

described the lymphatic spaces of the posterior division of the eyeball, which include the perivascular spaces of the retina, the perichoroid space with its efferent channels, and, finally, a lymphatic space between the outer and inner sheaths of the optic nerve, which, without communicating with the other two, opens directly into the arachnoid sac of the brain. Between the inner surface of the sclerótica and the outer layer of the choroid is a space which was recognized by Arnold as a serous cavity, and to which the name "arachnoiden oculi" might be given. It is distinct from the lamina fusca, though in part occupied by connective tissue, elastic fibres, and stellate pigment cells. The opposed surfaces are smooth and shining, and, after treatment with nitrate of silver, exhibit epithelial markings with oval nuclei. It is most distinct in white rabbits, but cannot be demonstrated in the eye of man, on account of the difficulty of obtaining fresh human eyes. When filled with a coloured fluid by injection, the space was found to reach backward to the neighbourhood of the entrance of the optic nerve, and forward as far as just under the ciliary processes. The injection left the hall at four points corresponding to the entrance of the venæ vorticossæ, and cross sections showed that the veins were encircled by the injection. On escaping from the globe, the injection filled the capsule of Tenon, which again was found to communicate backwards, by a cylindrical channel surrounding the outer fascia of the optic nerve, with the arachnoid space of the skull. Besides the canal just spoken of as surrounding the whole optic nerve, to which the author gives the name "supravaginal" space, there is another included between the two fasciæ of this nerve, which he calls the "subvaginal." This is continuous with the arachnoid, but does not communicate with the proper lymphatic spaces of the eye.—*Lancet*, May 7th, 1870.

MIDWIFERY.

65. *Dystocia depending on the Simultaneous Presentation of the Two Heads of Twins.*—Dr. RINTER was called by a midwife to a woman twenty-eight years of age. In this case the child's head, after a breech presentation, was locked by complete absence of uterine contraction. Dr. Rinter found the whole child born save the head, the uterus inert, and the mother very feverish. The child was dead, and in vain did the accoucheur try to find, with his finger, the chin or the mouth; he could only feel the cranial bones without succeeding in making out the sutures. By the hand laid on the abdomen the presence of a second fœtus was made out. Traction on the trunk of the child already extruded were unsuccessful. At last the forceps were used, and with much difficulty the head was extracted; but the operator was dismayed on seeing that it belonged to the second fœtus. The cord was soon divided, and a living boy handed to the nurse. The head of the first child was now sought for, the chin and mouth easily found, and the extraction effected. The placenta followed immediately; it was very large, and common to both children. The mother did well. Happily Dr. Rinter did not resolve to diminish the head when he found it so completely locked, and the child dead.—*Lancet*, July 2, 1870, from *Gaz. Méd. de Strasbourg*.

66. *On the Influence exerted by Chloral on the Pain of Parturition.*—The *Edinburgh Medical Journal* for August, 1870, contains an interesting article on this subject by E. LAMBERT, Esq. The following are the author's conclusions:—

1. Chloral is an agent of great value in the relief of pain during parturition.
2. It may be administered under favourable circumstances during and at the close of the second stage, with the result of producing absolute unconsciousness in the same sense in which we understand unconsciousness under chloroform.
3. When thus given successfully, it has this advantage over chloroform, that it requires no interference with the patient.
4. It is desirable to retain chloroform in the position which it at present

occupies in midwifery, and to reserve for the agency of chloral the first stage of labour. If, however, chloral or some agent having analogous properties is found successfully to relieve the pain of uterine contraction, the use of chloroform will be restricted to a lesser period of the duration of labour, or to the facilitation of manual or instrumental interference.

5. It is demonstrated that a labour can be conducted from its commencement to its termination, without any consciousness on the part of the patient, under the sole influence of chloral.

6. The exhibition of chloral in no wise interferes with the exhibition of chloroform.

7. The proper mode of exhibiting chloral is in fractional doses of gr. xx every quarter of an hour until some effect is produced; and according to the nature of that effect the further administration is to be regulated. Some patients will require doses of ʒj; and it is better to produce an anæsthetic effect by ʒij given in the space of two hours than by ʒj given singly.

8. The effects of chloral are continued beyond the period of completed parturition, and the repose experienced by the patient after her labour is one of the favourable circumstances to be noted in considering its application to childbirth.

9. Any stimulating effects, in the form of general excitability, occasionally observed during the administration, have passed away very rapidly.

10. Chloral not only does not suspend, but rather promotes uterine contraction by suspending all reflex actions which tend to counteract the irritability of the centres of organic motion.

11. Labours under chloral will probably be found to be of shorter duration than when natural, for unconscious contractions appear to have more potent effects than those which are accompanied by sensation of pain.

12. Experiments are required in order to determine whether there exists the same antagonism between ergot and chloral as is known to exist between strychnia and chloral.

13. The general conditions under which chloral is to be administered are the same as those which regulate the administration of chloroform, and the rules laid down by Sir James Simpson in connection with this subject must be rigidly adhered to.

67. *Duration of Gestation.*—Dr. AHLFELD investigates with great care the problem of the *duration of gestation*. Taking 219 cases observed by himself, by Hecker, and by Veit, he finds that conception took place on an average 9.72 days after the *first day* of menstruation, and in 161 cases on an average 5.28 days from the *last day* of menstruation; but it most frequently took place within three days. Faye arrived at a similar result.

As to the question whether the vaginal os uteri is more easily disposed to conception than the gaping os of women who have borne children, he finds that, comparing 130 pluriparæ with 75 primiparæ, the same average of about ten days after the first day of menstruation was observed.

Taking 425 women, whose children seemed mature, the average duration of gestation was 269.91 days, reckoning from day of conception. Hecker's tables give an average of 273.52 days. The range was from 231 days to 329, so that there is manifestly a fault in determining the day of conception.

Ahlfeld gives a table of thirty cases, including six from Faye, of presumed single or well-defined coitus. Gestation varied from 233 days to one case of 313 days. Both these extremes are taken from Faye. The greater number ranged within 270 and 275 days. The average of all was 269.17 days, which corresponds closely with the period obtained by other modes of observation. (It is to be remarked that the weight of the child in Faye's minimum case was 3000 grammes, and in the maximum case of 313 days it was only 2530. Since 3000 grammes is below the average weight of a mature child, it seems only reasonable to infer that conception took place considerably within 313 days. With this exception no other case out of the thirty exceeded 287 days, and of the remaining twenty-eight all were below 282.—R. B.)

Ahlfeld then refers to the law enounced by Cedershjøld that labour takes

place at the tenth menstrual epoch due, so that we should multiply the individual interval between two periods by 10. In many women this interval is not 28 days, but $27\frac{1}{2}$, $28\frac{1}{2}$, 29, 30. Hence a duration of 275, 285, and so forth, is explained. By most authors, says Ahlfeld, the duration is placed too high; 280, even 275 days, is too high. To estimate the expectancy of labour Naegele added seven days to the first day of the last menstrual appearance, and then reckoned three calendar months back. Thus he took as the date of conception the second day after the cessation of menstruation, with an average duration of menstruation of five days. Thus he arrived at an average of 273 days, which is very close to the reality. Ahlfeld's own plan is to take the tenth day from the beginning, the fifth from the end, of menstruation. There is a possible error in both ways of fixing the date of conception, and to illustrate this point he gives a table of 261 cases, calculated according to both, and showing the netal day of labour.

As to the sensation of the movements of the child, he shows that in 43 cases, in which the day of its occurrence was noted, it ranged from 108 to 134 days, the average being 132.77 days.

The duration of labour in primiparæ was, on an average, 20 hours 48 minutes, and in pluriparæ 13 hours 42 minutes.—*British and Foreign Medical-Chirurgical Review*, July, 1870, from *Mon. f. Geb.*, 1869.

68. *Ovum in a Case of Blighted Embryo.*—Dr. McCLINTOCK, in a communication made to the Dublin Pathological Society, Jan. 22, 1870, said the ovum or part of the ovum may be retained in the uterus for several weeks or months after the embryo has been blighted, and this fact, if overlooked or disregarded, may occasionally place a practitioner in an exceedingly embarrassing position. The specimen, which I now exhibit, is a very striking illustration of this prolonged retention of a blighted embryo. Any one familiar with the examination of the human ovum would say that this was a conception of five or six weeks. The little embryo, very perfect, and not much larger than a house fly, can be seen hanging by the umbilical cord; a casual observer would naturally say this conception took place six weeks or two months ago. The fact is, however, that in this case conception took place seven months ago, and it is this which imparts to the case its clinical interest. The lady had had several children previously, and so ought to have been tolerably familiar with the subjective phenomena of pregnancy. She had been carrying this ovum for six months; but of course, the simple explanation is, that it was blighted at the end of six weeks from the time of conception, and retained. There is another fact connected with cases of this kind, that while all vital connection between the ovum and the uterus has ceased, the ovum may be retained in the uterus subsequently, and finally expelled in a non-purulent state, which is a very serious and inexplicable circumstance. This is a good illustration of it; for although there is no doubt the vitality of this ovum had ceased several months ago, it was not expelled putrid, nor was there any offensive odour connected with it. For the last three or four months the lady had been greatly tormented with hemorrhage. When I was asked to see her, and was told of the seven months' pregnancy, and of the hemorrhage, I began to think the case was one of placenta prævia; but a very superficial examination was enough to show how erroneous this supposition was. The abdomen was flat and resonant all over, and on instituting the requisite examination internally I found an ovum partly extruding from the uterus; it was removed easily; whereupon the hemorrhage ceased. The retention of this had given rise to some irritative fever; for the lady had occasional rigors; the pulse was frequent; and her skin was dry and hot. I have before alluded to considerations of a medico-legal nature connected with such cases as these. The size and development of the ovum would be no proof of the time at which conception took place; hence if a woman some months separated from her husband, expelled such an ovum as this, and a practitioner were to say that it was only a conception of a few weeks, he would cast an imputation on the woman's character that might involve him in disagreeable consequences. Such a case as this, therefore, shows the necessity of great caution. Dr. Matthews Duncan, of Edinburgh, has described a case in which

an ovum of a similar kind was retained seven months in a utero, the lady having in the meantime performed a voyage from India to Edinburgh, without the ovum being expelled. In this case there was no trace of an embryo; to use the expression applied to the eggs of hens, and which is quite appropriate here, it was truly an addled ovum.—*Dublin Quart. Journ. Med. Science*, Aug. 1870.

[A number of cases of blighted fœtus long retained in the uterus without becoming putrid, have been recorded in different numbers of this Journal.—Ed.]

69. *Pregnancy without Menstruation*.—Dr. JAS. YOUNG read to the Obstetrical Society of Edinburgh some statistics which he had collected, showing how frequently pregnancy had occurred where the women had never menstruated more than once or twice during ten or twelve years, and where six or eight children had been born. Among other cases, the following two might be specially mentioned:—

CASE I.—Mrs. M. was married on 10th September, 1859; menstruated in October thereafter, but not again to this date (June, 1870), and she has had six healthy living children.

CASE II.—Mrs. J was married in January, 1856, and has only menstruated three times up to this date (June, 1870), and is now the mother of nine children, seven of whom are alive.

Dr. Young remarked that in both cases the patient had menstruated regularly previous to their marriage.

Mr. Priddy said he had attended a girl in her first confinement, who was 15 years of age and had never menstruated; and he knew of a lady who had been married for twelve years, had seven children, and had only been seven or eight times unwell.—*Ed. Med. Journ.*, July, 1870.

70. *Atresia Vaginæ, and Retention of Menses for Ten Years, with Enlargement of Uterus from the Blood accumulated within its Cavity, causing it to reach a Hand's Breadth above the Umbilicus; commencing Rupture of one of the Fallopian Tubes; Puncture of Uterus by an Exploring Trocar; Favourable Termination*. Dr. P. HALBERTSMAN, in the *Nederl. Tijdschr. voor Geneesk.*, 1869, describes this curious and instructive case. The beneficial effect resulting from the small opening made into the blood-distended uterus by the exploring trocar, even when there exists enlargement by blood of the Fallopian tubes, Dr. H. explains by remarking that a rapid withdrawal of the blood from the uterine cavity, the Fallopian tubes, if adherent, would run the risk of rupture, or if not adherent, they would contract simultaneously with the uterus, and their contents be forced through their fimbriated extremities into the peritoneal cavity. These results are obviated by a small opening into the uterus, thus permitting the contained blood to escape *guttatim*. The rupture of the Fallopian tubes will thus be prevented, or if already commenced, its further extension prevented, while their contents will be more certainly discharged through the uterus.—*Centralblatt. f. d. Medicin. Wissenschaften.*, March 12, 1870. D. F. C.

71. *On Some of the Dangers attending the Use of Tangle Tents*.—Dr. L. AITKEN states (*Edinburgh Medical Journal*, Aug. 1870) that he has occasionally seen pelvic peritonitis and cellulitis and endometritis result from the use of the sea-tangle tents, and he gives the following precautions, attention to which will, he thinks, prevent these accidents. Since he has employed them, he says, he has never had any worse result from the use of tents than the production of slight and transitory forms of cervical catarrh. These precautions are:—

1. The non-employment of the tent, so long as we are convinced that there exists any endometritis, or any recent perimetritic inflammation, of whatever nature it may be.¹

2. Tents ought only to be used in the intervals between, never (except under

¹ To this head we ought to add that it is never very safe to use tents where there has existed any previous perimetritic inflammation which has left bad effects behind, either adhesions, for instance, or chronic inflammatory products.

the most urgent circumstances) either during, immediately before, or immediately after a menstrual period.

3. The greatest care must be taken in the introduction and removal of tents to avoid any violence or force. Any bleeding caused at either time ought not to be interfered with unless it become serious.

4. The tent should only be used when the patient can remain recumbent from the moment of its introduction to a period after its removal, which varies with each patient. This period ought never to be less than twelve hours, and should usually be much longer.

5. If the patient complains of pain from the action of the tent, an opiate of some kind—a suppository of morphia often suits—a dose of chloral, or warm water injections, ought to be employed to diminish or relieve it, and thus prevent that restlessness which the pain will inevitably cause, and which is the surest means of producing inflammatory action in the womb or adjoining serous membrane and cellular tissue.

6. If successive tents require to be employed, it is much safer to allow an interval of twelve hours to elapse between each. A greater interval even would be preferable; but the cervix often closes up rapidly after its dilatation, and if we were to wait much longer we should frequently have to begin *de novo*.

7. The tangle tent is fully expanded, and ought to be withdrawn, in eight to ten hours after its introduction.

72. *Introduction and Removal of Uterine Tents.*—Dr. L. AITKEN gives (*Edinburgh Medical Journal*, Aug. 1870) the following useful instructions on this subject:—

“Whether the tent we intend to use be of sponge or sea-tangle, it is decidedly preferable to commence by expanding the vagina to some extent by a speculum, and for this purpose no better instrument can be found than that of Dr. Marion Sims. In the introduction of the sea-tangle it is by no means so absolutely necessary to use the speculum as in the case of the sponge tents, as the latter, however well prepared, so rapidly imbibe the fluids of the vagina, if allowed to come in contact with them, that they become soft and flexible, and consequently useless, before they can be introduced into the os uteri, and the employment of the ordinary form of Sims' speculum necessarily entails the presence of a third person, which is occasionally very strongly objected to. The use of any of the varieties of bivalve specula prevents us, of course, from grasping and drawing forward the anterior lip of the os with the tenaculum, and thus frustrates one of the principal purposes for which the speculum is required at all. For the introduction of the tents, too, we require to be provided with different instruments. For the sponge and hollow tangle tents I generally employ the form of bent stilette, long ago recommended by Sir James Simpson; while the solid laminary tent is more firmly grasped and more easily manipulated by a long-handled and roughly-serrated modification of the polypus forceps.

“Having thus settled the preliminaries, it is by no means difficult, in the great majority of cases, to slip the tent into the os and cervix, but occasionally it happens that you meet with some obstacle to this easy entrance. The most common impediment usually arises from the catching of the point of the tent in one of the folds of the cervical mucous membrane. But this only requires to be mentioned to suggest its own remedy. Much more difficultly, however, is experienced in overcoming the real stricture which often exists at the os internum. It ought never to be forgotten that the internal or cervico-uterine orifice¹ is the narrowest point of the canal; and that it is here that the point of the sound is most commonly arrested. In selecting the size of tent to be first used, we ought consequently to be guided by the information which a previous use of the probe has given us of the state of this orifice. In some few cases it will be found impossible to pass a tent, and then the only rational treatment is to

¹ Of course I am speaking of the normal uterus. I believe that the os externum is the most common seat of congenital or acquired stricture, but a stricture there would probably require division before the tent could be employed at all.

dilate the stricture by the pressure of metallic bougies¹ of gradually-increased diameter. * * * * *

"Of all the impediments to the entrance of the tent, however, the most annoying, and probably the most common, is the result of a flexion of the body of the womb on its cervix. The internal orifice, at or near which the flexion almost invariably occurs, is thus most effectually strictured, and the position of the womb is such that it is next to impossible to introduce a straight tent. I ought here to remark, that if the flexion has been produced by adhesions of the uterus to the surrounding parts from bygone inflammatory action, a tent ought never to be used. At least, I know of scarcely any circumstances which would justify the dilatation of the cervix and body of the womb under the imminent risk of a renewal of the peritonitis. To get over the difficulty, I at first thought of employing tents bent to some extent in the same direction as the axis of the flexed uterus, but this was proved by trial to be much better in theory than practice, as at the angle of flexion of the uterus the tent invariably became deeply indented, and thus merely enlarged the cervical and uterine cavities, leaving a strictured part between. I now find that the only real escape from this difficulty is to employ a probe to replace the uterus as nearly as possible in its normal direction, and then to slip in the tent by the side of the metallic director.

"In extracting the tent, the only common source of difficulty arises from its occasional unequal dilatation. It sometimes happens that the existence of a stricture of the cervix, whether it be at the internal os or any other part, may produce such an indentation of the tent as to give it an hour-glass form. When this rather awkward result ensues, we ought never to use any great force in our efforts at removing the tent. Grasping the lower end firmly with a three-toothed vulsellum or large artery forceps, and gently moving our hand backwards and forwards with a to-and-fro motion, we can usually succeed without any great traction in bringing out the tent. A much more formidable complication I have already mentioned as occasionally following the use of a tent which has been pushed too far within the uterus, and over which the os externum has closed. Such a result, however, can only be the sequence either of great carelessness in the use of the tent, or of the employment of too short a one; and, to avoid it, we ought never to introduce a tent under two inches in length. In extracting the tent, Sims recommended as invariably to dilate the vagina by the speculum; but this I seldom, if ever, do, and I never even use any instrument for the extraction, unless the string which is attached to the tent gives way—a frequent occurrence, however, owing to its often becoming softened by its prolonged soaking in the vaginal discharges. The entrance of air into the dilated cervical and uterine cavities is a danger I certainly never met with, and can scarcely even conceive possible; or even if it did occur, it does not seem likely that it would produce any very injurious result."

73. *Abnormal Dilatation of the Uterine Cervical Canal.*—Dr. MULLEN relates the history of two cases which occurred, the one in a female thirty-four years old, and the other in a female forty-five years old. Both repeatedly parturient. The patients had for some time been suffering from symptoms of uterine disease, the result, in one, of chronic metritis, in the other of retroflexion of the womb. On an examination into the cause of a profuse menstruation present in both cases, Dr. M. found the os uteri open and readily entered, and the cervical canal dilated to the size of a guilder, its inner surface rough, uneven, and fleshy. The inner mouth was closed. It was very certain that this condition of things was not the result of a recent abortion, and equally so that neither polypus nor other tumor was present. This was further shown by the persistence of the condition described in the first case for many weeks, and in the second for many days. In both cases a cure was effected by the use of the liquor ferri sesquichloridi and other astringents, and the fear of the occurrence of carcinoma uteri,

¹ Previous incision of the internal orifice could not be recommended if the tent required to be used immediately afterwards. This is by far too dangerous a proceeding to be practised merely for the diagnostic purposes I am here speaking of.

which was, at first, entertained, entirely removed. Dr. M. refers all the symptoms in the cases described to a peculiar diseased condition of the mucous membrane of the uterus.—*Centralblatt. f. d. Medicin. Wissenschaften.*, June, 1870, from *Scanzoni's Beitr. zur Geburtskunde u. Gynäkologie* vi.

D. F. C.

74. *Retroversion of Uterus cured by Local Depletion.*—Dr. Meadows records a case of a woman, æt. 41, who had had three children and three miscarriages, and presented the usual symptoms of chronic metritis, plus the local phenomena due to uterine displacement; with general treatment, and the employment of a pessary for a time, recovery took place. After three years, the patient suffered from a relapse. Four leeches were ordered to be applied to the posterior part of the uterus, to be repeated three times at intervals of three days; after the second application of the leeches, not only were the tenderness and engorgement much relieved, but the uterus was in a much more normal position; after the third application menstruation appeared, and a week subsequently the uterus had resumed its normal position. Dr. M. considers this case particularly valuable "because only one remedy was employed throughout the treatment; and I am therefore, I think, fairly entitled to consider (but the issue of the case, which was unmistakably successful, was due directly to the effects produced by that one remedy. And, further, if this be so, it follows, I think, as a logical conclusion, that the pathology of the affection must be intimately related to the known effects producible by the action of the remedy in question. In other words, that, if relief follows depletion without any other treatment, engorgement must be the main if not the only cause of the symptoms complained of. Hence we see how the particular affection is developed, and how its cure may best be brought about." "It might be asked, perhaps," he adds, "why not have replaced the uterus at once, applied a pessary, and thus have cured the case? My answer is, that I have again and again seen this treatment adopted, and with marked aggravation of the suffering."—*Lancet*, Aug. 6, 1870.

75. *Perforation of the Uterus by a Uterine Sound.*—Dr. HOENISO relates (*Berl. Clin. Wochenschr.* 1870) the case of a woman, twenty-eight years of age, who thrice, after short intervals, was delivered of twin children, at the full term, and twice aborted. On examination by means of the sound, of the cavity of the uterus, the instrument entered to the extent of 10½ cm.; the handle resting at the entrance to the vulva while the opposite, knobbed extremity could be felt nearly on a level with the umbilicus. To the touch externally, the uterus appeared to be very soft and perfectly movable, but not at all enlarged. It was evident the sound had not passed into either of the Fallopian tubes, inasmuch as its extremity was pointed directly to the centre of the fundus uteri; besides, it is scarcely possible, under any circumstances, that the uterine entrance of the tubes, much less the tubes themselves, could be so far enlarged as to admit the entrance of the sound. Besides, the tubes at their fimbriated extremity are directed backwards, and so bound down by the lateral ligaments that it would be impossible to raise either of them up by the introduction of the sound so as to enable the point of the latter to be felt in the vicinity of the umbilicus. Dr. H. concludes, therefore, that in the instance he refers to the sound had actually perforated the wall of the uterus, a thing that could readily occur when this had become atrophied and softened during the puerperal period. There may even, he remarks, have existed an opening through the wall of the uterus at its fundus, caused by the formation and rupture of an abscess in child bed. That this, however, was not the case in the instance related may be inferred from the entire absence of any of the products of inflammation. Dr. H. believes that the first of the cases reported by Hildebrandt may be set down as one in which perforation of the uterine walls was caused by the use of the sound.—*Centralblatt. f. d. Medicin. Wissenschaften.*, May, 1870.

D. F. C.