. Some of the most remarkable were such as we believe at the present day to possess some control over the contractions of the uterus. Thus savine and cinnamon are mentioned in all the old herbals as used for this purpose. A very interesting paper by Mr.

Howship Dickinson appeared in the *Medico-Chirurgical Transactions* of last year, the object of which was to show that digitalis possessed the power of inciting the uterus to contract. But the diligence of our forefathers had included foxglove amongst the helps to labour two hundred and fifty years ago. If we even turn to the only mineral oxytocic known, viz., borax, we find that it was an ingredient of the "pulvis ad partum" of the Edinburgh pharmacopoeia of 1699. And Dr. Salmon gives pretty nearly the same formula as the "pulvis ad partum" in his curious dispensatory, and says "it is a great secret for this purpose; and if you add round birthwort root, myrrh, bryony root, and inspissate juice of savine, the medicine will be much the stronger." Oil of amber was formerly extolled as an oxytocic, and entered into the composition of both the above mentioned powders. Then there were some celebrated pills called "Scheffer's uterine pills"; they were composed of hiera-picra, asarabacca, gentian, birthwort, elecampane, myrrh, dittany, madder, saffron, and syrup of mugwort. All these herbs and scores of others are confidently spoken of in the old herbals as of undoubted potency. One authority went so far as to say, that the cyclamen or sow-bread acted so powerfully on the uterus that it was not safe for a pregnant woman to go near it. He took the precaution of setting up sticks in his garden wherever it grew, with notices to breeding women not to touch or remain near the herb. Should pregnant women incautiously walk over it, he averred that they would surely abort or fall in labour directly. A Flemish physician, by name Dr. Francis Rapard, claimed nearly equal virtues for the common columbine; he administered the powdered seeds. In addition to those I have specially mentioned above, the following appear to be the agents most probably possessed of some real oxytocic powers, which were used by our forefathers; aloes, flower de luce, cummin seed, galbanum, lavender, mistletoe, rue, sage, tormentil, darnell, laburnum, dittander, colocynth, hippoglossum, male fern, angelica, imperatoria or masterwort, anagallis aquatica, polygala senega, and the various products of the pine and fir trees, such as tar and turpentine.

It is curious to observe how servilely the different compilers seem to have copied from their predecessors. The virtues of different herbs are described in almost the same words in book after book. Turner's *Herbal*, published in 1551, mentions so many plants which "help the birth," that one would almost fancy the vegetable kingdom had been created one monstrous repertorium of obstetric simples. The same is true of Andrew Boord's *Breviary of Health*, published in 1575; the same of that of Dodoens, published in 1619. Johnson's *Herbal*, published in 1633, repeats the same things, and adds some curious tales; but the most wonderful work of all is that of "William Langham, Practitioner in Physic," published also in 1633. He enumerates and describes the virtues at length of 48 herbs which will surely expel a dead child; 56 which guarantee "easy deliverance"; 90 good for "women in travell"; and, to turn to analogous remedies, the astounding number of 108 infallible emmenagogues.

This farrago of simples and other uterine remedies, however, disappeared from medical practice very rapidly after about the year 1700. In the second edition of Smellie's *Midwifery*, published in 1752, he says, when speaking of the treatment of lingering labour: "But if she (*i.e.*, the woman) is not to be satisfied, and strongly impressed with an opinion that certain medicines might be administered to hasten delivery, it will be convenient to prescribe some innocent medicine that she may take between whiles, to beguile the time, and please her imagination." Stimulants, depletion, and moral influences seemed to be all that Smellie could rely upon in lingering labours, apart from manual interference. His faith in oxytocics was evidently very small; and when he gave medicine it was confessedly only as a *placebo*.

About forty years later Denman writes thus: "It is perhaps beyond the influence of any earthly power to give to the uterus its native or genuine disposition to act, to add to its power, or in any material degree to increase its energy, though many applications and medicines have been recommended and tried for this purpose. Human art may put or preserve the constitution in a state fitted for such action, or it may remove any impediments to its effect; but the principle is wholly independent of the will of the patient, or the skill of the practitioner." This citation of Denman's opinion marks the extreme reaction from the credulity of the former century; it is a kind of obstetric Pyrrhonism, doubting everything. But this state of matters was not destined to last for any great length of time; for, eight years later than the edition of Denman I have quoted from, viz., in 1803, Herder made his

experiments upon galvanism; and in 1807 Dr. Stearns, of New York, introduced the ergot of rye into the place in obstetric practice which it has held ever since.

We now come to modern oxytocics. The list has increased since Denman averred that no earthly power could materially increase the contractions of the uterus. A second reaction has set in, and we find ourselves making a reverse movement; not really retrograde, it is to be hoped, but only apparently so; for we have before us the warning examples of extreme credulity and extreme incredulity; and the light of an advanced physiology and pathology by which we may steer safely through the dangers of scepticism on one side, and too ready belief on the other.

It is, perhaps, the most encouraging circumstance in connection with modern therapeutics, that we are able to connect much of our treatment with the facts of physiology and pathology in a clear and rational manner. Even where treatment is of little avail, so far as it does actually work for good, we can, in a great many cases, trace the action of the therapeutical measures adopted to either the operation of their well ascertained physiological actions, or to a quasi-specific action, so well established and easily recognised, that, in spite of empiricism, we feel ourselves resting upon a safe basis. In the treatment, for instance, of traumatic inflammations of all kinds, of acute rheumatism, of scurvy, or of ague, we are able to connect our ratio medendi either with a series of well known facts in physiology, or with some ultimate and empirical facts, either of which are abundantly satisfactory. And even where we can push our inquiries no further back, we appear in this day to have made up our minds to the acceptance of ultimate facts, a virtue which, to our forefathers, was quite unknown. When facts fail us, and our induction is imperfect, we do not now, so frequently as formerly, fall back upon some hypothesis or figment of the imagination to complete our philosophy, nor create for ourselves a delusive *chiaroscuro* out of a jumble of facts and fictions. In obstetric medicine it is fortunately our privilege to be able to draw the connection between science and art very close. Hardly any treatment of aberrant forms of uterine motor action are insusceptible of an explanation by a reference to physiology; and the therapeutics of such morbid states are generally to be found as clearly and closely related to physiology as the pathology itself. If this really be so, then it may be asked to what purpose is it that we are vexed with the reiteration of what is already known? My answer is, that in the first place the facts pertaining to this subject have hitherto been lying scattered abroad to a certain extent; secondly, that although much is known in each separate department of hystero-dynamics, the correlation of the facts in each has never yet been thoroughly shown, or, indeed, attempted at all in a systematic manner; and, thirdly, I believe I have not merely displayed the facts and principles of the subject in an orderly manner, but have made a truer physiological analysis of labour than any yet extant, given a more copious account of the pathological facts than has hitherto been done, and added something to the therapeutical knowledge we possess in this department of obstetrics.

It will be remembered that in the physiological analysis of labour, five elements were specified as the anatomical constituents, whose functions taken together are parturition. To speak briefly, they may be mentioned as—

1. Peripheral arrangements of cerebro-spinal and sympathetic nerves.
2. Incident cerebro-spinal and sympathetic nerve-fibres.
3. Nervous centres, both cerebro-spinal and sympathetic.
4. Efferent cerebro-spinal and sympathetic nerve-fibres.
5. The uterine muscle and other muscles.

In the pathological investigation it may be remembered that, to a great extent, the *second* and *fourth* of these elements were eliminated, as not being of primary importance in a pathological point of view. The same is true as regards the therapeutics of morbid uterine motor action, as a necessary sequence. I shall, therefore, treat of the therapeutics of morbid uterine motor action in three sections, each corresponding to those physiological elements and pathological developments which are of primary importance. Thus, in relation with peripheral arrangements of nerve, of certain natural capacities, are a variety of morbid states, consisting of alterations in the manner and degrees in which such endowments are manifested; and we consequently look for means of cure specially adapted to these aberrations. The nervous centres again have their normal actions, and their abnormal, both of which have been traced, guided by the same thread; and these latter have their own

therapeutical indications. And the uterus again has a physiological condition of its textures, as well as a diseased, and we seek for a means of either restoring its natural condition, or obviating the ill effects which may possibly accrue from its failure.

It will naturally follow, then, to arrange the therapeutics of the subject under these three heads:

- I. Modes of diminishing the irritability of cerebro-spinal or sympathetic nerve-terminations of the uterus itself, or of parts in sympathy with the uterus.
- II. Modes of exciting the nervous centres concerned in parturition, of exalting their polarity, or of diminishing it.
- III. Modes of preserving the uterus itself in, or restoring it to, a healthy condition as regards its textures, or of obviating the dangers to which a deficiency in its quality may give rise.

I. Hyperæsthesia of the various nerve-terminations in connection, either immediately or remotely, with the uterus, encounters the obstetrician very frequently. To be able to recognise them, or to be aware of their existence and nature, which amounts practically to the same thing, will smooth many of the minor difficulties of patient and accoucheur. To commence with the uterus and the vagina, I will refer first to irritable conditions of these organs, and morbid states of certain of their contents which admit of alleviation. Irritable states of the upper part of the vagina and vaginal surface of the cervix uteri, existing at the time when labour actually takes place, may be treated in two ways: either the parts themselves may be made the subjects of various applications, or general anodynes may be resorted to. In minor cases, where suffering is not very intense during the early stage of labour, local medication is perhaps the best, because it does not interfere with the natural chain of events in any way. When acrid and profuse discharges exist, whether connected with specific disease or not, injections of carbonate of soda in solution with watery extract of opium, may be serviceable; or, the parts having been cleansed by tepid injections, various extracts may be smeared on the surface of the cervix uteri, or left to produce their effect in the vagina as soluble pessaries. Conium, hyoscyamus, belladonna, and watery extract of opium may all be used for this purpose; I have saturated a sponge with solutions of these extracts and introduced it into the vagina, with good effect. A part of the influence of such remedies is of course due to their absorption into the circulation; but in the main their effect is local. Emulsions of oil and mucilage may be used for the purpose of allaying an irritable condition of the vagina; and they will be the more efficacious if containing one of the anodyne extracts mentioned before. An opposite kind of application may be used if the case comes under observation two or three days before labour sets in; viz., a lotion of nitrate of silver of about five grains to the ounce. I am referring now to instances of cervico-vaginal leucorrhœa, and more especially to those which are dependent upon constitutional syphilis. When the epithelium of the upper part of the vagina desquamates in patches, leaving a highly injected surface bare, the nitrate of silver is peculiarly suitable; indeed, no other agent appears to be able to allay even temporarily the irritability of the canal under such a condition; and, failing its use, recourse must be had to the internal administration of anodynes—to centric medication, in short, instead of eccentric. When abrasions or ulcerations exist, which is not often the case, the irritability they produce may be treated in exactly the same manner. Cicatrices, if not dense enough to require surgical interference, are best treated by the application of some anodyne extract, while at the same time antimony and opium internally will materially assist, not only in favouring relaxation of the part, but in inducing a quiescent state of the nervous centres, as well as of the vascular system. Plethora of the uterus is a condition which it is hardly possible to deal with unless it be discovered some time before the advent of labour. It is characterised by lingering persistent pains in the early, and irregular crampy pains in the later stages of labour. It is associated, moreover, with a full state of the hæmorrhoidal veins, with a general engorgement of the pelvic viscera, with torpor and congestion of the liver, and with a tendency to obesity or general plethora. The obvious plan of treatment is the exhibition of moderate purgatives; not, of course, pushed to such an extent as to bring on labour. Small doses of blue pill at night, and potassio-tartrate of soda in the morning, given several days consecutively, will prove of service; but generally speaking the actual existence of uterine plethora is unknown till labour commences. Irritable conditions of the

uterus, arising out of inflammations of the placenta and amniotic sac, are commoner than is generally supposed; though, connected with syphilis, they are by no means invariably so. I have been able to trace distinctly the progress of inflammation of the amnion sac, from the first symptom of rigors to that of local pain and tenderness, then dropsy of the sac, then premature and painful labour. I have seen patches of recently effused lymph on the membranes in such cases. The treatment of irritability from such a cause is the treatment of the inflammation itself; i.e., if there is opportunity before labour for treatment at all. Leeching, grey powder, and Dover's powder, stupes, and fomentations are appropriate. But if labour has begun, we may choose between sedatives internally or mere sedative applications as described before. The irritability which derives from the presence of tumours must, if such growths are irremovable, be treated by centric medication—opium, belladonna, hyoscyamus, conium, or chloroform.

The reflected irritations which influence the character of labour form a more important class of phenomena than the purely local hyperæsthesiæ of the uterus and vagina. The treatment of the morbid alterations in the character of the uterine contractions which accrue from the numerous forms of reflected irritation, may be resolved into two modes of influencing such alterations. In the first place, it may be sought to bring the polarity of the nervous centres, through which all impressions must pass, down to a level somewhat below the natural standard, or at any rate below the standard which obtains at the time when interference is made. In the treatment of reflected irritations, this principle has been too much overlooked; it has been very much the custom to inculcate the propriety of removing the sources of irritation; but it has been insufficiently remembered that the nervous centres are after all capable of very much modifying the impressions conveyed to them, and through them. An irritation, in short, is only important according to the value it possesses after transmission through a nervous centre. Morbid excitement of nervous centres, as in tetanus and hydrophobia, present us with violent actions of a reflex nature, quite out of proportion to the stimuli applied; and various kinds of narcotism, on the other hand, show us a disproportion of a reverse kind between excitation and motion. The law of physical dynamics, which tells us that action and reaction are equal, is not true in vital dynamics; for at the point of reflection we have organs which are capable of multiplying or diminishing the incident stimuli. Whatever organs, then, may be in a state of morbid irritability, and from whatever reflected irritations the uterus may be suffering, provided the special features of the case do not forbid it, we are always open to consider how far we may avail ourselves of the assistance of narcotics or anæsthetics. I shall not enter upon the general question of the employment of such agents here, because I wish to discuss it in another section, and in connection with the properties of some particular remedies. But I will only insist upon this; viz., that there are numerous cases of mal-action of the uterus arising from reflected irritations which are amenable to, and properly treated by, narcotics and anæsthetics, and that such a method of treatment is not only justifiable, but preferable in most cases to any other. Practically it will be found that in a large majority of cases there is not time to initiate any treatment beyond the administration of general anodynes, narcotics, and anæsthetics.

In the event, however, of time being sufficient to allow of our attempting to subdue the various eccentric hyperæsthesiæ which are reflected to the uterus, by acting upon the organs themselves which are in an undue state of excitability, the following are the means which appear most adapted to the end in view. And first of all, with regard to states of the ovaries. It is in the earlier months of pregnancy, that is to say, from the second or third to the seventh months, that hyperæsthetic conditions of the ovaries influence the uterus. Whether this irritability of the dominant organs of the female sexual economy is of the nature of neuralgia or congestion, or subacute inflammation—or whether it be an exaltation of a special force which normally determines the advent of uterine combinations, appears very obscure; and, like many obscure things in medicine, not very important in a practical point of view. Deep seated pain in the flank, tenderness as deeply situated, pain down the thighs and in the inguinal region, wandering pains in the abdomen, irritability of the bladder, slight uterine contractions, and the commencement of secretion from the vagina, or a slight show of blood, are symptoms which indicate the several varieties of ovarian excitement *about to terminate in labour*. In the pathological investigation, I stated that conditions of the ovaries do not influence mature parturi-

tion in the same way as they do premature labour; and this fact does appear to me to make rather against the theory which regards the ovaries as the fountains and originators of the parturient impulse; for if morbid excitations of the ovaries are at the root of abortions and painful premature labours, which is an undoubted fact, *à fortiori*, morbid excitations of the ovaries should still more concern mature labour. I need hardly say that this is not the fact. In short, the further we are from mature labour, the less conspicuous is the influence of the ovaries over the parturient act, as far as all morbid actions are concerned; and we have yet to learn that a subtler influence issues from the ovaries at the full period, or one essentially different in its nature from the influence which determines abortions and premature births. As far as regards ovarian hyperæsthesia occurring at the full period, and during the actual progress of labour, I must confess myself ignorant, both as to its diagnosis and treatment: as to the latter, however, I see no room for special medication, even if the disorder were recognised; I should resort to general anodynes. In early pregnancy, however, the case is different. Hygienic precautions are perhaps as useful as drugs in allaying or preventing ovarian excitement. Recumbence exercises an influence over even neuralgia of the ovaries in the unimpregnated condition, which appears inexplicable even by reference to the effect of posture upon the circulation in these organs; in the pregnant state its influence is still more marked. The bed slept in should be hard, the coverings light; the temperature of rooms inhabited cool; the diet unstimulating, and especially as regards wine, spirits, or malt liquors; for the ovaries resent alcoholic drinks as decidedly as the testicles do when inflamed or irritable. I have seen half a glass of bitter ale throw a patient into a paroxysm of the acutest suffering, when the ovaries have been the seat of neuralgia. Sexual congress should, of course, be prohibited. A solvent condition of the bowels should be kept up by the use of sulphur or Rochelle salts; resinous aperients should be avoided, as they all stimulate the rectum more or less; and active diuretic salts should also be avoided, for they stimulate an organ which is in very close sympathy with the uterus; viz., the kidney. Local bleeding does not appear to be advisable, unless tenderness on pressure is a prominent feature of the case; but counterirritation I would certainly resort to. The establishing of a blister is certainly producing a new eccentric irritation; but then it is substituting an irritation of a part not in special sympathy with the uterus for an irritation of an organ most specially in sympathy: and this is its advantage. Medicines which possess a peculiar anodyne influence over the ovaries are not much known. Antimony, ipecacuanha, lupuline, camphor, and sugar have been looked upon as sedatives both of the male and female dominant sexual organs. Antimony and other drugs which create nausea do certainly allay sexual excitement; but whether this is due to their effect on the circulation primarily, or to a special action on the sexual organs, there does not appear sufficient evidence to determine. Aconite may be used on the same principle. Lupuline I have tried, and I see no reason to believe that it is anything more than a general anodyne and narcotic; and camphor does not, in my opinion, exert any special influence over the ovaries. It may appear strange to speak of sugar as an ovarian sedative; but there are facts which tend to show that this article is not without a very marked influence upon the sexual system. I have been told by Americans and West Indians that at the time of the sugar harvest, when the negroes eat large quantities of sugar, they become very fat, and almost entirely cease to copulate. I have been told also that whites who indulge in sugar in the same way experience temporary impotency, or such a degree of disinclination to sexual commerce as renders them proof against any solicitations, however seductive or importunate. Whether these facts are applicable to the treatment of ovarian hyperæsthesia, I have not been able to ascertain. I made some experiments, in which sugar was given to the extent of half a pound a-day, but no satisfactory results were arrived at; the experiments, however, were neither numerous nor very well chosen, so that the inquiry still remains perfectly open. Cannabis Indica has not received the attention it deserves in relation to the sexual system. On the whole, much faith is not at present, at any rate, to be placed in sedatives which act specially on the ovaries. As, however, habitual irritation of these organs invariably sets up exalted polarity of the nervous centres, we can fall back rationally and usefully upon general anodynes; these, with counterirritation, recumbency, laxatives, and careful hygienics, will serve our purpose moderately well.

Irritable states of the bladder occurring during labour, and arising out of calculus, cystocele, or a chronic catarrh of its mucous coat, are not very much amenable to topical medication. If the calculus could be kept in any particular position during the progress of labour, it would be an object to adjust its position to the fetal presentation; but I should suppose that nearly all that could be done would be to keep it above the pubes as the fetal head descended. One point, however, seems obvious; viz., to keep the bladder as full of urine as may consist with safety. By this means the whole weight of the calculus will not be concentrated on the surface it is actually in contact with. In cystocele, an exactly opposite course is best; the water should not be allowed to collect in the bladder at all. I have passed a small catheter into the urethra in such a case, and at the same time placed an ovoid sponge in the vagina, so as to prop up the prolapsed vesical wall; the patient in this case declared she suffered much less than on any previous labour since she had been subject to the prolapse, and the treatment evidently produced a marked diminution of her sufferings. When there is an irritable state of the bladder from catarrh or chronic inflammation, it may not be amiss to wash the bladder out, by means of a double catheter, with warm water, and then to rely upon a full dose of opium.

Fissure of the rectum can only be treated by suppositories of watery extract of opium, or by overpowering doses of opium or morphia, or by chloroform. Hæmorrhoids, in so far as the irritation they produce, may be dealt with in the same way. Rectal irritations are the most severe perhaps of all those which react upon the uterus; and this depends not only upon the sympathy which exists between these parts, but upon the influence which states of the rectum have upon various muscles very much concerned in the act of parturition. It is hardly possible, indeed, to have a morbid state of the rectum and not to have a morbid action of the muscles which form the floor of the pelvis (and of the vesical muscle also); other respiratory muscles also take on abnormal actions, and a natural and equable operation of the mechanical forces is put out of the question. On account of the violence with which rectal irritations react upon the uterus, it will, I believe, generally be found advisable to resort to chloroform. Scybulous masses lodged in the rectum do not come under this category; for copious warm water enemata will nearly always remove them; and if anything more is required, a morphia suppository will answer every necessary purpose.

Renal irritations should be attacked at as early a date as possible. In albuminuria, the state which is nearly always connected with renal irritation in the pregnant woman, no remedy appears to act more speedily and with greater effect than local bloodletting—cupping. The glasses should be applied in the lumbar region, of course; and relief to the lumbar pain will generally be afforded even during the operation. The skin should be kept active by warm baths or vapour baths; the liver and bowels kept tolerably active by such aperients as the compound jalap powder, and moderate doses of grey powder. By these means part of the work of depuration will be taken off the kidneys; and the secretive functions of the organ being less taxed, there is the desirable condition of comparative rest obtained, and a less active circulation in them. The use of diuretics requires some caution. They are, I know, nearly always resorted to, and frequently with the best effects; but it is necessary to exercise discrimination in their choice, and to have clearly in view the objects we seek to obtain by using them. The aim of treatment in such cases is threefold; first, to subdue renal irritation; secondly, to relieve the distress arising from tension of dropsical parts; and, thirdly, to stop the secretion of albumen, and improve the condition of the blood. The first of these indications is answered by cupping, aperients and cholagogues, vapour baths, and other sudorifics, and dilution of the urine; the urine in such cases is very commonly loaded with lithates and lithic acid, and is stimulating on account of its intense salsification with acrid salts. The best diluent is water. The dropsy and its attendant discomfort are to be removed by increasing the flow of urine; in short, by draining the body. Now, in effecting this purpose we should be careful, first, not to over-stimulate the secretive function of the kidney, and, secondly, not to exhibit any drug which will excite uterine contraction, or destroy the fœtus *in utero*. I think it is pretty clear that alkaline diuretics will give us a maximum of watery flow with a minimum of kidney stimulation. The kidney, it should be remembered, is the natural eliminator of saline matters; and, imitating nature, if we apply stimuli of like kind to the physiological stimuli, we shall procure the increment of function at

the least expense of stimulation. The diuretic essential oils and scoparium I object to as being too stimulating. Digitalis is dangerous in two ways; first, because there is a risk of setting up uterine contractions; and, secondly, because digitalis will sometimes kill the fetus *in utero* by producing paralysis of the heart. I have seen this occur. We are not concerned here with the other indication of treatment. The form of diuretic I would use would be the acetate of potassa *largely diluted*, combined with the vinegar of squill, and full doses of tincture of henbane. It was taught by the late Dr. Golding Bird that acetate of potassa was the best diuretic salt in the pharmacopœia; and he especially insisted on the practice of *dilution*. The urine appears to be more readily made alkaline by this salt than by the other salts of potassa; the nitrate passes out of the body as nitrate; liquor potassæ is less diuretic and is apt to throw down the phosphates of the urine while the bladder is still full; and the same is true of the carbonate; the bicarbonate may be used if the stomach rejects the acetate. It should be remembered that it is not diuresis *only* that is required, but a copious secretion of bland urine, at the expense of as little stimulation to the kidney as possible.

Hyperæsthesia of the gastric nerves is a very embarrassing complication of pregnancy. The danger to both mother and fetus is very considerable; indeed, it often happens that one must fall a sacrifice to the other. The vomiting which declares this irritable state of the nerves of the stomach is only, so far as I am aware, capable of being dealt with by two methods of treatment as long as the fetus remains *in utero*. The first is the resolute use of morphia and hydrocyanic acid; and the second is a dietetic system, of which I will speak presently. A radical error is generally committed in the administration of opiates in the gastric irritability of pregnancy, and in other cases also where it is desired to allay vomiting. The *bulk* of the dose is almost invariably too great, the sedative is given too much diluted, and the quantity of fluid is resented by the stomach. It should be borne in mind that a medicine used for the purpose in question is essentially a *lotion* to the coats of the stomach. If the lotion is made too weak the intent is frustrated. The bulk of the dose should never exceed one fluid drachm, and it may be made less with advantage. Half a grain of acetate of morphia, three drops of the dilute hydrocyanic acid, and one of Fleming's tincture of aconite, to a drachm or even half a drachm of water, will not only burthen the stomach less, but will produce a greater *topical effect* on the nerves of the stomach than if given in the usual state of dilution. The food should be given in one of two ways; if taken in any considerable quantity, *i.e.*, if any attempt at a meal be made, it should be eaten soon after the exhibition of a dose of the medicine, and should be soon followed by another; or the diet should consist of single spoonfuls of milk, strong beef tea, or egg-brandy, often repeated; or very frequent doses of protein. The most remarkable case of vomiting I ever heard of was successfully treated by five grain doses of protein given in a teaspoonful of milk every hour; the case occurred some years ago, and was recorded in the journals of the time, but my memory will not serve me for a reference. The dietetic principle seems to be either to overpower the hyperæsthesia immediately before eating; or to give food in small quantities, and in such a form as to pass readily into the duodenum, thus diminishing the offence to the stomach, and throwing the task of digestion mainly on the small intestines. It is of course only possible within these limits to do more than indicate the general plan of treatment or the principles upon which to act. Modifications easily arise when the main principle is grasped.

The last eccentric irritation to which I shall refer is hyperæsthesia of the mammæ. Mere irritability of one or both breasts may obtain, or the altered innervation of the part may be succeeded by great vascularity and induration; and in some extreme cases suppuration takes place. There can be little doubt but that these affections of the breast, which in the first instance derive from the irritation of the ovum contained in the uterus, are again reflected upon that organ. A brisk saline aperient and leeching, followed by the application of a belladonna plaster, will be found the best method of treatment.

The preceding remarks are a mere sketch of *eccentric medication*. In the next paper will be discussed *centric medication*; the properties of the agents used, and the circumstances which call for, or disallow, their exhibition.

[To be continued.]

CASES OF POISONING BY WHITE PRECIPITATE, AND BY POPPY-HEAD.

By W. H. MICHAEL, Esq., Swansea.

[Read before the Monmouthshire and South Wales Branch, July 23rd, 1857.]

I. POISONING BY WHITE PRECIPITATE.

Miss P., a schoolmistress, aged 37 years, on December 27th, 1856, bought, at three druggists' shops, fourpennyworth of white precipitate, for a suicidal purpose. She obtained, as it would appear from the statement of the tradesmen who supplied her, 140 grains of ammonio-chloride of mercury, two samples of which, when analysed at the shops, were found to be absolutely pure. At or about 8 o'clock in the evening of the same day, she ate a large portion of the powder spread on bread and butter. About ten grains, adulterated with sulphate of lime, were found on the plate which she had used, and on some portion of the bread and butter she had been unable to eat, and had thrown away. Judging from her own statements upon several occasions, and from the foregoing facts, it appears probable that not less than one hundred grains were swallowed. She was seen by me about three hours and a half afterwards, and was then lying on the floor of a bedroom, complaining of great pain in the region of the stomach, and severe intermitting cramp of the left side and lower extremities, which came on at intervals of two or three minutes. The pulse was very rapid, weak, and thready; the surface cold, and covered with a clammy perspiration; the countenance was pale, drawn, and anxious; the tongue very red; the pupils were dilated, and contracted but slowly under the stimulus of light. She had vomited very freely a thick tenacious mucus, of a white colour, with white sediment. This I was unable to examine, as it had been thrown away previously to my arrival. About half an hour afterwards, the bowels were very freely acted on, an enormous quantity of fetid faeces passing, sufficient to fill two chamber utensils. Several pieces of white precipitate were picked off the tongue, which had apparently been left there by the action of vomiting, which was kept up by diluent drinks for two hours. Great prostration continued for several hours, and the pain in the stomach continued for three or four days, when it gradually subsided. On Dec. 28th, reactionary fever set in, which, however, was never severe, the pulse seldom ranging beyond 120, and the head remaining unaffected: indeed, it appeared as though the thorough unloading of the alimentary canal had been productive of great benefit to the general health; the appearance of Miss P. after her recovery, which took place in a fortnight, being better than it had been for some years. *No salivation occurred*. The treatment adopted consisted of emetics, diluents, and sedatives, with counterirritation and application of external heat until reaction set in, when ordinary salines, etc., followed by quinine, were employed.

The features of interest in the case are, the large quantity taken, and the comparative immunity from alarming symptoms, which may probably have been owing to the vehicle (butter) shielding the coats of the stomach, and disarming the poison of some of its noxious effects.

II. FATAL POISONING BY A POPPY-HEAD.

On February 27th last, two children, twins, about three months old, were brought to me about 11 A.M., evidently suffering from narcotism. It appeared, upon inquiry, that the mother had the night before, with the view of procuring sleep, boiled a poppy-head in a small saucepan, and given each child one or two teaspoonfuls of the decoction. Stimulants, coffee, etc., were administered; but one child died the same evening, seven or eight hours after it was first seen. The poppy-head was shown me, and a few drops of the remaining decoction, which had the characteristic opium smell. No tests were applied.

CASE OF CONCEALED ACCIDENTAL UTERINE HÆMORRHAGE.

By JOHN AUDLAND, Esq., Tintern, near Chepstow.

On Sunday afternoon, August 30th, I was sent for to visit Mrs. M., aged 42, who expected her tenth confinement in three or four weeks. I learned on that and subsequent visits, that on the previous Wednesday night, soon after getting into bed, she became very faint and cold, and had a severe fit of shivering. Some gin was given her, and she gradually rallied. The next morning she got up, but felt very weak and giddy,