cases this method has grown more and more simple as time has gone on.

In the first place, in my own mind, the number of displacements which have a pathological significance has reduced itself to two, retrodisplacements and prolapse. The first will include retroversion and retroflexion, inasmuch as it is rarely necessary to differentiate between them. I have never seen a retroflexion without a retroversion, and a slight degree of flexion added to the version does not usually modify either the symptomatology or the treatment.

Prolapse is not a common affection except as a concomitant and late complication of retroversion.

Anteversion rarely gives rise to symptoms, and antelexion is not a displacement but a deformity.

My statistics show that about one in five of all cases which consult me have a retroversion, and that retroflexion and prolapse are rare.

If the displacements themselves can be reduced to such simple terms, quite as much may be said of the pessaries for their relief. I have practically reduced the forms of pessary which I use to three varieties. As a matter of fact I treat all cases of retroversion with the so-called Langford pessary. This comes in all sizes which need be employed, and fulfils better than any other I know, the necessary conditions. It is easily introduced and very comfortable. Where there is retroflexion necessitating a longer arm I use the one which is sold under the name of the Smith pessary. For prolapse the Langford pessary answers in all cases where the vaginal outlet is narrow enough to exert some retentive power, and where that is not the case the large calibre Meigs' ring will be found eminently satisfactory. A few other pessaries, as the bulb, the old-fashioned Hodge, and the Chadwick are very occasionally used.

Perhaps it will be pardoned if I add a few general principles which if adhered to will make the treatment of displacements by pessary a success in the greatest number of cases possible.

(1) Study the cases. Determine the probable length of time that the displacement has lasted, its possible cause, the symptoms it has caused, their order of occurrence, and the relative importance of the general and local manifestations, and from these data form a careful opinion as to the chances of cure by one or the other methods of treatment.

(2) In a case of retroversion or flexion, always replace the uterus before adjusting the support. The pessary should not be relied upon to do this, as only in the rarest case will it be possible.

(3) In fitting a support choose one which fits exactly if possible, but if not, have it rather too small than too large.

(4) The ideal pessary is one which supports the uterus perfectly, and without the patient being conscious of its presence.

(5) The patient should be kept under observation while she is wearing the pessary, and seen at regular intervals, preferably after each monthly

period, for the cleansing of the support and its replacement.

(6) When it is deemed wise to make an attempt to go without it, it should not be removed at once, but a smaller one substituted to be worn a month, and then a still smaller one, which may then finally be removed.

The answer to the question proposed in the title of the paper, What is the present status of the pessary in the treatment of displacements of the uterus? may thus be summed up:

The pessary, the use of which twenty-five years ago was the sole method for the treatment of these affections, suffered with the development of surgical methods a temporary neglect. It is now regaining its position to some extent, and the indications for its use are better understood, and are upon a more scientific basis.

In uncomplicated cases in young women who have not had treatment, operation should be advised. Operation is the only method which holds out prospect of cure in cases complicated with lacerations, enlarged uterus or much prolapse. In other cases, especially where the uterus is small, where symptoms have been present but a short time, and particularly if they are associated with neurasthenia, treatment by pessary will often result in a cure. In such selected cases cure may be expected in about one-half. Even in cases where cure cannot be hoped for by pessary, its temporary use is often of value in relieving symptoms and in aiding to restore the general health.

ELECTRICITY: ITS USE IN GYNECOLOGY.¹

BY W. H. WHITE, M.D., BOSTON.

IN this paper, which I have the honor to present to your notice this evening, I would like to give first a short sketch leading up to the time of Dr. George Apostoli, the man who brought electrotherapeutics into prominent use in gynecology; also some causes of failure, as well as the proper apparatus and its application. Electricity should only be used when indicated — the same as we would use quinin, strychnia or any other drug. It has its place in therapeutics, and is one of the greatest adjuvants in medicine when given intelligently. It is derided because so largely used by non-scientific persons, and they, having little if any training, are often successful. How much more success should we have with it when combined with our knowledge of disease! Stimulation or sedation either can be produced, growth of muscular tissue and a strengthening of relaxed tissues, by the interrupted current.

The legitimate use of electrotherapeutics has been largely monopolized by neurologists, the work of Duchenne, Tripier, Erb, Lewandowsky, Althaus and Rockwell being the most prominent. Dr. Golding Bird of Guy's Hospital in 1847 said: "In electricity we possess the only really direct

¹ Read at the Suffolk District Medical Society, Section for Obstetrics and Diseases of Women, March 26, 1902.

emmenagogue which the experience of our profession has furnished us with." His treatment consisted of a dozen shocks of the Leyden jar charged from a friction machine, these shocks being given through the pelvis from sacrum to pubis. Magneto-electric machines and coarse faradic coils were principally used without rheostats to govern the strength of the current. In 1876 Dr. Ephraim Cutter performed electrolysis on tumors by puncture through the abdominal walls. Later Dr. Gaillard Thomas and others used vaginal puncture.

Abdominal surgery was a thing very much to be dreaded in those days, though the mortality had then been reduced to 33% (Ashhurst). In 1881 Dr. George Apostoli read some papers on faradization of the uterus, after confinements, to prevent hemorrhage. In 1882 his method became systematized, thanks to the galvanometer, or, as we now call it, the milliamperemeter, together with the clay pad and intra-uterine electrode. In 1884 was first published his method for the "Treatment of Fibroids of the Uterus," by Dr. Carlet, one of his pupils, which made quite a stir in the surgical world.

Dr. Apostoli attended various congresses and came to America, where his enthusiasm was contagious, and so galvanic batteries were purchased. It was easy to procure the apparatus but not so easy to apply successfully. Many got disgusted and sold their batteries, only too glad to be rid of them; the safer and slower method did not agree with the American idea of quick results. I well remember his clinic at 19 rue de Jour, crowded afternoons with patients, for his work was well known to the poor women of Paris. The dedication by Dr. Thomas Keith, in 1889, of his work "Uterine Tumors Treated by Electricity" shows how the work of Apostoli was regarded by that famous gynecologist. Dr. Apostoli's treatment of fibroid tumors did a good work by stimulating antiseptic surgery, so that now the mortality has been reduced to 3% and some claim as low as 1%. Far be it from me to say anything against surgery when it is needed, and I shall continue to speak in its favor; but the removal of ovaries to beautify American women, as advocated by a Philadelphia surgeon, is not to be commended. It is easy to remove, but not so easy to replace. Some cases are inoperable, then why not give the patient relief by the proper electrical application.

Dr. E. Stanmore Bishop, in his work on "Uterine Fibromyomata, their Pathology, Diagnosis and Treatment," devotes a chapter to electricity, and the *American Medical Journal* says he wisely advocates its use only so long as it does not blind patient and surgeon to the actual dangers of delay in cases which ultimately require operation.

Dr. Beatson's operation for cancer of the breast will probably be superseded by the use of the x-ray treatment, which is already being largely used with good results, this treatment giving relief to those severe pains oftentimes after the first application.

In buying an electrical outfit, first know *what* you wish to accomplish. As I am speaking to those interested in gynecology, I would say procure the best high-tension coil from a reliable manufacturer, one like the Kidder coil, or a set of three called the "Engleman coils," one of short heavy wire, No. 21, about 238 yards, the second a long fine wire, say No. 36, 1,500 yards, and the third, or medium, as No. 31, of 800 yards. I have seen a faradic battery made to sell for \$2.50; such a battery would be of no use whatever. If you cannot afford a good outfit go without, as you will not get the results you desire. A good faradic battery will cost about \$25.

For what we physicians call galvanic work, spoken of in technical works as the continuous current, the office cabinet is the best, consisting of forty or more cells. Personally, I use the street current, controlled by lamps, besides being fused. It has six lamps, three to govern the amperage, the other three to govern the voltage, the current being again controlled by water rheostats, there being a variation in voltage from 110 down to 13 volts. In addition there are two dozen cells divided into three sets of eight each. The interrupted current is from a Kidder high-tension coil. Either current can be given to the patient singly, or the two combined — what we physicians call the galvano-faradic current. Either the continuous or the high-tension current can be interrupted by a rheotome from 8 to 600 times a minute approximately, or the combined can be used and interrupted in the same way. There are two water rheostats, one for the high-tension or interrupted current and one for the continuous current. There is a Weston milliamperemeter and a Whitney voltmeter. I would *not* recommend the electric light current to be used unless the wires are carried under ground, as in our own city, and protected by both lamps and fuses.

The sinusoidal apparatus does good work. It gives an alternating induced current without break, and the rise and fall of potential are the same in both directions, describing a sine curve, as differing from the faradic, or the current from an induction coil, the "make and break" of the hammer giving a sharp rise of potential with an irregular drop similar, when drawn on paper, to a pulse-beat diagram. The sensation of the sinusoidal is throbbing without painful contraction. On account of both of these currents being alternating, you do not get the chemical action as with direct or continuous current. The sinusoidal strengthens and gives tone to relaxed muscular tissue, voluntary and involuntary. With high speed alternations the effect is beneficial in neuralgic pains and local inflammations.

A static machine is especially good when the pains are neuralgic or when the conditions are due to some form of nervous disease; there is nothing so good for neurasthenia. The best work is done with a ten or twelve revolving plate machine.

Having your apparatus, get well acquainted with it and do not attempt too much at first; not

too strong currents or for too long a time. Feel your way, as it were, remembering each patient is a new case, in some form differing from the last.

It is almost needless to add that no one form of apparatus will do all kinds of work. In the reporting of cases treated, there is usually a lack of details, the amperage and voltage being omitted so that otherwise interesting cases fail to give any instruction in the cure of similar cases.

Some only say: "I gave the patient electricity." Such a report is of no use whatever. A proper report of a case should say what kind of generative power, shape and size of electrodes, also their position, labile or stable application, voltage, milliamperage, duration of treatment.

We now call the poles, or terminals, "anode," instead of positive, and "cathode" instead of negative, and by electrolysis know that the anode attracts acids, liberates oxygen, contracts blood vessels, arrests hemorrhage, corrodes metals, has an anodyne effect, and a scar produced by it is hard and white. The cathode attracts alkalies, liberates hydrogen, dilates blood vessels, does not coagulate albumin nor corrode metals. The corrosion of aluminum plates comes from the alkalies in the tissues attracted to it, increases pain, and the scar is soft and mostly red. Be sure the electrodes are in place before the current is turned on and that the electricity is "off" before removing the electrodes. If at any time the current does not register, withdraw one of the cords and test out the apparatus on yourself; not experiment with your patient in circuit. Use antiseptics. I usually douche the patient before and after treatment in gynecological work. The average treatment would be of ten minutes' duration.

Electrolysis.—By the use of the continuous current we can decompose a compound body into its constituent elements; these elements are termed "ions"; those that are attracted to the positive, or anode, are termed "anions," while those attracted to the negative, or cathode, are termed "cathions."

I have already spoken of the action of the two poles. There is another physical action called "cataphoresis," which is the disintegration of liquids or metals which are carried into the tissues; except platinum the metals are attacked by the anions, especially oxygen and chlorine, so forming an oxychloride of zinc, copper or silver, according to the metal used. Some remedies, notably cocaine, can be forced through the skin to produce local anesthesia.

This action of absorption of tissue is made use of in stenosis or stricture of the cervical canal by the use of a metal tipped electrode introduced at the cervix and a pad, 75 to 100 cm., placed above the symphysis pubis, a current of about 20 mam., 25 to 35 volts. Stricture of the rectum by the use of large rectal copper olives can be cured in the same way, about the same strength of current for ten minutes time. These tips should be slightly larger than the opening, increasing in size if necessary at each treatment.

Relaxed tissues are best strengthened by the sinusoidal current, given as strong as can be borne without pain, using the bipolar vaginal electrode for about ten minutes. In displacements I use a special electrode of my own, which is placed against the ligaments, first on the right ligament and then on the left, with the pad above the pubis for retroversion and the pad at the back for anteversion, keeping the uterus in position between treatments by tampons.

Amenorrhoea.—The galvano-faradic current applied abdomino-dorsal on pad applied to each, or an intra-uterine electrode with abdominal pad about 20 mam., 40 volts for ten minutes.

Menorrhagia.—If uterus is enlarged the positive intra-uterine application with a large abdominal pad 300 cm., strength of current about 25 mam., 40 volts.

Metritis or enlarged uterus from neglected subinvolution.—Use the negative intra-uterine electrode, with a large abdominal pad as the positive, giving current as strong as can be borne, 30 to 50 mam., about 40 volts; this causes a bloody serum to exude which continues for one or two days, if you put in ichthyol tampons after the treatment.

Ovaries.—Ovarian inflammation or congestion is treated by the carbon ball electrode for the anode placed in the vagina as near to the ovary as possible, with a pad 75 to 100 cm. for the cathodal pole on the abdomen over the ovary, using a current of about 10 mam., of 30 to 40 volts, for about ten minutes. If the case is more acute the high-tension, long, fine wire with the same electrodes will relieve the acute symptoms.

Salpingitis.—The pain is relieved by using either the high-tension or sinusoidal current with the bipolar vaginal electrode. In subacute or chronic cases the intra-uterine electrode passed into the uterus and turned to the tube to set up a drainage relieves the congestion. The amount of current varies with the amount of inflammation. Do not make the treatment painful; the amount of current may vary from 20 to 50 mam. In gonorrheal salpingitis you can use copper or silver-tipped electrode as positive, getting the action of the oxychloride of those metals.

Tumors.—The treatment of tumors by the continuous current was considered the most conservative treatment, but the improved methods of surgery, with a decided reduction in mortality, now seems in most cases preferable. The electrical treatment is so very slow and long drawn out that I should not recommend it *except* in some cases which for various reasons may be inoperable. It is seldom that a uterine tumor is reduced in size while symptomatic cures, relief of pain, and checking of hemorrhage are usual. The intra-uterine electrode used as the anodal pole checks the hemorrhage; otherwise this electrode would be used as the cathodal pole, with a large pad of about 600 cm., with a current of 50 to 100 mam., or possibly more. Treatments are once in four or five days or a week, and extend for a year or more. The puncture of the tumor is made

FIG. 1. Side view of tongue depressor. To open, press on the two finger plates (X).

FIG. 11. This end shows the pivoting of the chin piece, so that it can be placed at an angle in order to catch on the side of the chin.

with two or three needles or a trocar electrode, using them as the negative pole, and a large pad for the positive on the abdomen; the clay pad is the best except from the fact of being more or less dirty.

MULTIPLE FIBROIDS OF THE UTERUS.¹

BY SAMUEL BRECK, M.D., BOSTON.

The specimen illustrated by the accompanying photograph is one obtained by autopsy from a negress, forty-seven, single. I first saw her forty-eight hours before death; she was then evi-

dently suffering from peritonitis, and any active interference was not to be thought of. She had had the abdominal enlargement for many years, but was in dread of an operation.

Examination post-mortem showed multiple fibroids of the uterus — the largest of which, the size of a small watermelon, had become cystic and had ruptured into the peritoneum in its upper and posterior portion. The opening was sealed by exudate at the time of the autopsy. The tumor and the abdomen were full of rather thin greenish pus, in quantity about half a pailful. The tumors

¹ Read before the Suffolk District Medical Society, Section for Obstetrics and Diseases of Women, March 26, 1902.

and the peritoneum were covered with a recent fibrinous exudate. In addition to the main tumor, which was pedunculated and rose to the epigastrium, were numerous small ones, varying from the size of a cherry stone to that of an orange. They were subserous, the uterus being but little enlarged. The tubes and ovaries were healthy. As a rather rare complication there was complete prolapse of the vagina, with elongation of the supravaginal cervix. The prolapse has evidently been of long standing, as the vaginal wall is much thickened and shows ulceration.

The kidney and liver are fatty in a marked degree. The heart of normal size, the muscular substance probably somewhat fatty. Lungs and spleen healthy.

The life history of these tumors seems to have been this: Beginning as small subserous masses, their weight led to the prolapse of the vagina. As they enlarged they gradually rose out of the pelvis, drawing the uterus with them and thus causing elongation of the supravaginal cervix. Finally, cystic degeneration of the largest tumor; rupture into the peritoneum; general purulent peritonitis; death.

A SELF-RETAINING TONGUE DEPRESSOR.

BY HARRIS PREYTON MOSHER, M.D., BOSTON.

It is often necessary, in mouth operations, especially in the operation of snaring off the tonsils, to have the tongue depressor held by an assistant. This method is generally only half satisfactory, because in transferring the tongue depressor to another the grip of the inner end is altered, and the exposure of the tonsil, which the instrument gave while it was in the operator's hand, is partly or wholly lost. In addition, while the snare is being tightened home, both hands of the operator are engaged, so that the tongue has to be left to itself, with the result that the view of the tonsil is lost again. In the latter case it does not matter; in the former it does. As the tonsil is being drawn into the loop by the double hooks, and the wire fitted about it, a clear view is absolutely essential. A simple self-retaining tongue depressor would be a great help. There have been many complicated self-retaining tongue depressors, but they have never attained any popularity.

I have found the tongue depressor, which is illustrated here (Fig. I), to meet my wants. It is simple — a spring merely, one end of which catches on the tongue and the other under the chin. It is applied and taken off by pressing on the two sides, just as is customary in working any spring clasp.

The original of this tongue depressor I bought in a Boston shop. I could not learn the inventor's name. On trying the instrument it worked nicely for holding the tongue down in the middle line, but it would not stay in place on the side of the tongue. This was necessary in order to make it of general use. By pivoting