"Agglutination of the margin of the os uteri is occasionally met with and must of course occurred after conception. It is generally the result of some inflammatory affection of the cervix during the early months of pregnancy. Usually it is not associated with any rigidity or hardness, but the entire cervix is stretched over the presenting part and forms a smooth covering in which the os exists only as a small dimple, and may be very difficult to detect at all. Occlusion of the os from inflammatory changes sometimes so alters the cervix that no sign of the original opening can be discovered."

All our authorities agree that the occlusion of the os is the result of inflammatory change occurring subsequent to impregnation. It is a noteworthy fact that in both these cases the membranes ruptured and the amniotic fluid escaped in the very early stages of labor, showing that the membranes were adherent to the uterine tissue about the internal os. As the internal os dilated, rupture of the adhesions and of the membranes necessarily followed.

The discussion of the papers read by Drs. Parkes and Waxham was, on motion, deferred until the June meeting.

Mr. Lawson Tait, of Birmingham, and Dr. T. Gailard Thomas, of New York, were elected Honorary Fellows of the Society.

Dr. E. C. Dudley proposed for honorary fellowship Protheroe Smith, M.D., M.R.C.P., of London.

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Stated Meeting, April 21, 1886.

THE PRESIDENT, C. H. A. KLEINSCHMIDT, M.D.,
IN THE CHAIR.

DR. J. TABER JOHNSON presented a

CYST OF THE BROAD LIGAMENT,

which he had removed that day. The following is a brief history of the case:

Mrs. T., white, a widow, never pregnant, aged 32, first noticed that she had a tumor growing low down in her left side, last June, just eleven months ago. It gave her considerable pain, especially in her bladder, and caused her to pass water frequently. She began to be irregular in her periods, missing at one time as many as four months. Her appetite and digestion became impaired, and she lost flesh rapidly. She became nervous and apprehensive, and lost much sleep. Her face was thin, careworn, and presented the characteristic "facies ovariana" to a marked degree.

She was sent to him by Dr. N. S. Lincoln. She presented the appearance of a woman eight months pregnant. Upon examination Dr. Johnson diagnosed a cystic tumor, and said it was probably ovarian, but declined to say positively until after the operation, which he advised should be made at once.

Dr. Lincoln and the patient agreeing with this view, he appointed the next Wednesday for the operation. As Mrs. T. declined to go to an hospital, her house was made as aseptic as possible, and the

tumor was removed on the April 21, with the assistance of Drs. Cutts, Brownell, and Cuthbert.

Dr. Lincoln was present and kindly approved of the various steps of the operation. The cyst and its contents weighed eight pounds. After being emptied of its contents it was removed through an incision not more than three inches in length. There were no adhesions; the pedicle was unusually broad; it was transfixed and tied in two divisions, and burned off with the thermo-cautery. The ovary was found to lie upon the surface of the cyst, and was attached to it by a broad membranous band.

P. S. May 5.—The patient is doing well; the wound healed by first intention, and she is sitting up.

In accordance with the resolution requesting CAPTAIN SYMONS, U. S. A., to present his

METHOD OF FILTERING THE CITY WATER SUPPLY,

passed at the last meeting, the Captain kindly appeared before the Society and read a paper, of which the following is an abstract: He said that complaints of the condition of the water were frequent, especially among the new-comers to the city. On investigation he found that physicians considered it unwholesome for invalids and children, the temperance people thought it was a stumbling-block to their cause, and that the people in general, when it was at its worst, were alarmed lest it be the cause of some epidemic. Moreover, the expenses of house filtering and boiling the water, as was frequently done, was an unnecessary tax on the people. Domestic filtration at best only half reached the desired end, and these filters might easily become the foci of disease from the decay of accumulated filtrates. Many different analyses of the water showed a varying amount of organic impurities, but all samples contained more than there should be in a water of the highest excellence. In 1882 three chemists examined the water. Two reported it as of "medium purity," and one as "good." The biological examination, made under the same auspices, showed it as "doubtful."

Comparison with the London and Berlin supply showed our water to contain fewer impurities than did the waters of those cities at their sources, but more than was in them after they had been filtered for use. A circular letter which he had addressed to the physicians of the city had elicited the reply that the water was unsatisfactory and needed purification. In view of these facts, he had undertaken an investigation with the hope of solving the difficulty, and of giving the city a cheap and efficient method of filtering its water before delivery. The drainage area of the Potomac above the point where it is tapped for this city is about 12,000 square miles. There are several, at present, small towns in this area which pass their sewage into the river. The lands are highly cultivated and every year more fertilizers are being used, forests are being cut down, and thus increasing sources of pollution are constantly arising. These it will soon be necessary to check, as have already some of the European cities. He then went on to say that there were three ways usually applicable for the filtration of the quantity of water necessary for

a city, namely: *Large subsidence reservoirs, natural infiltration* into galleries built along the margin of or in or under a river, and *artificial filter beds*.

Clarification by subsidence, which was the only system of the three in use here, would not do well in a warm climate, for the water, which must of necessity remain in a quiescent state for three or four weeks, would become full of aquatic life and fungi. This was the cause of our alarm last summer. The natural filtration, which is applicable *only* where large deposits of sand or gravel are found in a convenient position along the water supply, is probably the cheapest and best. In this large chambers or wells are dug, and when full of water percolated from the river or lake are emptied of their contents for use.

Artificial filter beds consist of tight masonry basins with drains along their bottoms radiating to the outlet. First is put in a layer of coarse gravel, then a layer of finer gravel, and finally the true filter, about five feet of fine sand. The river water is then run through these layers and conveyed to a large reservoir for distribution. The first cost of such a system would be tremendous, as about twelve acres of such beds would be necessary to keep this city supplied. It is also very difficult and expensive keeping them clean.

It is estimated that the city at present uses from twenty-five to thirty million gallons daily. With the new tunnel there will be about thirty-five million gallons supplied daily. Eventually from thirty-five to forty million gallons will be needed, and the new system proposed will provide this amount of filtered water.

Capt. Symons proposes to use a modification of a system which has been in use in manufactories for some time. He has found that certain engineering difficulties can be overcome, and can see no reason why it should not be a success. The system requires the use of fourteen steel tanks 30 ft. in diameter and 17 ft. high. 8' 10" up from the bottom each tank is divided into two compartments by a stout diaphragm. The diaphragm is perforated by valves and by two large pipes which extend nearly from the bottom to the top of the tank. In the lower compartment is placed about 8 ft. of sand and powdered coke. The valves being shut in the pipes and diaphragm the water is run in on top of the sand and coke and between it and the diaphragm. After percolating through the filter it is run out, ready for use, by an outlet pipe at the bottom. This process is helped by the pressure of the incoming water. When the filters are to be washed, the inlet water is thrown by means of valves into the outlet pipes, the valves in the pipe perforating the diaphragm are opened, and the whole mass rushes with violent agitation into the upper compartment, which is open to the air. The heavy coke and sand are here allowed to settle, while the water which contains the filtrate is run off by an appropriate pipe. The filtering material is then got back into the lower compartment by opening the valves in the diaphragm, being at the same time a second time flushed with water. The river water is now led in by the inlet pipe as before. The first that comes through being somewhat muddy, is conveyed to the upper compartment to be used in the next washing. Each

tank is independent of the others and can be cleaned without cutting off a sufficient supply of water.

The very undesirable loss of "head" which the water sustains in filtering can be more than compensated for by the introduction of centrifugal pumps in the circuit. These pumps are designed to be run by the waste water from the washings with any necessary addition. Previous to leading the water to the filters it is proposed to intimately mix it with one-fifth its bulk of atmospheric air and a certain very small proportion of alum. With these last two additions it is hoped that both the inorganic, the albuminous, gelatinous and ammoniacal matters will be oxidized or precipitated so that they can be easily filtered out.

The experiments of Prof. Frankland, of England, and other chemists, have proved that after being subjected to the above processes, water comes out clear and sparkling, and freed from almost all of its organic and inorganic contents.

The distributing reservoir just west of Georgetown is divided into two parts by a wall. The upper lake contains about 110,000,000 gallons and the lower about 60,000,000 gallons of water. It is proposed to set up these filters between the two parts, to use the upper one as a subsidence reservoir, and the lower one, from which run the city supply pipes and the new tunnel, as a receiving reservoir for the clarified water. He thinks this plan perfectly feasible, economical and efficient.

DR. REYBURN asked where alum was in use?

CAPT. SYMONS replied he had seen it in Somerville, N. J., and it had a wonderful effect. Albany was about to put up similar arrangements.

DR. ANTISELL remarked that the removal of inorganic matters was the first and most important step in this case. He thought that it would be a long time before organic substances in the Potomac would give us any alarm. What we wanted chiefly was the removal of the mud which appears after every heavy rain. This had been accomplished in Europe by good filtering beds. This system he thought the cheapest and best. Aeration was being used in Philadelphia and other places, and was well enough, but the sediment was the principal inconvenience. The method of Hyatt which was proposed he was unfamiliar with.

CAPT. SYMONS replied that the primary object of this system was just what the doctor advised, and that it was much cheaper than the filter bed system, both in first cost and maintenance.

DR. REYBURN said that it had been conclusively shown that proper filtration removed bacteria as well as inorganic matter, and that even when organisms were in great numbers they could be nearly eliminated.

DR. ANTISELL said that that in all certainty there were bacteria in the water, but he never had heard that they had done any harm. It was well, however, to have water as free as possible from them.

DR. KING said that he had recently been conversing with Dr. T. Smith, who had informed him that the water of some European city contained 20,000,000 bacteria to the litre, and ours only 3,000,000.

CAPT. SYMONS, in reply to a question as to the cost, said that he did not know, but it was certainly less than the filter bed system.

DR. TONER asked if it were not possible to use Powder Mill Creek as a subsidence reservoir; and if analyses of our water are being made from time to time?

CAPT. SYMONS replied that it was perfectly possible to use the valley of a stream for a reservoir, and that estimates had already been made in this case as suggested. He said that Dr. Theobald Smith and Dr. Billings had made analyses. He further remarked that the impurities in our water were of such a light nature that they took from three to four weeks to settle, which was too long a time for the good of the water in this climate.

FOREIGN CORRESPONDENCE

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

Inoculations for Rabies—Influence of Diabetes on Gestation—Fumigations with Tar and Turpentine in Croup.

The treatment of rabies by inoculation seems to have taken an unfavorable turn lately, for within the last three months there have been no less than six deaths reported from hydrophobia in persons who had returned home after having gone through the process of M. Pasteur's inoculations. On the 27th of April last a young girl of 11 years of age was bitten by a dog at Chassagne (Jura). Nine days after she was brought to M. Pasteur's laboratory and went regularly through the ten inoculations prescribed. She remained in Paris fifteen days altogether, when she was pronounced cured and sent back to her family. On the 13th of June, that is, forty-eight days after she had been bitten, or thirty-nine days after the first inoculation, symptoms of hydrophobia set in and she died on the 17th of June.

The *Journal de Médecine de Paris* reports that one of the Russian women who had been inoculated at M. Pasteur's laboratory after having been bitten by a wolf has just succumbed to rabies at her own home, whither she had returned "completely cured," according to the expression adopted by M. Pasteur. This death makes the fourteenth of the fifty-four persons bitten by wolves, which would give a mortality of about 26 per cent. On the 21st of July a man aged 35 died at Grenoble from hydrophobia. He had been bitten on the hand by a rabid cat on the 30th of April last, and had gone through the preventive treatment at Paris from the 4th to the 13th of May. This makes the fourth death from hydrophobia of the persons who were treated at M. Pasteur's laboratory, exclusive of the Russians bitten by mad wolves. A letter from St. Petersburg reports that on the 3d and 4th of May last seven persons (five children and two women) were bitten by a mad dog. They were sent on to Paris under the care of a doctor, to be treated after M. Pasteur's method. Of these seven patients, three have died since their return to Russia.

A rather comico-scientific conference was lately

held in Paris, the object of which was to criticise the so-called anti-rabic inoculations of M. Pasteur, the actual efficacy of which is questioned in certain quarters. The officers were recruited principally from the Paris Municipal Councillors, and were it not that some of them belong to the medical profession, the proceedings of the meeting would not have been noticed here. One of the speakers, M. Paul Bouillier, a veterinarian, member of the Paris Municipal Council, began by stating that there were no microbes in rabies, or if there was any discovery made in that direction it was not due to M. Pasteur, but to a physician at Toulouse whose modesty has prevented him from claiming the right of the discovery. Moreover, this worthy veterinarian stated that M. Pasteur's inoculations have no effect whatever in preventing hydrophobia; that the method in question serves only to produce meningitis and nervous affections, and that those supposed to have been cured were never affected by the rabic virus of the animal that bit them. He has even challenged M. Pasteur to put his method to a personal test: he and his adversary are to be bitten by an undoubtedly rabid dog. Then the Councillor is to be cauterized, and the Professor inoculated. The contest will be decided when one of them goes mad.

Another speaker made out that according to an official communication, the number of persons inoculated to this date at M. Pasteur's laboratory amounted to 1,630. Among these there have been only twelve deaths: five persons have succumbed to the bites of dogs, one to that of a cat, and six to the bites of wolves. Here M. Bouillier, interrupting, suggested that these patients died from one or other of the diseases above referred to, viz.: meningitis or a nervous affection.

Another critic recalls that M. Pasteur had made the positive announcement that his method would protect even if one or two years had elapsed after the bite. This time was subsequently reduced to thirty-five days, but afterwards he even limited it to fifteen, and now, since the more recent deaths, he will be obliged to reduce it still further to thirteen days.

In an interesting paper by Dr. Lecorché which he lately read before the Medical Society of Hospitals, on the *Influence of Diabetes on Gestation*, the author has shown that diabetes does not render women sterile. He had six diabetic patients who were delivered of children at full term, but they were all delicate. According to this physician, when diabetic women are sterile, it is due to uterine lesions resulting from diabetes. Diabetes has direct influence on the process of gestation, impairs foetal nutrition, and is favorable to faulty development, especially hydrocephalus. It often produces dysmenorrhœa and amenorrhœa, and an early menopause often results from an overlooked diabetes. If the sugar disappear, the menses may return.

A short time ago Dr. Delthil vaunted the use of *Fumigations of Tar and of the Essence of Turpentine in the Treatment of Croup*. At a meeting of the Medical Society of Hospitals, Dr. Cadet de Gassicourt said that from his experience these vapors had