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℞ Phosphori, 1-100 gr.; Ext. Nucis Vomicæ, ¼ gr.

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THERAPEUTICS.—As a nerve tonic and stimulant this form of pill is well adapted for such nervous disorders as are associated with impaired nutrition and spinal debility, increasing the appetite and stimulating the digestion.

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℞ Phosphori, 1-50 gr.; Ext. Nucis Vomicæ, ⅛ gr.

DOSE.—One or two pills, three times a day, at meals.

THERAPEUTICS.—This pill is specially applicable in **Atonic Dyspepsia**, depression, and in exhaustion from overwork, or fatigue of the mind. **Phosphorus** and **Nux Vomica** are **Sexual Stimulants**, but their use requires circumspection as to the dose which should be given. As a general rule they should not be continued for more than two or three weeks at a time, one or two pills being taken three times a day.

Pil: Phosphori cum Ferri et Nuc. Vom. (Wm. R. Warner & Co.)

℞ Phosphori, 1-100 gr.; Ferri Carb. 1 gr.; Ext. Nucis Vomicæ, ¼ gr.

DOSE.—One or two pills may be taken two or three times a day, at meals.

THERAPEUTICS.—This pill is applicable to conditions referred to in the previous paragraphs, as well as to anæmic conditions generally, to sexual weakness, neuralgia in dissipated patients, etc.

Pil: Phosphori cum Ferra et Quinia. (Wm. R. Warner & Co.)

℞ Phosphori, 1-100 gr.; Ferri Carb. 1 gr.; Quiniæ Sulph, 1 gr.

DOSE.—One pill, to be taken three times a day, at meals.

THERAPEUTICS.—Phosphorus increases the tonic action of the iron and quinine, in addition to its specific action on the nervous system. In general debility, cerebral anæmia, and spinal irritation, this combination is especially indicated.

Pil: Phosphori cum Ferro et Quinia et Nuc. Vom. (Wm. R. Warner & Co.)

℞ Phosphori, 1-100 gr.; Ferri Carb., 1 gr.; Ext. Nuc. Vom., ¼ gr.; Quin. Sulph., 1 gr.

DOSE.—One pill, to be taken three times a day, at meals.

THERAPEUTICS.—The therapeutic action of this combination of tonics, augmented by the specific effect of phosphorus on the nervous system, may readily be appreciated.

Pil: Phosphori cum Quinia et Digital. Co. (Wm. R. Warner & Co.)

℞ Phosph., 1-50 gr.; Quin. Sulph., ½ gr.; Pulv. Digitalis, ½ gr.; Pulv. Opii, ¼ gr.; Pulv. Ipepcac, ¼ gr.

DOSE.—One or two pills may be taken three or four times daily, at meals.

THERAPEUTICS.—This combination may be prescribad in cases of consumption, accompanied daily with periodical febrile symptoms, quinine and digitalis exerting a specific action in reducing animal heat. Patients should, however, be cautioned as to the use of digitalis, except under the advice of a physician.

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℞ Phosphori 1-50 gr; Pulv. Digitalis, 1 gr; Ext. Hyoscyami, 1 gr.

DOSE.—One pill may be taken three or four times in twenty-four hours.

THERAPEUTICS.—The effect of digitalis as a cardiac tonic renders it particularly applicable, in combination with phosphorus, in cases of overwork attended with derangement of the heart's action In excessive irritability of the nervous system in palpitation of the heart, valvular disease, aneurism etc. it may be employed beneficially, while the duretic action of digitalis renders it applicable to various forms of dropsy. The same caution in regard to the use of digitalis may be repeated here.

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APOMORPHINE MURIATE, 1-8 gr.	1.10	26
APOMORPHINE MURIATE, 1-12 gr.	85	19
ATROPHINE SULPH., 1-150 and 1-200 gr.	30	10
ATROPHINE SULPH., 1-120 gr.	35	11
COCAINE HYDROCHLOR., 1-8 gr.	50	14
CODEINE SULPHATE, 1-8 gr.	70	18
CONIINE HYDROBROMATE, 1-100 gr.	30	10
DIGITALINE, Pure, 1-100 gr.	30	10
DUBOISINE SULPHATE, 1-100 gr.	50	14
ERGOTIN, 1-6 gr.	60	18
ESERINE SULPHATE, 1-60 gr.	80	20
ESERINE SULPHATE, 1-100 gr.	45	13
HYOSCINE HYDR·BROM., 1-100 gr.	75	19
HYOSCYAMINE SULPH., 1-100 gr.	40	12
MERCURY CORROSIVE CHLORODIN, 1-60, 1-150, 1-40 gr.	30	10
MORPHINE MURIATE, 1-8 gr.	35	11
MORPHINE MURIATE, 1-6 gr.	45	13
MORPHINE NITRATE, 1-6 gr.	70	18
MORPHINE NITRATE, 1-8 gr.	55	15
MORPHINE NITRATE, 1-12 gr.	50	14
MORPHINE SULPHATE, 1-8 gr.	80	10
MORPHINE SULPHATE, 1-6 gr.	35	11
MORPHINE SULPHATE, 1-3 gr.	50	14

Soluble Hypodermic Tablets	Bottle 100 Tab.	Tube 20 Tab.
MORPH. 1-8 & ATROP., 1-200 gr., No. 1,	$0.45	13
" 1-6 " 1-180 gr., No. 2,	45	13
" 1-4 " 1-150 gr., No. 3,	50	14
" 1-4 " 1-100 gr., No. 4,	60	16
" 1-8 " 1-150 gr., No. 5,	45	13
" 1-8 " 1-100 gr., No. 6,	50	14
" 1-6 " 1-150 gr., No 7,	50	14
" 1-6 " 1-120 gr., No. 8,	55	15
" 1-4 " 1-200 gr., No. 9,	50	14
" 1-4 " 1-120 gr., No. 10,	55	15
" 1-4 " 1-60 gr., No. 11,	60	16
" 1-3 " 1-120 gr., No. 12,	75	19
" 1-2 " 1-150 gr., No. 13,	75	19
" 1-2 " 1-120 gr., No. 14,	75	19
" 1-2 " 1-100 gr., No. 15,	75	19
" 1-2 " 1-240 gr., No. 16,	75	19
NITROGLY. 1-50, 1-100, 1-150, 1-200 gr.	40	12
SODIUM ARSENIATE, 1-30 gr.	30	10
STRYCHNINE NITRATE, 1-150 gr.	50	14
STRYCHNINE NITRATE. 1-60 gr.	40	12
STRYCH. SUL., 1-120, 1-100, 1-60, 1-150 gr.	30	10
STRYCH. SUL., 1-50, 1-30 gr.	30	10
STRYCH. & ATROP., No. 1, 1-50, 1-150 gr.	50	14
STRYCH. & ATROP., No. 2, 1-30, 1-120 gr.	50	14
STRYCH. & ATROP., No. 3, 1-60, 1-150 gr.	50	14

The Canada Lancet.

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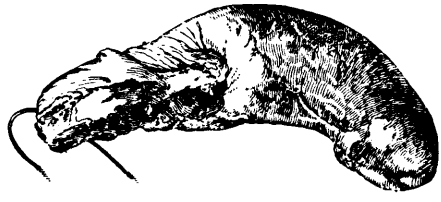
OPERATION FOR VOLVULUS OF VERMIFORM APPENDIX.

DEATH FROM SEPTICAEMIA WITHOUT PERITONITIS.

BY F. L. VAUX, M.D., RESIDENT ASSISTANT MT. SINAI HOSP., N.Y.*

E. S. æt. 24, muscular and well developed, apparently in the best of health, was attacked August 2nd with what appeared to be gastro-enteritis. He had had colicky pains, vomiting, etc., but being at a summer resort it was thought to be due to change of air and diet, or from excessive bathing. This condition continued for two days, during which there were remissions of temperature. On the night of August 4th he was seized with an intense pain in the right iliac region, where he had previously experienced it, though to a less degree. His medical attendant was at once summoned from New York by telegram, but the locality made it impossible for him to see the patient before the next morning. At that time his condition was as follows: temp. 103.4, pulse 100 and good, general condition excellent; his bowels had been moved by castor oil. On examination there was found a slight tumor well towards the ilium, and at the outermost part of the peritoneal cavity. Over this swelling tenderness was most marked. The man was at once brought to New York, and removed to Mt. Sinai Hosp., where he entered Dr. Lilienthal's service. His condition after entering the hospital was not such as to call for immediate operation, but a few hours later a chill, accompanied by a rise of temp. to 104° F., with a greatly increased pulse rate, decided his surgeon to operate. On opening the abdomen over the seat of greatest tenderness, and after walling off the healthy peritoneal cavity with gauze, the appendix was found pointing upwards and backwards in a cavity of which the caecum formed the inner wall, and the parietal peritoneum covering the Iliacus muscle the outer wall. The appendix was enormously swollen, and in a condition of moist gangrene, whilst the meso-appendix was twisted tightly around it at the point indicated in the ac-



* Reported by courtesy of Dr. Howard Lilienthal, acting attending surgeon.

companying photograph by spiral lines. The only firm adhesion was at the tip of the organ. After ligation and removal in the usual manner, an iodoform gauze drain was left in, packing the entire cavity; the wound was then sutured in part and dressings applied.

The pathology of the case seems to be as follows: About one year ago patient had all the symptoms of a catarrhal appendicitis, which was treated medically, and soon disappeared. It seems probable that at that time the appendix became adherent by its tip in a false position, undergoing an axial twist, the mesentery became wound around it, constricting the lumen. This condition did not cause any trouble until the present summer, when, as a result of a clam bake, followed by a dance, together with excessive surf bathing, an attack of gastro-enteritis was developed, with an accompanying appendicitis. This time the lumen is much smaller, the secretions cannot escape because of the previously twisted mesentery, and œdema, followed by moist gangrene results, the venous return being totally prevented. In the short time which elapsed before operation, the septic elements were absorbed in large quantities into the system, and although the appendix was removed, and without the escape of any of its contents into the peritoneal cavity, yet death resulted from general septicaemia.

After the operation $\frac{1}{8}$ gr. morph. was given, and repeated in two hours. The pulse was now 100, resp. 16, temp. 103.8. From now till the death of the patient all three commenced to rise gradually but steadily.

Aug. 5.—Forced nourishment, which was retained fairly well, urine clear, ac. and with a trace of alb. Thirty-two ounces passed in 24 hours. Temp. rose to 106° F. and the wound was opened; found to be doing well, and repacked with iodoform gauze.

Aug. 6.—Small doses of calomel, followed by an ox-gall enema, produced the expulsion of a large amount of gas, which temporarily relieved the patient. Urinalysis showed increased alb., bile, and granular casts. At 4 p.m. the temp. rose again to 106, and it was decided to try venesection, previous to which a saline infusion was given, partly to help the kidneys and also with the hope of somewhat diluting the absorbed poison.

The venesection (about 13 oz.) was very successful for the time, the patient breathing with greater ease and the pulse coming up well. These effects, unfortunately, were transitory.

Aug. 7.—Urinary suppression had been gradually coming on, and now became almost complete, only a few drachms being passed in 24 hours. Diuretics were of no avail, and a hot mustard bath, while inducing diaphoresis, had little effect in relieving the kidneys. Temp. rose to 107, pulse 158, and at midnight patient died, having been unconscious for some hours

Post-mortem examination showed the abdominal cavity to be clean and dry, there not being even a suspicion of peritonitis. A previous diagnosis of endocarditis and pericarditis was verified. A wedge-shaped infarct was present in the liver. Contrary to what might have been reasonably expected, there was no hyperæmia of the kidneys.

Certain conclusions will naturally present themselves to those interested in abdominal surgery.

Peritonitis is not the only thing to be feared; greater danger is general sepsis commencing before operation.

The necessity for operation in catarrhal appendicitis. Not only is the risk much less in primary cases, but the danger of a second or third recurrence when unable to secure immediate surgical attendance is great, as the very circumstances which contribute to the enjoyment of camping out, etc., are those most likely to lead to recurrent attacks.

The result of venesection combined with saline infusions warrants its employment in septicæmia. The value of this treatment will be in direct ratio to the early employment of it.

SYMPHYSEOTOMY.*

BY ALEX. FORIN, M.D., DULUTH, MINN.

GENTLEMEN—With our greatly improved technique in surgery we are able to perform operations with comparative impunity, which a few years ago were looked upon as exceedingly dangerous, while the somewhat recent step from antisepsis to asepsis has proved itself the most important factor in producing the glowing results of the modern surgeon. I do not mean that we have no use for antiseptics, for without them we could not pave the way for asepsis; without them we should find ourselves unable to get the external coverings through which we have to pass, into proper condition, nor could we submit our hands to the same means of sterilization that we do our instruments and dressings; therefore it is necessary to use antiseptics in connection with other means before we are justified in considering our hands and arms in condition of asepsis, whereby we are warranted to handle and explore parts and regions that would readily become contaminated with any septic material brought into contact with them. One of the many operations that are being performed to-day that some years ago were considered as involving too much risk to the life of the patient, or I might say patients, is the operation of symphyseotomy. The operation means, as you know, the division of the pubic joint, thereby rendering the natural opening capable of allowing the passage of a viable child, without which, either on account of the presence of an abnormally enlarged head, or malformed condition of the pelvic bones, such delivery would be an impossibility.

HISTORY.—The operation was first performed by one Courvee, a French physician, in the year 1644, but not until the death of the mother had occurred, and he did it to save the life of the child: but as early as 1598 a thesis was written by another French surgeon, Pinaud, describing the operation. Again we find that a Hungarian surgeon by the name of Pluick, in 1766, performed the same operation as did Courvee, under similar circumstances. Then in 1768 a medical student, Jean René Sigault, wrote

* Read before St. Louis County Medical Society, July, 1896.

a memoir on the subject and read it at Angers, France; but the operation of symphyseotomy was not performed on a living subject until 1777, when it was done by Sigault himself with a successful result. From 1777 to 1858 there were about 100 cases reported, with a maternal mortality of 31 and foetal mortality of 65. With these statistics staring the operator in the face, is it any wonder that the operation became comparatively obsolete? But in 1866, Professor Morisani, of Naples, brought it again before the profession, and his success enabled it to be looked upon with much more favor than previously. In 1892, the Parisian surgeons and gynaecologists for the second time took up the operation of symphyseotomy in lieu of Caesarean section, for both of these operations have the same end in view, namely, to save the lives of both mother and child or children. Dr. R. P. Harris, of Philadelphia, in 1892, theoretically favored the operation, but it is Dr. Charles Jewett, of Brooklyn, to whom we must give the credit of first performing the operation in America, which was done on September 30th, 1892. By a letter from Dr. Jewett I learned that the child in this case did not live, owing, as he claims, to too long delay before seeing the case. Since that time, as far as I can learn, there have been reported some 75 operations with a maternal mortality of 14 per cent. and infantile mortality of 26 per cent., and although we are proud of our American surgeons, and justly so, their results have not been as good as those of foreign surgeons in this operation, for we find Morisani and his followers in Italy have performed some 55 operations with a fatality of only 3.5 per cent. maternal, and 5.5 per cent. infantile, while Pinard, of Paris, has done 20 operations with the loss of only one mother; and last is Zuifel, of Liepsic, who reports 23 symphyseotomies without the death of a single mother and only two infants, while at the same Mecca of surgery we find that the best results for Caesarean section is 5.5 per cent, which is really a record to be proud of; but when we are called upon to choose between two operations having the same end in view, we are not justified in doing the more serious one, and I think you will agree with me that symphyseotomy is not as difficult or does not involve as much risk to the mother, and little more, if any, additional risk to the foetus, as does Caesarean section.

Without going into the minute measurement of the pelvic openings, which we all have a more or less accurate knowledge of, I would lay down a rule, that where the opening is out of proportion to the size of the foetal head, thereby preventing, by mechanical obstruction, the engaging of the head in the superior strait, and after trying honestly to assist nature with forceps we still find the head unable to engage, whether the malformation be foetal or pelvic, I think we are justified in performing symphyseotomy; or if by examination we find the pelvic opening very small, either on account of a very prominent sacrum, or very acute pubic arch, we are justified in doing the operation without having tried and failed in forceps delivery. Always having given nature a fair chance to remedy the trouble, but especially in multipara, where craniotomy has been resorted to several times before, I think that to again deliberately take the life of the infant is assuming responsibilities which

no one should ask a physician to do, and it is nothing but right that the mother should share with her unborn babe a portion of the risk; for it is most horribly repulsive, to me at any rate, to take up the perforator and deliberately destroy the life of an innocent child, although yet unborn, that we should hail with delight an operation which, through recent improvement in technique, has proven itself of much value in saving of life, both *maternal* and fœtal (for I believe that cases are as fatal to the mother, and more so, where craniotomy is performed, than is symphyseotomy), and especially so when the operation is comparatively easy to perform.

All things demanding radical means, I would first put my patient thoroughly under an anaesthetic, and after carefully preparing the parts by shaving, scrubbing and douching, would pass a metal catheter into the urethra, which will permit of the urethra being drawn aside out of harm's way, and then make the incision from about half an inch above the pubis downwards in the median line. As soon as the opening was large enough to admit of the finger as a guide to the knife, and to steady the same, I would pass the blunt-pointed bistoury, moderately curved, down behind the pubic arch, and after finding the joint by a sawing motion cut upwards and outwards, when we shall meet with no serious hemorrhage, unless we get into the corpora cavernosa of the clitoris, which with care can be avoided; even if there is considerable hemorrhage, it can easily be controlled by packing the wound with gauze. There is one precaution I would take, which I never saw mentioned, in reference to this operation, and that is, to keep the bladder moderately filled with urine until after I was through cutting, as by that means we would be more certain of the peritoneum being lifted up out of harm's way, as is done in suprapubic cystotomy, and escape the danger of opening into the peritoneal cavity. The operation of symphyseotomy is, as described above, of necessity blind surgery; but with care and an acquired sensitive touch it should not be dangerous or hard to perform. There are other methods advised or followed by some, and one is a larger opening above, while another is a small opening from below, between the urethra and clitoris, which has the advantage of drainage if one expects suppuration, but also has the disadvantage of more liability of injury to the delicate structures surrounding and forming the clitoris, and also the increased danger of a more ready and convenient course for any septic material arising from fetid lochia to contaminate the wound.

After the joint is severed we will find that the interpubic opening is from $1\frac{1}{2}$ to $2\frac{3}{4}$ inches; the one I operated upon separated about $2\frac{1}{4}$ inches, in which the conjugate diameter would gain $\frac{1}{2}$ an inch, the transverse diameter $\frac{5}{8}$ of an inch, and the oblique nearly an inch, and if you stop and think of the relative positions of the sacrum and iliac bones, you will see that the pubic ends must drop downwards as well as separate. At this stage I would advise forceps delivery to aid nature, care being taken that the bones do not drop too far apart, else it will so strain the sacro-iliac ligaments that your patient will complain more of pain in those quarters than anywhere else; even with care you cannot prevent all discomfort referable to those joints, as experience will teach you.

Another care has to be taken at this time, and that is to prevent the soft parts, including the urethra and neck of the bladder, from becoming injured by contact forcibly with the sharp corners of the severed pubic arch, which can be done by gauze packing down between and below the sharp corners. This accident happened to my friend, Dr. McLaren, of St. Paul, a transverse opening being made in the urethra, but which speedily healed by suturing and using continuous drainage.

After delivery of the child it is advisable to again insert the metal catheter in the urethra, and by pressure downwards prevent the soft parts from becoming engaged between the ends of the bones as they are being brought together, and the best and handiest way to retain the severed joint in position is to use broad adhesive plaster straps about 2½ inches wide, reaching from one trochater to the other, and then by having strong canvas bandages made to fasten together with straps and buckles you will find an easy and convenient method of holding the parts together; with one finger in the vagina you can distinctly feel the relation of the bones one to the other and get them correctly adjusted. The wound which was made through the skin can be sutured with catgut or any other suture material, and where proper aseptic precautions have been taken should heal by first intention. As for the position of the patient after operation I would advise the dorsal for the first week, then she can move, lying on either side as is most comfortable; by the position on the side we would get the advantage of gravitation in holding the bones together, and experience less chance of having retroversion of a subinvoluted uterus than if patient was continually on her back. There is no occasion to wire the ends of the bones together, as was once thought the only means of keeping them in proper position and prevent mobility. In the case I operated upon I was called out to Lester Park one morning and found my patient very much exhausted from a long night of very hard labor, something over nine hours since the second stage had commenced. I found the os dilated and dilatable, but the head was perfectly free. I had the patient again put under ether, and applied the forceps. Although I used considerable force the head showed no signs of engaging, but could be distinctly felt above the pubis, pressing fairly against the acute pubic arch. After consultation with Drs. McAuliff and Spier, who had preceeded me in the case, we decided upon symphyseotomy as being the best means of saving mother and child. I prepared the patient for the operation, and here found myself without the blunt-pointed curved bistoury, so had to content myself with using a straight, ordinary scalpel. I protected the parts as well as I could with my finger guiding the knife, and succeeded well; but unfortunately, just as I was about through I took the handle of the knife to sever a few remaining strands of the subpubic ligament and in so doing made an opening into the bladder or urethra, but without using any suture I put in permanent drainage through the urethra, and within 48 hours, through the tube leading to the receptacle for urine becoming occluded, I found the bladder with nearly two pints of urine, which did not show itself through the opening above, although it caused considerable pain in region of bladder from over di-tension. After from 3 to 4 weeks in the recumbent position the

patient should be allowed to sit up or walk around, if she feels like it. As for the prevalence of ununited cases after such operations, I think they are very, very rare, and that with time we shall find in every instance there has been a firmly united joint. Patients having undergone the operation will be watching with considerable interest whether she can discern any mobility, and even if she does I do not think it is any greater than would be present at the same period following a severe instrumental delivery, for we know that often the joint is tested severely, and sometimes the ligamentous and cartilagenous union of the joint is ruptured. In my case the mother made a good, although somewhat tedious recovery, going through the painful experience of phlegmasia dolens alba in both extremities, but was up in four weeks. The child died some 35 hours after birth from some cerebral complication setting in, which I do not think would have happened had the operation been done a few hours earlier, or perhaps if I had operated without myself having attempted forceps delivery. As it was all credit is due Dr. Spier for the manner in which he resuscitated the infant.

But you can easily understand that being called to a case like the above is vastly different from attending a multipara, where before you found the conditions of the parts such that prevented delivery and craniotomy had to be done, and upon the following delivery or pregnancy you would make all arrangements to perform the operation, and do it before your patient is worn out from labor, and the foetus in extremis from the same cause. Comparisons as to results are not fair without allowances being made in the conditions of both patients at the time of operation. As Dr. Ralph Pomeroy of Long Island hospital properly says, "The field of symphyseotomy is undoubtedly very limited. The indication will arise least frequently as a matter of pure election before labor, and most frequently in the emergency of actual labor; but while pelvimetry may give us warning of probable difficulties, we find just below the limit of the normal the mechanical factors of a successful passage of the superior strait are largely relative, and are not to be estimated arbitrarily in terms of centimeters or fractions of an inch. And in the emergency, as we usually meet it, many considerations besides the mechanical are to be weighed,—the amount of previous manipulation and consequent trauma, the general condition of both mother and child, and the facilities for establishing asepsis."

It is all very nice for medical men, convened as we are, to say what should be done; the next thing is to do it, and it is generally necessary to procure the sanction of the friends; and we will find husbands as different in ideas as were Napoleon Bonaparte and Henry VIII of England. The former replied, when asked by Dubois, the physician attending the Empress, "Treat the Empress as you would a shop-keeper's wife in the Rue St. Martin, but if one life must be lost, by all means save the mother." Vastly different from the King, who did not value the life of a woman; for Henry, when questioned before the birth of his son, Edward, said, "Save the child by all means, for other wives can easily be found." Further, as craniotomy is and has been the operation most prevalent in difficult cases, I would quote and endorse the language of Dr.

Meadows, that "The whole tendency of modern midwifery practice is setting in very decidedly in the direction of absolutely and entirely abolishing the most abominable, unscientific and brutal proceeding of craniotomy." Also, the last utterances of Dr. Burns, "The cases in which the lives of the mother and child are supposed to stand in antagonism are vanishing before the light of modern science and skill;" or as has been so nicely expressed by Baudelocque, in speaking of craniotomy, "To mutilate a living child in order to avoid Caesarean section (or symphyseotomy) is the offspring of ignorance and inhumanity;" and Connor, in upholding Caesarian operation, said, "Looking at the results from Caesarian section when done early, an accoucheur who performs craniotomy on the living child sacrifices a life which he is in duty bound to preserve; surely an infant come to maturity is destined for something better than to have its glimmering life extinguished by an accoucheur skilled in the use of the dreadful perforator." And when such arguments are used by such men in favor of Caesarean section, or Porro's operation against craniotomy, I hold they are also applicable in favor of symphyseotomy; for, excluding all fibroids as the obstruction, the latter is to be preferred in the cases generally met in practice. Where the patient is in a properly equipped hospital, where all arrangements are at hand for thoroughly aseptic work, it rests altogether at the will of the surgeon after consulting the husband; but in the ordinary lying-in-chamber, with the meagre means at our disposal for aseptic work, I would prefer not entering the abdominal cavity, and for that reason hold that the operation of symphyseotomy is vastly superior to Caesarean section or Porro's operation, and that either is preferable to craniotomy, always allowing the child in utero to be alive, and the mother able to withstand the operation. The operation, whether section or symphyseotomy, should always be done early, if we would expect the best results.

When?—When the women all wear bloomers, and their skirts are laid away; when their legs are no more rumors, coyly hid from light of day; when the petticoat's forgotten, with its swishing, wishing swirls, and there's less demand for cotton, I'll be sorry for the girls. I'll be sorry for the lasses who in school are at their books, at the head or foot of classes—I'll be sorry for their looks; for their ma's will make their trousers, and, good heavens! don't we know, who were boys, but are not now sirs, that they'll be a holy show. It is bad enough when Willie weareth pants his mama made; 'and it often knocks you silly just to see the youthful blade wearing pants that no man knoweth which is front or which is back; if he cometh or he goeth there is quite an equal "slack." But your Susie! Oh, 'tis galling; scalding tears will downward glance when you hear the urchins calling; "say, where did you get those pants?" You will see her youthful glowing, but by no dead certain rule, can you tell if she is going or is coming home from school. There'll be trouble you'll allow sirs, there'll be anguish for the pa's, when their daughters will wear trousers that are just revamped from ma's. So I'm weeping as I'm writing, and my great tears fall like pearls, scarce I know what I'm indicting I'm so sorry for the girls.—*Fresno Republican.*

SURGERY.

IN CHARGE OF

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FURTHER OBSERVATIONS UPON THE TREATMENT OF MALIGNANT TUMORS WITH THE TOXINS OF ERYSIPELAS AND BACILLUS PRODIGIOSUS, WITH A REPORT OF 160 CASES.*

BY WM. B. COLEY, M. D., NEW YORK.

ABSTRACT.

The cases reported extend over a period of upwards of four years, and they embrace nearly every variety of sarcoma and carcinoma. In practically all the cases the diagnosis was confirmed by microscopic examination made by the most competent pathologists. In addition, the majority of the tumors had been pronounced inoperable by leading surgeons, and in many cases still further evidence of malignancy was furnished by a history of repeated recurrence after operation.

It would seem possible from this large series of cases to arrive at some scientific opinion as to the value or worthlessness of the toxins in malignant tumors. The fact was emphasized that this method of treatment had been advocated only in inoperable cases which were entirely hopeless, not only from a surgical standpoint but also as regards any other hitherto known method of treatment. The author expressed the desirability of having these results subjected to the severest criticism. If they were able to stand this they would be of the greatest importance, not only as bearing upon the future treatment of malignant tumors, but also as throwing some light upon the unsolved problems of the etiology and pathology of such tumors.

An attempt was made to show that the method of treatment rested upon a rational basis, namely, the considerable number of cases of undoubtedly malignant tumors that had been permanently cured by attacks of accidental erysipelas. The writer's own observations covered the whole field from the accidental erysipelas to the mixed toxins. He was led to take up this line of investigation from having observed a small, round-celled sarcoma of the neck, five times recurrent, and given up as hopeless, cured by an attack of accidental erysipelas, patient having been found alive and well seven years afterward. His first series of ten cases

* Paper read at the meeting of the Johns Hopkins Medical Society, April 6, 1896.

were treated with repeated injections of living bouillon cultures, with the view of producing erysipelas. The unmistakable improvement that followed the repeated injections, even when no erysipelas was produced, especially in sarcoma, suggested that a portion, if not all of the benefical influence was due to the toxins instead of the living germ, and this led to experiments with the toxins alone.

The first experiments were conducted with bouillon cultures that had been subjected to 100° C. and were used without filtration. The reactions following the injections of this solution were similar in character to those obtained from injections of the living germ, although less severe. In order to increase the virulence of the cultures, the writer made use of the fact demonstrated by Roger, that the bacillus prodigiosus, a non-pathogenic organism, had the power of intensifying the virulence of the streptococcus of erysipelas. The toxic products of the two germs were prepared separately and mixed at the time of using.

This mixture produced a much more severe reaction than when the erysipelas was used alone, and the beneficial influence upon the tumor was likewise more marked. Later on, at the suggestion of Mr. B. H. Buxton, the two germs were grown together in the same bouillon, the erysipelas being grown alone for 10 days and the bacillus prodigiosus added and the two allowed to grow together for another week or 10 days, at the end of which time they were passed through a Kitasato filter. This appeared to be a still greater improvement in technique.

A still further change was made with a view of utilizing whatever of value might exist in the insoluble products remaining in the dead germs; the cultures were heated in a temperature sufficient to render them sterile, which was found to be 58-60° C. for one hour. By the addition of a little thymol the fluid could be kept indefinitely in glass-stoppered bottles. This preparation was much stronger than those before described, and experience proved it to be much superior to the others in its action upon the sarcoma. An analysis of the cases treated showed that 48 were round-celled sarcoma, 13 spindle-celled, 7 melanotic, 2 chondro-sarcoma, 3 mixed celled, 14 sarcoma, special type not known. Total number of cases of sarcoma 93; carcinoma and epithelioma 62 cases; sarcoma or carcinoma 10; tubercular 2; fibro-angioma 1; mycosis fungoides 1; goitre 2; keloid 1. Of the cases of sarcoma, nearly one-half showed more or less improvement; the variety that showed the greatest improvement was the spindle-celled; that which showed the least, the melanotic. Next in order of benefit was the mixed celled—round and spindle; then round-celled, while osteo-sarcoma closely approached the melanotic in showing but little change. In a series of 9 cases of melanotic sarcoma, no improvement was noticed in 6, very slight in 3. Most of the cases of osteo-sarcoma failed to respond to the treatment, many showed slight improvement, and one case, a very large osteo-chondro-sarcoma of the ilium, apparently disappeared and the patient remained well for nearly a year, when a recurrence occurred. One case of round-celled sarcoma of the neck of very rapid growth showed very marked decrease during the first week's treatment, after which time it continued to grow in spite of large doses of the toxins.

Report of Successful Cases.

The cases most worthy of especial note were the following:

Case I.—A twice recurrent inoperable sarcoma of the neck with large secondary sarcoma of the tonsil.

Last operation performed by Dr. Wm. T. Bull, March, '91. The tumor was so extensive that only a portion could be removed; the general condition of the patient, May 4, 1891, was so bad that he was expected to live but a short time. He could swallow no solid food, and liquids with difficulty. He was treated from May 4 until October 8, 1891, with repeated local injections of living cultures of streptococcus of erysipelas; decided improvement followed the injections and whenever they were discontinued for a short time the growth increased in size. On October 8 a severe attack of erysipelas was produced by using a new and more virulent culture. During this attack the tumor of the neck nearly disappeared, the tumor of the tonsil decreased in size; general condition of the patient rapidly improved and he had soon regained his usual health and strength. He has had no treatment since, He was last seen in September, 1895, four years later, at which time the tumor of the tonsil, though still present, had greatly shrunken in size; there was a small mass at the site of the old scar in the neck, apparently made up of cicatrical and fibrous tissue,

Case II.—Large recurrent sarcoma of the back and groin; entire disappearance of both tumors; patient in perfect health, without recurrence four years after the beginning of the treatment, and more than three years after the cessation of the treatment.

Patient male, aged 40; sarcoma of the back and lower lumbar region 7x4 inches, with a secondary tumor the size of a goose-egg in the groin. The groin tumour was removed by operation, January, 1892; it rapidly recurred. Patient was examined by Dr. Wm. T. Bull and several other surgeons, who all regarded the case as inoperable. Diagnosis of sarcoma was made and confirmed by Dr. Farquhar Ferguson's (pathologist to the New York Hospital) examination of a portion removed under cocaine.

Treatment by repeated daily injections of living bouillon cultures of erysipelas was begun in April, 1892. At the end of two weeks a severe attack of erysipelas was produced. At the end of three weeks both tumors had entirely disappeared. Recurrence followed in July, and the tumors, both in the back and the groin, grew more rapidly than before. The injections were resumed, and between October, 1892, and January, 1893, the patient had four additional attacks of erysipelas; they were milder in character, and the effect upon the tumor was less striking.

In January, 1893, the tumor in the back was removed, but that in the groin left undisturbed. At the end of three weeks there was an apparent recurrence in the back, and the injections with the mixed toxins of erysipelas and bacillus prodigiosus were then begun. Both tumors quickly disappeared. Treatment was discontinued in March, 1893; patient has been in perfect health, free from recurrence since.

Case III.—Large inoperable sarcoma of the abdominal wall and pelvis; entire disappearence of the tumor; no recurrence three years after.

The patient, a boy of 16 years of age, had a tumor 7x5 in. in extent, involving apparently the entire thickness of the abdominal wall, attached to the pelvis, and judging from the symptoms and position, evidently involving the wall of the bladder. A portion of the tumor was removed, and pronounced spindle-celled sarcoma, by Dr. H. T. Brooks, pathologist of the Post-Graduate Hospital. The case was regarded as inoperable by Prof. L. Bolton Bangs and referred to Dr. Coley for treatment with the toxins. Patient was admitted to the N. Y. C. H., Jan., 1893, treated for three months with the mixed filtered toxins. At the end of that time the tumor had nearly disappeared, and the remainder was gradually absorbed after the injections were discontinued; there was no breaking down of the tumor tissue; patient has been in perfect health up to the present time, more than three years after cessation of treatment.

Case IV.—Large inoperable sarcoma of the abdominal wall; entire disappearence; no recurrence 2½ years afterward. The patient a woman, 28 years of age.

Exploratory operation had been performed in August, 1893, by Dr. Maurice H. Richardson, of the Massachusetts General Hospital. The tumor was too large to be removed; a portion was excised for microscopic examination. The diagnosis made by Dr. W. F. Whitney, pathologist to the hospital, was fibro-sarcoma. The patient was sent to Dr. Coley by Dr. Richardson for the erysipelas treatment. The injections with the mixed toxins were begun in October, 1893, and continued for 10 weeks; the tumor entirely disappeared. The patient is still in perfect health, with no trace of recurrence.

Case V.—Spindle-celled sarcoma of the leg. Popliteal region. Three times recurrent. Disappearance. Recurrence in gluteal region after one and a half years.

The patient, a girl 15 years of age, had undergone three operations by Dr. Wm. T. Bull for spindle-celled sarcoma starting in the metatarsal bone. In January, 1894, a tumor the size of a child's head was removed from the popliteal region. The one in the stump, the size of a hen's egg, was left to test the value of the toxins. Complete removal of the tumor in the popliteal region was impossible. The toxins were administered at the N. Y. H., under Dr. Bull's direction, for about 2 months; treatment was continued at the N. Y. Cancer Hospital by Dr. Coley. The indurated mass in the calf slowly disappeared; tumor in the stump also disappeared.

Patient remained well for 1½ years. At the end of that time there was a recurrence in the gluteal region. The toxins were again administered; the tumor diminished in size, and in February, 1896, was removed.

Case VI.—Extensive spindle-celled sarcoma of the scapula and chest-wall; entire disappearance of the tumor under three months' treatment; patient at present in perfect health; no trace of recurrence 23 months later.

The patient, a girl under 16 years, was admitted to the "incurable ward of the New York Cancer Hospital on June 20, 1894. The tumor apparently started in the region of the left scapula, 4 months before, and extended to the vertebral line behind, and in front to the edge of the

sternum; it was fixed to the chest-wall, measured 13 inches behind, 7 inches in front. The left arm was bound down by the new growth so that it could not be raised to a horizontal position; the skin was normal; there was no general or local signs of inflammation. A portion of the tumor was removed from microscopic examination and a diagnosis of typical spindle-celled sarcoma was made by Dr. H. T. Brooks, pathologist to the Post-Graduate Hospital. The patient was treated for three months with daily injections of the mixed unfiltered toxins; improvement was immediate and the tumor very rapidly disappeared by absorption. Patient remains in perfect health at the present time.

CASE VII.—Intra-abdominal round-celled sarcoma of mesentery and omentum; disappearance; patient well, without evidence of recurrence 1½ years later.

The patient, female, aged 23 years, was operated upon by Dr. Willy Meyer at the German Hospital, in August, 1894. A small tumor involving the mesentery, omentum, large and small intestine, was found and removal considered impossible. Portion was excised for examination and pronounced by Dr. Schwytzer, the pathologist of the German Hospital, "round-celled sarcoma." Patient was referred to Dr. Coley for treatment with the toxins. Injections were given in the gluteal regions and abdominal wall for about six months, with occasional intervals. In February, 1896, an attempt was made to close the sinus in the abdominal wall which had persisted since Dr. Meyer's operation. The sinus was found to lead into the gall bladder and several impacted gall-stones were removed; careful exploration of the abdomen failed to reveal the presence of any tumor. Patient perfectly well, August 7, 1896.

CASE VIII.—Epithelioma of the chin, lower jaw and floor of mouth; entire disappearance; patient perfectly well two years later.

The patient, a woman 34 years of age, was admitted to the Methodist Episcopal Hospital in May, 1894. A rapidly growing tumor was found, involving lower jaw, floor of mouth and soft part of the chin, extending over an area about the size of a silver half-dollar, presenting the appearance of a typical epitheliomatous ulcer. The patient was regarded as inoperable by Dr. Geo. R. Fowler; a portion of the growth was excised and diagnosed as epithelioma by Dr. Wm. N. Belcher, pathologist to the hospital. The patient was treated at the N. Y. C. H. from June, 1894, till September, 1894, with the mixed unfiltered toxins. There is no trace of the tumor to be found at present and the woman is in perfect health (July, 1896).

CASE IX.—Enormous osteo-chondro-sarcoma of the ilium; tumor disappeared; patient regained his usual health and remained well for seven months, at which time a recurrence occurred. The tumor has resisted further treatment; the patient, although alive, is in a hopeless condition.*

CASE X.—Spindle-celled sarcoma of the hand, 6 times recurrent; remained well for one year, then recurred.

CASE XI.—Very large, twice recurrent angio-sarcoma of the breast; treated for six months with the erysipelas and prodigiosus serum; marked

* Patient died, July, 1896.

reduction in size, making the tumor easily removable; excision, September, 1895; no recurrence, February 8, 1896.

The patient, a woman aged 59 years, was admitted to the N. Y. C. H. on January 20, 1895; had a very large recurrent tumor in the region of the left breast, extending from the sternum to the mid-axillary line; the tumor was fixed to the chest-well, and entirely inoperable; patient was extremely weak. She improved slowly under the local injections of the erysipelas serum, and in September the tumor had become so much reduced that it was easily excised.

CASE XII.—Large inoperable round-celled sarcoma of the iliac fossa: treatment was begun in June, 1893; tumor almost entirely disappeared; patient was in good health, August, 1894, after which time he was lost sight of.

CASE XIII.—Probable sarcoma of the sacrum; disappearance of tumor; complete restoration to health.

The patient, male, 38 years of age, began to lose flesh and strength in February, 1895, Later had severe pains in lower portion of spine and sacrum, shooting down the legs. April 1, began to get lame in right leg; soon after in the left; all of the symptoms progressively increased, and on the 2nd of May his weight had fallen from 175 to 134 pounds. He was admitted to Dr. Kinnicutt's service at St. Luke's Hospital; rectal examination showed a tumor, hard in consistence, attached to the anterior portion of the sacrum, the lower portion of which only could be reached with a finger. Clinical diagnosis of Dr. Kinnicutt and the others who saw the patient in consultation was inoperable sarcoma. No microscopic examination was made. A two to three weeks' trial with the erysipelas toxins was advised by Dr. Coley. The improvement was almost immediate; injections were made into the buttocks; treatment was repeated daily, and at the end of one week the excruciating pain had almost entirely subsided, the lameness improved rapidly, and at the end of six weeks the patient had gained 28 pounds and was able to resume his work. Examination, March 8, 1896, showed the patient to be in perfect physical health; his lameness had disappeared; no trace of a tumor could be detected on rectal examination; his weight at that time was 175 pounds.

Several other cases in which very marked improvement had followed the use of the toxins were reported.

Attention was further called to nine successful cases in the hands of other surgeons who had used this method. The most important of these were the following:

CASE 1.—A large spindle-celled sarcoma involving almost the entire palate and pharynx. This case, it was stated, had already been reported in the *New York Medical Record*, November 17, 1894, but its value was greatly enhanced by the fact that there had been no recurrence two years afterwards.

CASE 2.—Extensive inoperable intra-abdominal sarcoma, reported by Dr. Herman Mynter, of Buffalo, in the *New York Medical Record*, February 9, 1895. In this case the tumor disappeared, and up to April, 1896, there had been no recurrence.

CASES 3-6.—Drs. L. L. McArthur and John E. Owen of Chicago had had three successful cases, although sufficient length of time had not elapsed to determine whether or not they could be classed as cured. All of the cases were recurrent, and in two amputations of the leg had been advised; in a third, amputation of the arm.*

CASE 7.—Czerny of Heidelberg, who has used the method in four cases of sarcoma and in four of carcinoma, has reported one case of rapidly growing, inoperable, round-celled sarcoma of the parotid which nearly disappeared under the influence of 18 injections. The case has been more recently referred to as cured, by Glueckmann.

CASE 8.—Dr. Judson C. Smith, of the Post-Graduate Medical School, had a case of small round-celled sarcoma of the neck, the size of an orange, disappear entirely under eight weeks' treatment with the mixed toxins. Microscopic examination was made. Patient gained 25 pounds in weight, remained well for a number of months, at the end of which time a recurrence took place.

CASES 9-10.—Two other successful cases were briefly reported, both of which were confirmed by microscopic examination; both cases were recent, and therefore could not be classed as permanent cures.

The writer stated that he did not expect the profession at large to accept without question and criticism such remarkable results as he had reported, and for that reason he had related with some detail the successful cases in the hands of other surgeons who had employed this method. He was of opinion that a series of upwards of 20 successful cases of inoperable sarcoma (four of which had remained well upwards of 2½ years), the diagnoses of which had been established beyond question according to accepted methods of diagnosis, ought to be sufficient to demonstrate the real and positive advance that had been made in a field which, up to this time, had been regarded as absolutely hopeless. He did not doubt that there were those who would still remain skeptical about the value of the toxins in spite of the evidence presented. Such persons must either fail to see any logical connection between the accidental erysipelas and the toxins, or they must go even farther and deny that there are any authentic cases of malignant tumors that were cured by accidental erysipelas. The only explanation they can have to offer for the results which cannot be questioned is, that in all the successful cases there must have been an error of diagnosis.

Such an explanation might be entitled to some consideration were a single case only involved, but those who would seriously propose it as a satisfactory explanation in view of the results in more than 20 cases, could not claim to be guided by scientific principles. The writer stated that he had carefully examined the literature of the subject of spontaneous disappearance of tumors supposed to be malignant, but had failed to find a single instance in which the diagnosis had been confirmed by the microscope. It would appear remarkable that these cases should be the first on record with a clinically and microscopically confirmed diagnosis to disappear spontaneously, and it would seem more remarkable still that

* In two of these cases there was a suspicion of recurrence in April, 1896.

this disappearance should be coincident with the beginning of the treatment with the toxins.

Furthermore, it would be clearly unfair to rule out these cases on the ground of error in diagnosis, without ruling out the cases of cure following operation, for the same reason.

The writer then briefly referred to the various theories that had been offered in explanation of the action of the toxins. He still adhered to his opinion, expressed in his earlier paper published in December, 1892, that the micro parasitic origin of malignant tumors furnished the only rational explanation of this action. His conclusions were, (1) that the mixed toxins of erysipelas and bacillous prodigiosus exercise an antagonistic and specific influence upon malignant tumors, which influence in a certain proportion of cases may be curative. (2) That the influence of the toxins is very slight in most cases of carcinoma, including epithelioma, most marked in sarcoma, but that it varies greatly with the different types, the spindle-celled form being by far the most responsive to the treatment. (3) That the action of the toxins is not merely local in character, but systemic. (4) That the toxins should be reserved for use in clearly inoperable cases of sarcoma, or in cases after primary operation, to prevent recurrence.

DISCUSSION.

DR. WELCH.—I have been very much impressed by this personal statement from Dr. Coley, and I see no way of gainsaying the evidence which he has brought forward, that there is something specifically and genuinely curative in his method of treatment. A single undoubted cure of a demonstrated cancer or sarcoma by this treatment would be enough to establish the fact that the treatment exerts some specific curative effect, for the spontaneous disappearance of undoubted malignant growths of this character is almost unknown. Dr. Coley has, however, presented to us positive proof of the cure, not of one only, but of several cases of malignant tumor by his method. Although I suppose that in any given case the chances of cure by this method are at present not great, still the demonstration that cure is possible gives every encouragement for perseverance in this line of investigation and work, and for efforts to perfect the method of treatment.

It is interesting to learn that the most strikingly beneficial results have been obtained in the treatment of spindle-celled sarcomata. There are certain kinds of sarcomata which some pathologists are inclined to rank rather among the infectious tumors than among the genuine tumors, in the sense in which these terms are used by Cohnheim; but it is rather certain sarcomata of the lymphoid type than the fusiform-celled sarcomata which are thus believed to be possibly outside of the class of genuine tumors, according to Cohnheim's classification.

As Dr. Coley suggests that the variations in his results may depend in part upon variations in the virulence of his cultures, and as it is well known that the streptococci vary notably in virulence, I would like to ask if he has as yet utilized the methods of Marmorek in order to obtain cultures of uniformly high degrees of virulence. Dr. Livingood, in my

laboratory, has confirmed the results of Marmorek and succeeded repeatedly by his method in transforming streptococci of low virulence into those of very exalted virulence.

It seems to me that it would be practicable and most interesting, and possibly demonstrative of the specific effects of the treatment, if Dr. Coley, in carrying out his researches, would occasionally cut out small bits of tissue from the tumor and by their examination endeavor to determine the details of the process of cure.

It does not seem to me absolutely necessary to adopt the hypothesis of the parasitic causation of these malignant growths in order to explain their disappearance under this treatment. It is conceivable that the peculiar biological properties of the tumor cells—and peculiar they unquestionably are—may render them particularly susceptible to the toxic substances injected. The evidence that the curious bodies often seen in malignant tumors are genuine parasites is, in my opinion, far from conclusive at the present time.

DR. FINNEY.—I have had the opportunity of observing the action of both the erysipelas organism and the toxin in a number of cases, both in hospital and private practice. One point which Dr. Coley has not mentioned to-night, but which he has referred to previously, I will speak of, because I think it of great value. It is the influence of the treatment on cases which may not finally result in a cure. The first case in which I used the erysipelas occurred about the time Dr. Coley began to make his observations in New York. It was a case of a woman with inoperable carcinoma of both breasts. Against my will, but at the urgent request of herself and her husband, I inoculated with a pure culture of the erysipelas streptococcus. She had at the time a very distressing and severe cough, with intense pain, evidently from involvement of the pleura. She had also evidences of internal metastases. After the first reaction from the erysipelas the pain almost entirely disappeared, and did not reappear with severity while the patient lived. She had been almost constantly under the influence of morphia up to the time of the inoculation, and after that time she had only a little codein from time to time to relieve her cough, which persisted after the pain had disappeared. I observed a similar action in another case. I think this patient lived three months after the inoculation. She gradually wasted away, more from inanition resulting from the internal metastases.

I had one case of inoperable carcinoma of both breasts, in which it was impossible to produce any reaction from the erysipelas. I injected it under the skin, I scarified and dressed the wounds in pure cultures in large amounts in very virulent erysipelas without getting the slightest reaction. Of course there was no result from this case.

I would like to ask Dr. Coley whether he has ever observed any cumulative effect of the toxins? In one or two cases it seemed as if that had happened. After a number of injections with gradually increasing doses, without any reaction, a sudden tremendous explosion would take place which slowly subsided, and then for a varying length of time there would be no reaction, even with larger doses than were used previously.

I have observed no cases up to the present time where there has been

a cure. But, unfortunately, all the cases in which I have used it, except one under treatment at the present time, have been either carcinoma or cases of sarcoma that were beyond hope from any source.

Dr. Coley.—I have been very much interested in the discussion and I think I have gained as much from it as any one. I was particularly interested in the remarks of Dr. Welch. I did not mean to make quite so strong a statement in regard to the parasitic theory; I should have said that that was the way it appeared to me.

I have used the streptococcus from all sources, but the streptococcus from a virulent case of erysipelas seems to have a better effect than a streptococcus from an abscess.

I have used Marmorek's method somewhat. Mr. Buxton has repeatedly passed the cultures through rabbits, and he had been doing it for some time before Marmorek's paper came out. That is the way, I believe, in which improvement in technique is to come, along the lines which Marmorek has shown us, in increasing the virulence of the cultures.

I will say, in answer to Dr. Bloodgood's question regarding metastases, that the patient with sarcoma of the back and groin was a case of marked metastases, the tumor being the size of a goose egg and also recurrent in the groin. That case has remained well over three years since the cessation of treatment.

A case which I published a year ago, treated by Dr. Rumgold of San Francisco, was one in which a round-celled sarcoma reappeared eight times in the breast. It disappeared under the mixed toxins, but the patient died a few weeks later. Autopsy showed very extensive metastatic deposits in the internal organs. In this case the external growth had been cured, but the internal growths were too far gone to be influenced.

About removing specimens during the course of the treatment, as suggested by Dr. Welch, I will say that I have done that in a considerable number of cases. In many of these cases a marked fatty degeneration and necrosis of the malignant cells were clearly visible under the microscope. I shall try to show these changes in micro-photographs of the sections.

In regard to intra-orbital sarcomata, I have not had an opportunity of treating such cases before removal of the eye. I have had four or five cases of recurrent tumors in the orbit after the eye had been enucleated. The effects were very slight, if any. They were all melanotic or round-celled sarcomata.

As to the safety of the treatment, I think that if the cases are selected with some judgment the injections can be used with almost perfect safety. I have had three cases in which I am sure death was hastened by the use of toxins. In one case I ought not to have used the treatment. There was an enormous sarcoma of the scapula and chest wall. The patient was so much emaciated that he could not have lived over a couple of weeks, but with two very minute doses of the weaker solution of the toxins he lived only three days.

The differences obtained by the same doses at different times is best explained, I think, not by cumulative action, because that is not clearly

proven, but by the fact that the reaction is greatly increased when the injection is made into a more vascular part. A patient can stand perhaps five to ten times as much injected subcutaneously remote from the tumor as he can injected into a vascular tumor. Sometimes we inject into a part that is more vascular than others, and to this is to be attributed the difference in reaction. I always caution anyone to begin with the minimum dose and increase it dery gradually. One-half a minim of the unfiltered mixed toxins is sufficient for the initial dose.—*Johns Hopkins Hospital Bulletin.*

TREATMENT OF CYSTITIS.—Dr. L. Grant Baldwin (*Brooklyn Med. Jour.*) has found that in acute cases of cystitis relief can be obtained in twelve hours, and often in a much shorter time, by the administration of sandalwood oil, together with benzoic acid, and a cure is practically obtained in from two days to a week. He does not find it necessary to make any changes in diet nor to use opium in any form for the pain. The sandalwood oil is best given in capsules, five drops every hour or ten drops every two hours, until the tenesmus and almost constant desire to urinate is removed, which will usually be after two or three doses, then the interval may be lengthened, or better, the doses lessened, as it is rapidly absorbed and eliminated, until at the end of a week it may be discontinued altogether. The benzoic acid is best given combined with biborate of soda, as:

℞ Sodii biborat .....gr. xlv.
Acid benzoic.....gr. xxxv.
Aquæ.....℥ iii.

Of this two teaspoonfuls should be given every three or four hours in water till the urine is acid in reaction, as shown by litmus.

In the chronic form of cystitis, the treatment is much the same with irrigation of the bladder added to the sandalwood oil, and the benzoic acid may or may not be given.—*International Jour. of Surg.*

LEFT HANDEDNESS IN ANIMALS.—There seems to be evidence that some animals are left-handed. *Popular Science News.* Parrots grasd and hold food with the left claw. Livingstone stated that lions struck with the left paw; he taught that all animals are left-footed. David S. Jordan, who has been shaking hands with parrots to verify this observation, finds that the left-handed habit may be induced in parrots from the fact that in offering one's finger for the parrot to grasp it is usually that of the right hand. The parrot, therefore, puts his left claw forward. If the left finger be offered the parrot will put forward the right foot. He says, however, that there is apparently a small preference for the left foot, but this he accounts for on the ground that left-footedness is most always induced in parrots from the fact that those who offer the finger or food to the parrot usually do so with the right hand. Repetition of this process, it would seem, tends to make the parrot more or less left-footed.

MEDICINE.

IN CHARGE OF

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MANKIND AND THE DOCTOR.

From the time of Æsculapius till now one school of medicine after another has arisen, and each in turn has declared that all others were false and misleading, and in this has generally told the only truth it had to utter. The doctor has thus displayed a trait common to all mankind, but mankind has been as unsparing in its criticisms and condemnations of this trait as though it had not always been guilty of the same error.

If the doctor had reserved his criticisms for his brethren's dogmas he would have done little harm, but unfortunately, he has not done so. Too often it has happened that if the world had believed all that the doctors have said of each other it would have been justified in concluding that they were not only deluded ignoramuses but knaves as well, into whose keeping it would be unsafe to commit either life or pocketbook.

Fortunately, the world has not taken the doctor's utterances very seriously and has not allowed them to influence his conduct to any great degree, but it can not be doubted that this conduct has tended to lower the physician in the eyes of mankind, and to diminish the respect in which he is held.

Though mankind has played a subordinate part in the drama (or tragedy) of medicine it has been an important one. He has stood up and taken his medicine, enjoyed its taste as best he could, endured its effects, noticed its results, and distributed the rewards, often giving the prize of his favor to the doctor who knows best how to play upon his ignorance and weakness.

The late Dr. Alonzo Clark, of New York, used to say that " it is impossible to overestimate the credulity of mankind," and " that everybody wants a little humbug in his medicine." This seemed to one of his hearers at the time to be an exaggeration, but it was pure wisdom.

Demand and supply usually go together. Mankind has always demanded to be humbugged and the humbug has appeared. The astrologer, the magician, the healer who practised by the laying on of hands, the medicine man, the faith curer, the Christian scientist and the plain quack each came in turn, and the existence of any of them to-day is as discreditable to mankind that supports and esteems them as to the pretenders who live by their deceptions. Those who are neither qnacks nor the employees of quacks denounce them as parasites who prey upon the ig-

norant and credulous, and there is truth in this, but it is not the whole truth.

The guarded statements of science too often fail to meet the wants of the sick and their friends. They demand light when there is no light and hope where there is no hope. They demand answers to questions that only Omniscence can answer, and assurances for the future that only a prophet can give, and turn from the honest and scientific man to the only one who will pretend to have the information they desire, the unscrupulous and ignorant. The commercial instinct in man impels him to drive sharp trades and he bargains for guaranteed cures with the only one who will meet his wishes, the quack, and though he usually gains nothing but experience, he rarely learns anything by it. Mankind takes kindly to amulets, and to-day the horse-chestnut, the amulet for rheumatism, rattles in the pocket of the clergyman as he climbs the steps of the pulpit, and the iron ring contrasts with the diamond on the finger of the banker who believes that the iron ring will shield him from the gout. No man would make amulets or play the quack if there was no demand for his wares. Unscrupulous men see their opportunity to profit by supplying "a long felt want," and quackery is one of its results.

It may be claimed that the quack has seduced the world, but if so it must be admitted that "Barkis was willin'."

A very large portion of mankind is ignorant of the vast change that has occurred in medical science and the medical profession during the past century. They have not yet learned that physicians are no longer a body of men warring over dogmas, persecuting and driving out of their respective camps those who chance to differ from them, but are now, on the contrary, quite indifferent to dogmas and devoted to the advancement of science and the improvements of methods of cure.

Recently Mr. Herbert Spencer in an article on "The Evolution of the Medical Profession" said that "the incorporation of authorized practitioners has developed a tradesunion spirit which leads to jealousy of the unincorporated practitioner, that is, the irregular. . . . Like the religious priesthood," he says, "the priesthood of medicine persecutes heretics and those who are without diplomas."

The profession has persecuted heretics, but to-day it troubles itself very little concerning heretics or their beliefs, and no intelligent man who knows the real sentiments of physicians can hold the opinion that the tradesunion spirit controls their action.

Mr. Spencer's utterances show that he is one of a large class of educated people who are not yet emancipated from an inherited prejudice against physicians, and who are the unfortunate victims of a failure of development of the higher cerebral centres causing what is known as a lack of common-sense and consequent fellow-feeling for quacks.

Though most of the world flies to the physician when ill and listens to his utterances with anxious attention, there is hidden in the minds of many, a fixed idea of distrust of him, which is probably a survival of a sentiment originating in centuries of experience with physicians of the medieval type. This distrust is less in evidence to-day than ever before and the wisest are freest from it, and are quite ready to say with Holmes

that the diagnosis of the competent physician is divination and his prognosis, prophecy.

However highly regarded by some the physician may be to-day, it is certain that the public is exceedingly inconsiderate in its treatment of him, and there is a crying need of a reform in regard to the demands made upon him, and the spirit in which they are made.

There is a general impression that he is always in the saddle, and that "one hour in the twenty-four is just like another to him." This is true in one respect, in that he is always on duty.

No one who has not tried a continuous tour of duty can have any conception of what this means. The soldier is placed in a somewhat analogous position, and must always hold himself ready to meet emergencies, but here the parallel fails, for the soldier receives orders from a presumably wise despot who is concerned to save the strength and maintain the efficiency of his command, while the doctor receives his orders from those who usually are incapable of judging as to the magnitude or imminence of the danger to be met and, in many instances, entirely careless as to times or seasons or the reasonableness or unreasonableness of these demands, or the effect of such demands upon the welfare of anybody but themselves. How often has the physician echoed Johnson's remark that "a sick man is a villian."

The physician is as well educated, as much of a gentleman, as honorable and devoted to the interests of his clientele, and as worthy of consideration in all respects as are the members of any profession or calling. The most important interests of mankind are intrusted to him, and it is equally for the interest of mankind and the doctor that his mental and bodily faculties should be maintained in a condition of efficiency, but this consideration has never entered the minds of the public, and probably would benefit nobody if it did.

Men are possessed of the most unreasonable ideas as to the duty of physicians to the public, and expect and require instant and abject submission to the most unreasonable demands. Physicians have for so long a time responded without delay or question to calls for their services from all sorts and conditions of men, regardless of time or season, or the probability of remuneration that mankind now makes the most unreasonable demands upon the physician without the slightest thought or hesitation. Such instances as the following are frequent, and illustrate the subject better than many words. A physician was called by telephone to go nearly a mile one terribly stormy winter night about ten o'clock. He had regard for his horse and walked to the house. The patient had been sick a day or two but was not very ill. The physician prescribed for the patient and prepared to leave. Then the woman who had been the instigator of the cruelty to the doctor awoke to the fact that her husband must get the medicine from the drug store, a short distance away, if it was got that night, and said to her husband, an able-bodied man, "You must not go out to-night! It is perfectly dreadful outside. We can wait till morning, can't we, doctor?"

The doctor replied that her judgment was correct and that it was a pity that she had not used judgment instead of the telephone an hour ago. This was his last visit to that family.

This incident shows two things that every physician knows to be true of a large portion of mankind, namely, that the question of the reasonableness of the demands made upon the physician frequently is not considered by those who are usually considerate, and that any attempt by the physician to protect himself from unnecessary hardship is not tolerated, and is exceedingly dangerous to his business interests.

Late one wet and windy evening a man asked a physician, who had just finished a long and hard day's work, to make a visit and give his opinion in a case of consumption of several months duration. The doctor said he would do so the next morning. The man asked if he could not go at once, and said that the family had been thinking for several weeks of getting his opinion, and that now they had decided to get it and wanted it that night. There being no reason why the visit should be made that night, but several very good ones why it should not be, the doctor told the man what these reasons were and offered to go the next morning. The man refused to wait till morning, and departed much displeased and never returned.

Now this may be taken simply as a story of a very unreasonable man, but it is more. The man is a type of a class who believe that they have a right to demand and receive a physician's services at any time they see fit to call for them regardless of the time of day or the existence or non-existence of an emergency. It would seem as though any sane mind would see the abominable cruelty and injustice of such a claim, which is not made upon any other class. But in this matter common sense seems not to rule mankind.

To test this the story of the unreasonable man has been told a number of times to people in various stations in life, and very rarely has the physician's position been endorsed. Sometimes the physician has illustrated the story by the following fable:

A man discovered a crack in the foundation of the house he lived in. After some time, finding that the crack grew no smaller he decided very late one evening that he would have it repaired. So he went to the mason ond told him that he wished to have his wall repaired. The mason told the man that he would call the next morning and see what could be done. The man replied that having decided that the wall must be repaired he wished a beginning to be made that night, whereupon the mason told the man that he was an ass and went to bed.

People usually say that the mason was right, but the doctor was wrong because "it was a case of sickness."

The physician cannot have a seven-hour day as do those aristocrats, the plumbers, or an eight-hour day with the carpenters and masons, or a ten-hour day with the laborers, or a twelve-hour day with the railroad men. He has a twenty-four-hour day with the sun, moon and stars, and it is very fatiguing to keep up witn the procession.

The patients of the specialist in medicine consult him in the hours he appoints, even though they may be sick, and the lawyer's clients do likewise though they may be consumed with anxiety to get his advice.

The general practitioner is pursued days, nights and Sundays. The business man, who is slightly ill, does not visit him during the day be-

cause he is busy, and does not do so in the evening because he is tired, but pushes the telephone button and the doctor does the rest.

To have declined on the ground that he was five times as tired as the patient, or that no emergency warranting an evening call existed, would have been to incur much displeasure if nothing worse. Such conduct is an invasion of the physician's rights, to yield to which is in derogation of professional dignity, and the fact that it is done thoughtlessly is no excuse or justification.

Some of the reasons for the lack of consideration displayed by mankind in its dealings with the physician have been referred to, but there is another that ought to be considered, and the physician is responsible for its existence. The physician has never tried to protect himself against the unreasonable demands of his patients. He has in some degree acted the part of the indulgent mother who is always considerate and never asks any consideration for herself, and who yields everything, time, strength, and opportunities for recreation.

He has given freely of his services to all the needy, and his part in the medical charities of the world has apparently been that of the most devoted altruist, though truth compels the admission that he has thereby often served his own interests. But of this latter the world knows little. The young doctor, from motives of humanity and self-interest, gladly accepts a call to go anywhere at any time, and sad experience teaches the older man that unless he wishes to see his business transferred to the younger, he must continue to display the same self-sacrificing and submissive spirit to the end of his career. So long as mankind prizes least that which is easiest to attain the present attitude of the profession in this matter will operate to its disadvantage.

This is not a plea for commercialism in medicine. The doctor will exchange the chief jewel in his crown for a lump of lead when he ceases to exercise the blessed virtue of charity; but he ought to remember that charity begins at home.

It has long been the cherished precept of the profession that its highest mission is to display the virtue of a self-effacing altruism. It is a universally accepted proposition that in his relations with the sick the physician shall place their interests before his own, and he has done so ungrudgingly, oftentimes at the expense of all that makes life worth living, and the result has been that mankind has come to view the physician as one who has no rights the sick man is bound to respect. This is simply a manifestation of unregenerate human nature. Self-preservation is a law of nature which operates powerfully upon the sick man and his friends, and cannot safely be disregarded by the physician. In his work on "Moral Evolution," Prof. G. W. Harris says what every physician may well take to heart, namely, that "Self-preservation with all its incident evils of struggle, waste and cruelty, is shown to be in line of progress and an essential condition of progress."

Mankind and the doctor have reciprocal rights and duties, and it is quite as much the physician's duty to see that mankind respects his rights as it is to do his duties to mankind.

The duty one owes himself is equal to the duty he owes to mankind.

This duty of "self-realization," as it is termed, is as much opposed to selfishness as it is to altruism which passes into self-obliteration. All recognize instinctively the duty of self-realization as opposed to self-obliteration.

Professor Harris says: "One must love himself aright in order to love his neighbor aright. According to this comprehensive precept ('Thou shalt love thy neighbor as thyself!') self-love is not derived from love to others; but love to others gets its pattern, and therefore its measure, from love to self. This is as distinct a declaration of self-love as could possibly be made, and certainly on the best authority. The somewhat similar precept which is found both in Christian and in Confucian ethics —'to do unto others as you would that they should do unto you'—indicates the right every one has that others should seek his good and so objectifies self as needing love and service. If one is entitled to the efforts of others for his good, he certainly is required to serve himself as he would have others serve him, and as he ought to serve them."

This is the matter in a nut-shell.

To-day the conscientious physician who attempts to protect himself from the unnecessary and unjustifiable demands of the ignorant, thoughtless or selfish portion of mankind, does so with the feeling that he is violating the higher ethical spirit of the profession, but the proper interpretation of the "Golden Rule" gives him this right, the right to serve others as he would have them serve him.

If this conception of the duty of the medical profession to itself and to mankind was adopted as a rule of conduct in place of that which has resulted in evil to the physician, a step would be taken toward a better condition. We can only make a beginning, but this much it is our duty to do.—Extract from an address by Dr. O. F. Rogers, *Boston Medical and Surgical Journal.*

THE STAINING AND MOUNTING OF TUBE CASTS AND OTHER ORGANIC URINARY DEPOSITS.—Bramwell makes the following useful suggestions for the study of urinary sediments. An ordinary conical urine-glass is filled with equal parts of urine and an aqueous solution of boric acid, and set aside until the deposit settles. This is then removed by means of a pipet and transferred to an ordinary test-tube containing about half a drachm of a solution of picrocarmin, and the two are thoroughly mixed and set aside for 24 hours. Some of the sediment is then removed by means of a fine-mouthed pipet, and mounted. If there is reason to suspect the existence of amyloid disease of the kidney, a solution of methyl-violet may be used instead of that of picrocarmin. In order to bring out the fine details of the tube-casts stained in the manner described, and in order to preserve them as permanent preparations, they may be mounted in Farrant's solution, consisting of gum arabic and distilled water, each four parts, and glycerin, two parts, with a little camphor. A small test-tube is filled three-quarters with this solution, and in it is placed, by means of a fine-mouthed pipet, the stained deposit from the test-tube containing the mixture of urine and solution of picrocarmin. The smaller tube is securely corked, inverted two or shree times in order to facil-

itate thorough mixture, and put aside until the sediment has time to settle. In the course of three or four days a minute drop of the deposit is removed from the bottom of the tube by means of a fine-mouthed pipet and placed upon a slide and covered. The preparation may, in the course of a few days, be sealed in the ordinary manner. If the preparation thus mounted is overstained with the solution of picrocarmin, the deposit should be transferred to fresh Farrant's solution. Any organic urinary deposits may, of course, be stained, mounted and preserved in the same manner.—Dr. B. Bramwell, *British Medical Journal.*

A matter of great importance to physicians and insurance companies has been decided in the circuit court at Battle Creek, Mich. The question came up over the application of a life insurance policy of $20,000 on the life of a citizen of Detroit. The company learned after its issue that the applicant had misrepresented his physical condition and began suit to annul the policy. It was ascertained that he had been treated at Battle Creek. The physician who treated him was subpœnaed, but refused to testify or answer any questions, on the ground that a physician's relations to his patients are sacred and that he could not be compelled to testify in regard to the ailments with which his patient is afflicted. Judge Smith ruled that the physician must give his testimony and issued an order accordingly.—*Exchange.*

Scarlet Fever Germs as 1st Class Mail Matter.—Grasset (*Ann. d. Hyg.*, Paris, 1895) reports that a child visiting away from home was taken ill with scarlet fever; the friends remarking that the desquamation was like the casting of a snake's skin, wrote a description and enclosed three pieces of skin for the parents. Six and a half days after the receipt of the letter, a baby brother of the first child, living at home, took the disease.

In this connection, Sanne's case of transmission of contagion by mail will be recalled. Two persons received a note from a convalescent from scarlet fever, who wrote that she was desquamating so freely that she had to brush the fine scales off the paper on which she was writing. Some days later both recipients became ill with the disease.

The Business of a Physician.—We do not believe that it lessens the dignity of a professional gentleman to possess some of the qualifications of a business man. An editorial in an exchange, advocating that every student of medicine should have a business training previous to study of medicine, perhaps goes a trifle too far.

To practise medicine in the highest sense of the word means that one must possess something above mere medical knowledge and the mercantile instinct and methods. Medicine is not the place for the pure money-maker, for he can do better elsewhere; but we have no sympathy with the medical individual who believes that the doctor should not employ business methods for fear that he might be deemed to be upon the level fo the tradesman.

Take life insurance work. The careless way which some physicians attend to this department of their practice is a reflection upon the whole

profession. It is too much like business to give a prompt, decisive answer to one's correspondents, therefore many doctors' desks, from the accumulated correspondence of weeks, look like the contents of a waste-basket turned upside down.

Every doctor should be business man enough to study how to economize time, keep a record of his work, be systematic, be exact, keep his accounts posted and send bill regularly, and answer every business letter, if possible, on the day of its receipt.

These matters are strictly *business*, and we should treat them in a manner *business like.—Medical Sentinel.*

THE CAUSES OF RETROVERSION AND RETROFLEXION OF THE UTERUS.

Dr. Hunter Rabb says that (*Cleveland Med. Gazette*, July) in the causation of backward displacements of the uterus the following factors may be concerned:

1. Congential defects. A short vagina necessitates a forward position of the cervix; this tends to bring the fundus and anterior surface of the uterus under the direct line of abdominal pressure. The ordinary distension of the bladder now throws it backward, thus causing a displacement. A congenitally long cervix can not rest with its long axis crossing that of the vagina, but must accommodate itself to this axis; this also tends to throw the fundus backward. Where the cervix is long the body of the uterus is apt to be small and short. In such case the normal position of the uterus is in retroversion.

2. Extreme distension of the bladder throws the fundus far back in the pelvis behind the median line. When this happens often the malposition is liable to continue.

3. Impacted feces in the rectum extending up above the ampulla push the cervix down in the vagina, and thus change an anteversion into a retroversion.

4. A sudden severe strain put upon the abdominal muscles, especially when the bladder is full, brings about a retroflexion by forcing the uterus down when the pelvic floor yields.

5. Of all causes of retropositions the most frequent is a relaxation of the vaginal outlet; the relaxed outlet must be regarded as a deficiency in the pelvic floor, which leaves a smaller or larger surface over which no counter-resistance to the intra-abdominal pressure remains. Every act accompanied by irra-abdominal pressure tends to thrust out the adjacent vaginal walls; when these have once entered the orifice they continue to be forced down, wedging the posterior wall farther away from the symphysis. While the parts below give way the uterus is forced towards the outlet. The fundus rotates so far back that the pressure is finally spent on the anterior surface of the uterus and complete retroversion or retroflexion is established.

6. Finally retroversion and retroflexion may be caused by inflammatory changes in the uterine support, or by dragging of adhesions resulting from pelvic peritonitis.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

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THE BACTERIOLOGY OF INFANTINE DIARRHŒA.

BY ALLAN MACFADYEN, M.D., B.SC.,

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ABSTRACT.

It is the bacteriology of the small intestine which has the greatest practical importance in health and disease; and its study likewise presents the greatest difficulty, inasmuch as this portion of the gut is cut off from direct observation during life.

In the large intestine putrefactive decompositions takethe upper hand, and the living factors at work in the small intestine become therefore obscured and difficult to identify. The variety of forms present in the dejecta renders the determination of the presence of specific microbes a task of peculiar difficulty, especially where we have to deal with a morbid condition in which diarrhœa and more or less marked constitutional symptoms are the main features.

These facts help to explain the absence of positive data regarding the etiology of infantiee diarrhœa, though everything points to a bacterial origin of this complaint. There are three factors to be considered:

1. The bacteria present in health and in the course of disease.
2. The easily-decomposed food—milk.
3. The susceptible organism of the child, predisposing to such complaints.

Escherich found that in the milk fæces two organisms predominated, viz., the bacterium coli commune and the bacterium lactis ærogenes. They especially attack the milk sugar, and the chief products of their action are acetic and lactic acid, and CO_2 and H. gas. The process is a fermentative and not a putrefactive one. The results agree with what we know of the action of bacteria in the adult's small intestine. The investigations of Macfadyen, Nencki, and Sieber show that the bacteria of the small intestine primarily decompose carbo-hydrates, with the result that the contents of the small intestine have an acid reaction. This acidity will be a main factor in preventing the development of a putrefactive decomposition under normal conditions.

Escherich did not find in cases of infantile diarrhœa any organisms that might be called specific. He supposes that in the upper intestine a main factor in the causation of diarrhœa is abnormal acid formation by

bacteria, and that in the lower intestine the decomposition is of proteid matter.

The action of the bacteria does not take place through a direct invasion of the organism, but through the absorption of poisons formed by them. It is probably through their action on the milk and not on the body that the bacteria acquire their dangerous properties. In the child toxic effects may result from substances that produce little or no effect on the adult.

Baginsky examined 43 cases of summer diarrhœa, but did not find any organisms of a specific character. The general conclusion he comes to is that several kinds of saprophytic bacteria may produce the disease under favorable conditions. The severe cases of diarrhœa seem to be due to poisons developed by bacteria from the proteid constituents of the food. Booker isolated altogether 33 forms of bacteria from cases of infantile diarrhœa. There was great variety, but no constancy in the types found.

Jeffries and Baginsky were not able to confirm Lesage's statement that the green diarrhœa of children is associated with the presence of specific organism. The determining factor is the milk and the decomposition products arising from it. The researches of Vaughan in this connection are of first-rate importance, and deserve careful consideration and confirmation. Vaughan has isolated from poisonous milk a crystaline body, called by him tyrotoxicon. The symptoms of tyrotoxicon poisoning resemble those of cholera infantum. Vaughan also obtained toxic bodies from cultures of Booker's bacteria, which produced vomiting, purging, and sometimes death in dogs. This observer believes that there are many bacteria which may produce diarrhœa in children by an action on the milk inside or outside the body.

There can be little doubt that in hot weather the milk undergoes a profounder decomposition than the ordinary lactic acid fermentation, by which its proteid constituents are attacked. These changes are due to bacteria, and may occur without visible alteration in the appearance of the milk. The milk, therefore, furnishes a more fruitful field for investigation than the intestine, If the living agents at work in the milk were accurately known, we would be in a position to determine the best methods for their extinction, and in such diseases it is their prevention that should be the main object of our investigation. Flügge emphasises the fact that milk sterilised by the usual methods is not without danger. A number of resistent forms are not destroyed, and three were found to produce a profuse and sometimes fatal diarrhœa in young dogs.

Though our knowledge is imperfect regarding the specific agents at work, everything points to this disease being due to changes produced by bacteria in the milk. It remains for future research to determine more accurately the nature of the toxic products, and of the bacteria that produce them.

THE PRESIDENT (Dr. Finlayson) asked if there was any explanation of the green motions observed in such cases.

DR. MACFADYEN replied that Dr. Le Sage thought that a specific bacillus causing this existed, but his results had not been confirmed by such observers as Jacobi or Baginsky.—*British Medical Journal.*

A CASE OF ACUTE SEPTICÆMIA TREATED BY ANTISTREPTOCOCCUS SERUM: RECOVERY.

BY P. COLEMAN, M.B., B.S., M.R.C.S. Eng., L.R.C.P. Lond., Clacton-on-Sea.
AND T. G. WAKELING, M.R.C.S. Eng., L.R.C.P. Lond., Clacton-on-Sea.

Dr.——, middle-aged, attended a fatal case of puerperal septicæmia on June 28th. From this time he began to show symptoms of poisoning, suffering from dyspepsia, with vomiting; his skin assumed an icteric tint, and styes appeared on his eyelids. He frequently complained that "he could not get rid of the awful smell."

I was first called in to see him on the afternoon of July 13th. The temperature was 104°, skin pungently hot and jaundiced. Hiccough violent and incessant. A few consonating crepitations could be detected at the base of the right lung. He vomited occasionally some blackish-coloured fluid, complained of cramp in his stomach, and "feeling shivery." He was delirous at times, drowsy at others. Through the night he was extremely restless, and hiccough scarcely ceased; he only dosed for a few minutes at a time.

On the next day, July 14th, he was wildly delirious, and bathed in perspiration. Temperature 104.6°, pulse 110, respirations 50. The tongue was dry and coated. Signs of pneumonia were well marked in the right lung, and a few clicks could be heard over the lower part of the left lung anteriorly. Vomiting occurred several times during the day, and delirium increased. Drs. Laver (Colchester) and Foster (Thorpe) kindly saw the case, and confirmed the diagnosis of septicæmia.

On July 15th the symptoms continued, and in an aggravated form. The respirations increased to 56, and the pulse became more rapid (120) and feeble; he had had no sleep; there was retention of urine—relieved by the catheter—and the consolidation of the lung was increasing.

On July 16th hiccough was constant; there was obstinate constipation, and the patient was becoming very livid. At 11 p.m. his condition was briefly as follows: Pulse running, feeble, intermittent (116); temperature 103.6°; great lividity; patient quite unconscious; bathed in perspiration; hiccough constant, feeble, and half strangled. At the suggestion of Mr. Wakeling (who now saw the patient for the first time) 20 c.cm. of anti-streptococcus serum (promptly supplied by Messrs. Burroughs and Wellcome) were injected. The pulse almost immediately became much fuller and slower. At 1.15 a.m. a second injection of 10 c.cm. was given. The temperature continued to go up till 4 o'clock, but at 3 o'clock he became quite conscious for the first time for three days, and talked rationally. The injection of 10 c.cm. was now repeated every four hours.

At 8 a.m. on July 17th, temperature had fallen to 100.2°; hiccough was much less troublesome. There was profuse perspiration. The tongue was much cleaner at tip. In the evening the temperature again reached 103.6°. Injections were reduced to 5 c.cm., and only given every seven hours, as the supply of serum was running short, and no more could be supplied

for three days. The temperature an hour after injection went up to 104°; pulse 122; respirations 54.

At 4 a.m. on July 10th the patient was much worse; pulse 130; respirations 64. He was lying on his back bathed in perspiration, was more delirious, the pupils were widely dilated, the bowels acting constantly, and the motions mixed with blood (hæmorrhoids were present.) At 6.30 a.m. an injection of 5 c.cm. serum was given, and at 9.15 a.m. the patient seemed better, and was quite conscious.

On July 20th he was still delirious on an off; hiccough was troublesome; the catheter had to be used.

On July 21st he was much weaker, and had difficulty in swallowing for the first time. At 4 p.m. the temperature was 103°; 10 c.cm. serum were injected at 6.30 p.m. He perspired freely shortly after (temperature went on falling gradually till at noon on July 22nd it had reached the normal). The patient was not conscious all day. The catheter had to be used, but hiccough had ceased. There was twitching of the face and hands. He was able to lie on the left side. The serum injection was discontinued owing to difference of opinion.

On July 22nd the temperature was normal or subnormal all day. Twitching of the muscles of the hands continued. The face had lost its drawn look and lividity, and appeared fuller. The patient asked for a cup of tea; was quite rational when spoken to, but at other times muttered to himself a good deal.

On July 23rd the highest temperature was 98.8°. The catheter was no longer necessary.

On July 24th he was quite conscious all day. The temperature was 101.4° at 4 a.m., normal at midday, but rose again in the afternoon. The patient, who complained of great pain in the bladder, passed a catheter himself.

On July 25th he appeared better, in spite of the temperature remaining high all day.

On July 26th the temperature reached 101.2 at 4 p.m., and 10 c.c.m. of serum were injected. The serum was again discontinued. The patient was comfortable and conscious.

On July 27th the temperature fell to 99.2°, rising to 101° at 12 p.m. On July 28th the temperature varied from 98° to 100.4°. On July 29th the patient vomited. The temperature varied from 99° to 101.2°. On July 30th the temperature ranged from 99.2° to 102.8°. On July 31st the patient was worse, perspired profusely, was delirious at times, muttering when asleep. Temperature 99.2° to 100.8°. It was decided to give two injections of 10 c.cm. of serum in every twenty-four hours until the temperature should continue normal. From this time he continued to make a good recovery, the serum being permanently discontinued on August 4th.

REMARKS.—Having read with much interest in the *British Medical Journal* of July 4th an account of a case of hæmorrhagic septicæmia successfully treated by antistreptococcus serum we wish to add further testimony to the value of the treatment by the citation of the above case The diagnosis was confirmed bacteriologically. Cultivations were obtain

ed from the blood two days after the serum treatment had been commenced.

It will be noticed that the serum was not used till three days after the onset of acute symptoms. A peculiar feature of this case is that no local manifestations of the place of entry of the poision were apparent. The patient says he had an abrasion of the right forefinger.

We can fully bear out the remarks by Messrs Ballance and Abbott as to the immediate improvement which took place in the pulse, which became slower, fuller and more regular. In four hours the patient became conscious for the first time for two days. The tongue became cleaner and more moist. The temperature after an initial rise began to fall. The mind became clearer.

In the interval when the serum was discontinued (July 21st to July 26th) the patient gradually relapsed. A slight improvement followed the single injection on July 26th, when it was again discontinued until July 31st. The condition of the patient again became much worse Injections of serum (10 c.cm.) were then given twice a day. An immediate improvement followed, which continued till August 4th, when the injections were finally stopped. The patient has since stated that he "felt a new man" after each of the latter injections of which he was conscious. The lungs cleared up with but little expectoration.

It will be seen that the serum was mostly given in large doses, and that the larger doses produced more beneficial results than the small. The injections were made in the abdomen and loin. We noticed that the last half of the 20-c. cm. bottles which were opened in the morning produced a local erythema when injected in the evening, although the serum was kept on the interval in ice, and every precaution was taken to sterilise the site of injection and the syringe. The intensely hot weather may have had something to do with this.

In another case we should use a freshly-opened bottle for each injection., and would recommend that the serum be bottled in 10-c. cm. bottles with India-rubber corks. Two days after the injections were discontinued some urticaria gave a little trouble, but did not retard recovery, and, as the patient is now (August 19th) able to walk about his room and take drives, we feel we ought not to delay in placing these notes before the profession.—*British Medical Journal.*

Herpes Zoster Caused by Mental Disturbance.—Mr. Antony Roche (*Lancit*). A woman had suddenly received news that her husband had been ordered to India; the next morning herpes was noticed on her left side. A left-side herpetic eruption appeared on an old man, some hours after he learned that a firm, in which he was interested, had failed. Herpes developed in a woman on the day after she had been much distressed by the sudden illness of her son. A girl, 6 years old, of remarkable equable temperament had been disobedient, and sent to bed; she cried very much, and the next morning herpes was noticed on her left side. In the last case the herpes was ascribed to the grief of a woman at the parting from her son.—*The Alienist and Neurologist.*

NOSE AND THROAT.

IN CHARGE OF

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A HAWKBILL NASAL SCISSORS.

BY JOHN C. LESTER, A.M, M.D., BROOKLYN, N.Y.

The hawkbill scissors, will be readily recognized as an adaptation of an idea long since put into practical application by Professor Alexander J. C. Skene, of this city, in another department of surgery.

In operating upon cases of hypertrophy of the middle turbinated bone, the thought occurred to the writer that a more rapid and perhaps more satisfactory method of dealing with this condition might be accomplished by an instrument that would remove a V-shaped piece of the bone, thus allowing the major part of the mucous membrane to remain intact, and providing, when the remaining cut surfaces were brought together, a space sufficiently large for perfect respiration. This thought has materialized in the device herewith presented.

The idea of removing the middle third of the turbinated bone, and allowing the opposing portions to unite, thereby retaining as much of the mucous membrane as possible, originated with Dr. Fred. Whiting, of New York city, and was accomplished by means of the nasal trephine. This method of operating, in the hands of the writer, has, almost without exception, caused much pain, and at times it has been necessary to postpone operation, owing to excessive hemorrhage.

With these scissors the writer has been able to remove at once all that was necessary to relieve cases of complete obstruction.

The accompanying cut, kindly furnished by the instrument-makers, Messrs. George Tiemann & Co., accurately represents the instrument as employed by the writer.—*The New York Medical Journal.*

RHINOLOGICAL.

THE INFLUENCE OF DISEASES OF THE NOSE AND ACCESSORY CAVITIES ON THE GENERAL HEALTH.—Dr. E. J. Moure (*New Orleans Med. and Surg. Journal*, July, 1896) states that there are two conditions which may have a considerable effect on the general health of the affected subject; these are hypertrophic rhinitis and fetid atrophic coryza. When the hypertrophy is sufficiently well marked, so as to render nasal respiration difficult or perhaps impossible, the patient finds himself exposed to all kinds of bronchial and pulmonary complications.

It regard to fetid atrophic coryza, all practitioners are familiar with the poor and depressed appearance of ozenic patients, which may be explained either by the vitiated air which these patients breathe, or by the fact that they frequently swallow the septic products. There is another complication, however, which is not so well recognized, but which Dr. Moure has frequently met with in this category of diseases. It is the faculty with which these patients may become tuberculous. In his opinion, the enlargement of the nasal cavities, and especially the cutanization of the mucous membrane, renders the penetration of the tubercle bacillus more easy into the respiratory passages; especially since, in most cases of ozena, the larynx and trachea are also affected with the morbid process. There seems to be a connection of cause and effect between these two affections, to which it would be well to call the attention of observers.

In diseases of the accessory sinuses, we frequently have gastric and gastro-intestinal disturbances, which may be explained by the constant falling of pus into the throat, whence it is swallowed unconsciously, and this incessant absorption of pus by the digestive passages is not long in creating morbid conditions

Sinusitis, with abundant and fetid suppuration, constitutes a latent morbid condition, which may take on a dangerous development with the least instigation, and under an influence very trivial in appearance. In these cases there is a centre of microbian culture, which may at any time inoculate itself at some special point, and afterwards develop with great rapidity; especially as the soil is usually well prepared for this culture on account of the former absorption of toxic products, which the system does not always completely eliminate. The suppuration of the maxillary sinus, on account of its abundant and often fetid secretion, appears to affect the general condition most often and easily. W. S.

Rheumatic Complications of the Nose, Throat, Ear and Eye.—Though the special organs may become the seat of the disease, general rheumatic symptoms may often be entirely absent (Dr. Wm. Cheatham, *Denver Medical Times*, July, 1896). Tonsilitis is nearly always of a rheumatic origin. The larynx may also become involved in the process. Extension from the pharyngeal tissues may reach the ear. Any part of this organ may be attacked. A distinctive feature in diagnosis is the great difference between the slight objective symptoms and the marked subjective signs. Anti-rheumatic medication, with exclusion of other inflammatory affections, readily establishes the diagnosis.—M. D. Lederman in *Laryngoscope*.

The Pathology and Treatment of Deviations and Spurs of the Nasal Septum in Young Children.—Dr. E. J. Moure (Paris) states that while the affirmation of Zuckerkandl is true that the nasal septum does not commence to deviate until the age of seven years—that is at the time of the evolution of dentition—still we frequently find deformities of the septum before this age, these cases being due to traumatism (*New Orleans Med. & Surg. Journal*, July, 1896).

In regard to treatment, Dr. Moure warns against operative procedures for correcting deformities of the septum in children below the age of seven or even ten years. At the time of the evolution of the second dentition, the framework of the nose commences to undergo an important change; and to attack surgically the principal support of the nose is likely to expose the patient to subsequent deformities which it may be difficult to remedy. He advocates the use of dilators, straighteners and other instruments of this kind in these cases. W. S.

FOREIGN BODIES IN THE NOSE.—Dr. Wm. Mulligan reports three illustrative cases (*Clinical Chronicle*, June, 1896).

Case one: a four-year-old boy had suffered from an offensive purulent discharge from the right nostril for six months. There had been several severe nasal hemorrhages. Upon examination, a foreign body was found in the right nostril, and proved to be a shoe-button, which was removed under chloroform with forceps. In the second case, the foreign body, also a shoe-button, was found situated high up in the right nostril. It was readily grasped and extracted. In the third case, the patient had suffered from a discharge of the right nostril for several years. He had also suffered from enlarged tonsils and middle-ear disease. An irregularly-shaped body was seen blocking up the right nostril. This was removed by means of a stout bent hook, and proved to be a rhinolith.

W. S.

THE TONSILLAR COUGH.—This sympton is explained by Dr. Furet (*Medical Record*, July 25, 1896) by the complex innervation of the gland. The tonsilar plexus, so-named by Andersch, is formed by the blending of the glosso-pharyngeal, the lingual, the spinal, and the vagus nerves. The pillars of the fauces which surround the tonsil are distinctly connected with the muscular tissues of the larynx. This cough is violent, spasmodic, and frequently very painful. No expectoration follows or accompanies it. This is a diagnostic factor. M. D. L.

HEREDITARY SYPHILIS SIMULATING ADENOID VEGETATIONS.—M. Garel (*Journal of Laryngology*, July, 1895) reports two cases. The first case had been operated on by a colleague, and eight days later perforation of the palate was found.

The second case was a young girl, with the typical fauces of adenoids. M. Garel refused to operate on account of a serious cardiac lesion. Two months later breaking down of a gumma caused perforation of the palate.

Both these cases rapidly recovered under potassium iodide.

The speaker insisted on the importance of careful diagnosis in such cases, in order to save the patient an operation which, if not dangerous, was at least useless. W. S.

THE TREATMENT OF ADENOID VEGETATIONS.—M. Helme (*The Journal of Laryngology*, July, 1896) states that, in spite of all that has been done since the time of Meyer, the only effective treatment of adenoids is the surgical.

Contra-indications are very few, viz., hemophilia, anomalies in the

pharyngeal arteries. The coincidence of an acute tonsilitis, or of scarlatina, measles, etc., necessitates the postponement of the operation.

Properly speaking, there is no recurrence of adenoids. Apparent recurrence is generally due to incomplete operation; true recurrence may occur in syphilitic, tubercular or malignant tumors. As a rule, improvement is immediate and marked, but in strumous cases it may be less so. In these, one should carry out local treatment, consisting of painting the naso-pharynx with resorcin and glycerine; also general treatment (thermal, sea-air, etc.).

Amongst the results of adenoids the worst are deformities of the thorax and vertebral column. Redard obtained good results in such cases by treating them with a sort of respiratory gymnastics, consisting in expanding as much as possible the affected parts, while the normal parts are held fixed. To overcome defects of speech, national and methodical respiratory movements, voice culture, singing, declamation, etc., are to be used.

Lastly there are the tubercular adenoids. Of these there are two types: (1) bacillary adenoids (Lermoyez), *i. e.*, where the bacilli are found inside the tissues—very rare, only one to seventy-five cases; (2) bacilliferous adenoids, *i. e.*, where the bacilli are found on the surface of the growths (Dieulafoy)—one to five cases.

Although these growths tend to shrink with advancing years, they must not be left untreated; for while disappearing themselves, they leave indellible traces behind.—*Laryngoscope.*

W. S.

LARYNGOLOGICAL.

Throat Affections in the Eruptive Fevers.—J. Dennis Arnold, in the *Occidental Medical Times*, presents a timely and valuable paper, urging upon the general practitioner to give more weight and attention to the affections of the upper respiratory tract in the eruptive fevers, maintaining that they are "inclined to make light of such local lesions." The conditions of the nose, pharynx and larynx in measles, scarlatina, variola and typhoid fever, and the serious results of these upon the course of the general disease, and the treatment of each, are clearly described; and the author concludes that, "In view, therefore, of the important part played by the throat symptoms during the course of all the febrile exanthemata, it is evident that they should not be neglected as to active topical treatment, when it is probable such measures will be of avail in retarding or altering the disease as manifested upon the mucous surface. Of course the local therapy can in no wise replace a constitutional treatment which, from the nature of these diseases, must be chiefly tonic and supporting."

F. B. E.

Says the *Internat. Journal of Surgery:* Let your most trusted assistant administer the anesthetic. Any intelligent person is able, with a little direction, to assist at the wound, but it requires skill and experience to anesthetize thoroughly and safely.

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF
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APOPLECTIFORM BULBAR PARALYSIS.

BY ALOYSIUS O. J. KELLY, A.M., M.D.

Pathologist and Clinical Assistant to the Neurologic Department, Philadelphia Polyclinic; Visiting Physician to St. Mary's Hospital; Pathologist to St. Agnes' Hospital; Assistant to the Medical Dispensary at the Hospital of the University of Pennsylvania.

J. S., male, aged 60 years, white, married, native of Ireland, a laborer by occupation, presented himself, April 8, 1895, at the Philadelphia Polyclinic Department for Nervous Diseases, service of Dr. Charles K. Mills, to whom I here desire to express my appreciation of his kindness in permitting me to report the case. It was impossible to obtain any family or previous personal history. While taking his midday rest and eating his lunch April 6, 1895, he suddenly lost control over the muscles of his mouth and throat. While the early portion of his lunch was e ten with ordinary ease, he was now absolutely unable to approximate his lips, to close his jaws, to masticate or retain any food in his mouth. He could not properly articulate, the saliva drooled, and all attempts at swallowing were unsuccessful. At the time the attack came on he was not rendered unconscious; he had no vertigo, no nausea, no vomiting, no pain, no paralysis of either arms or legs. When seen for the first time he could swallow liquids very well, saliva did not drip from his mouth so much as it did, and his ability to talk had improved a trifle. Following the attack he must have been practically unable to speak at all, as even now, endeavoring to speak, although he attempts to use the proper word, the results of his efforts are exceeding indistinct, almost unintelligible. He understands what is said to him. About one year ago, on the street, he became momentarily very vertiginous, and would have fallen to the ground had not a friend supported him. In a moment he recovered, and was as well as he was before the "attack," and went to work immediately. Since then his wife says he has been "strange," forgetful, distracted, mentally preoccupied, using frequently what she characterizes as "simple" (evidently senseless or incoherent) language. He has had no laughing or crying spells. He has had frequent attacks of vertigo of more or less severity during the year. Eight weeks ago he began to cough, especially during the night. Expectoration was thick and yellowish; no hemoptysis. Dyspnea has been constant, but becomes very much aggravated in attacks, which are particularly prone to come on during the night. He asserts that he gets attacks of

great palpitation of the heart, accompanied with excessive dyspnea, some cough, great anxiety, and precordial pain radiating throughout the left arm to the angle of the left scapula, and occasionally also across the chest into the right arm. He would have several such attacks of variable intensity and duration during the twenty-four hours. These continued for five weeks until relieved by treatment in the Medical Dispensary of the Polyclinic. He has no gastro-intestinal or genito-urinary symptoms. He uses alcohol to a considerable extent.

On examination, his lips, which are said to be swollen, are flabby and are very little if at all increased in size; his mouth is persistently half open; the saliva drips somewhat from his mouth; the naso-labial fold of the left side is much less marked than is that of the right; he has absolutely no control whatever over the muscles about his lips; the masseters act fairly well, though deficiently; the lower jaw deviates slightly to the left when fully depressed, and the tongue also slightly to the left when attempts are made to protrude it. These attempts are all abortive, as the tongue cannot be protruded much beyond the margin of the teeth; the tongue itself is broad and flabby. There is no disturbance of sensation whatever, nor are there any motor symptoms, other than those mentioned, referable to any of the cranial nerves. There is possibly a slight —very slight, if any—paresis of the left arm and leg; no impairment of sensation. His breathing is deep and labored, thirty per minute. His arteries are atheromatous, the pulse "Corrigan," eighty per minute. Physical examination of the lungs negative. The apex beat of the heart is heaving and diffuse, and though slightly felt under the sixth rib, is strongest in the fifth interspace in the left mammillary line. The cardiac dullness reaches superiorily to the top of the fourth rib at its junction with the sternum, and inferiorly from a point one-half inch outside the left mammillary line at the fifth interspace to a point on a level therewith one-quarter of an inch to the right of the left border of the sternum. At the aortic cartilage is heard a rather short systolic and a long-drawn-out diastolic murmur, the latter of which is transmitted down the sternum. At the apex these two murmurs are slightly audible. The first sound is weak; the second pulmonic sound is not accentuated. He was given potassium iodid 4 grains, t. i. d., as a placebo.

April 17, 1895, he was very much improved. He could talk considerably better, masticate and retain his food in his mouth much better, and swallow considerably better. He was working digging trenches in the street. Very irritable because of deficient articulation. Insomnia. Continued KI. and gave sulfonal 15 grains at night.

April 19, 1895. Sulfonal had been taken not according to directions and was thought useless, as he still could not sleep; precordial distress, cardiac palpitation, and dyspnea causing insomnia. Gave KBr. 30 grains, chloral 10 grains, at bed-time; continued KI.

April 22, 1895. Called to visit patient at his house. Found him with great edema of legs, cardiac palpitation, dyspnea, precordial distress. Inability to properly talk, masticate and retain his food in his mouth, and swallow properly, had almost entirely disappeared. Examination of his urine was negative. Patient was sent to the Philadelphia Hospital.

May 29, 1895. Patient came to show how well he was. He had been in the Philadelphia Hospital four weeks. He now had no dyspnea, no precordial distress, no palpitation of the heart, no edema; could eat well, swallow well. He could also speak very well, but not so well as he did before he had the "attack."

In the course of a month or two the patient had a recurrence of his symptoms of cardiac insufficiency. From the time he left the Philadelphia Hospital he had been following his usual vocation. I again saw him at his home, and again referred him to the Philadelphia Hospital, where he shortly after died.

Although, unfortunately, we lack the confirmatory evidences of a careful post-mortem examination, the patient *intra vitam* presented a sufficiently characteristic clinical symptom-complex to justify a diagnosis as to the precise nature and location of his trouble. To recapitulate, we had a patient who for years had been subject to alcoholic excesses, and been exposed to all sorts of inclement weather. These irregularities of life and conduct at least predisposed to an arterio-sclerosis, which was certainly fully developed at the time of observation. His peripheral arteries were hard and tortuous; he had an aortic incompetency of doubtless atheromatous genesis, and it is but fair to assume that the blood-vessels of his brain were also implicated in the process. In witness of this latter fact we may adduce his momentary very severe attack of vertigo one year prior to the time of his first visit to the hospital, and his numerous subsequent attacks of more or less severity, in addition to his various mental symptoms. In usual health, then he was attacked with a labio glosso-pharyngeal paralysis. This paralysis, while somewhat bilateral in distribution, was more inclined to be irregular, but was more markedly unilaterial, affecting particularly the left side. There was a more or less severe initial implication of the motor trigeminus, the facial, the glosso-pharyngeal, the pneumogastric, the spinal accessory, and the hypoglossal nerves. The majority of these manifestations must be looked upon as indirect symptoms. They were not due to any permanent damage to the brain substance as they subsided in the course of a few days. The persistent symptoms were those due to involvement of the hypoglossal, and possibly also that portion of the accessorius which arises in the oblongata, but as the patient was very much disposed to resent any minute investigation into conditions of which he was not manifestly aware, it was impossible to carefully examine his larynx or even, satisfactorily, his pharynx. The dysarthria and diminution of the mobility of the tongue indicate the hypoglossal implication, and if we may assume some involvement of his vocal cords as partly occasioning his dyspnea and difficulty of phonation, we have evidence of involvement of the oblongatal portion of the spinal accessory nerve. We may not entirely exclude association of the vagus in the disorder, as his attacks of cardiac palpitation were much more frequent after the occurrence of the paralysis than before, but this implication is not probable. The natu e of the affection precludes the possibility of its being due to disorder of the nerve trunks. We, therefore, locate the lesion about the nuclei of the hypoglossus and oblongatal portion of the accessorius.

As to the nature of the lesion, there are to be considered hemorrhage, thrombosis and embolism. It is exceedingly difficult to positively decide this question. The age of the patient and the condition of his arteries speak in favor of hemorrhage, but not so strongly as many may believe, as past the fifth decade of life, softening from vascular occlusion becomes quite as frequent as hemorrhage; and the condition of the patient's arteries was equally favorable to the formation of a thrombus as it was to giving rise to an hemorrhage. Against the supposition of hemorrhage may also be cited the fact that such occurences are much more liable to be attended by unconsciousness than is vascular occlusion. This is, of course, relative, and depends greatly upon the size of the hemorrhage. But in the locality under discussion even small hemorrhages are exceedingly apt to entail disastrous consequences, and are, further, almost always fatal. From a consideration of these facts and because we could discover no exciting cause for the production of an hemorrhage, it not being occasioned by an undue physical exercise or emotional or other excitement, we exclude hemorrhage in favor of softening. In the present instance it is almost impossible to decide between thrombosis and embolism, although we incline to the former supposition, despite the very sudden onset of the severe symptoms. The presence of the cardiac valvular lesion favors the idea of embolism, but the valvular lesion was due to precisely the same conditions that favor thrombus formation—atheroma; and embolism from valvular lesions is much less frequent in the old than in the young, and is of less common occurrence from disease of the aortic than it is from disease of the mitral valves. Supporting our supposition of thrombosis is the very manifest acterio sclerosis, and the mental symptoms of the patient during the past year or so of his life, which quite probably have their pathological explanation in numerous scattered minute foci of softening dependent upon thrombosis of minute blood-vessels.

The several nuclei of the ponto bulbar region have a distinct and demonstrable blood supply, admitting, of course, of variations depending upon individual pecularities. The hypoglossal and the accessory are supplied by a branch of the cerebral artery, the anterior spinal, a thrombosis of which artery of the right side we are inclined to believe the cause of the symptoms of the case detailed.—*Philadelphia Polyclinic.*

TRANSPORTATION ARRANGEMENTS FOR THE MEXICAN MEETING OF THE PAN-AMERICAN MEDICAL CONGRESS.—Dr. H. L. E. Johnson, 1400 L St., N. W. Washington, D.C., has been elected Chairman of the Special Committee on Transportation. All communications relative to rates, reservation in the special trains, etc., should be addressed to him.

A rate of one fare for the round trip has been secured between St. Louis, New Orleans, and other trans-Mississippi points, and the City of Mexico. It is confidently expected that this rate will be extended over the entire territory of the United States. Arrangements are in progress for a splendidly equipped special train of sleeping and observation cars, with first-class dining car service.

We insert the above, hoping it may be of interest to some of our readers who intend visiting Mexico at the time of the meeting, Nov. 16th, 17th, 18th and 19th.

EYE AND EAR.

IN CHARGE OF

D. J. GIBB WISHART, B.A., M.D.C.M., L.R.C.P.L.

Professor of Ophthalmology, etc., Ontario Medical College for Women; Rhinologist and Laryngologist to the Hospital for Sick Children; Assistant Rhinologist and Laryngologist Outdoor Department Toronto General Hospital, etc.

THE OPERATIVE TREATMENT OF HIGH MYOPIA.

A DISCUSSION IN THE OPHTHALMIC SECTION OF THE BRITISH MEDICAL ASSOCIATION AT CARLISLE.

MR. LAWFORD,—The treatment of myopia of high degree by removal of the crystalline lens, is one of great and probably increasing importance, and worthy of most serious consideration. It is by no means a simple subject, but there is already, in my opinion, sufficient evidence in its favor to over-ride the arguments adduced against it, and to establish its claim as a recognized surgical procedure. The treatment has been adopted and carried out most extensively in Germany and Austria, and to a less extent in France, Belgium and Switzerland.

The degree of myopia; It is impossible to make any very definite statement on this point. A decision must involve the consideration of other conditions besides the actual number of dioptres of myopia; such as the age, health, character of myopia (progressive or stationary), and complications present, as disease of the vitreous, etc. Another, but important question is, to what extent for practical purposes, that is for school or wage earning work, vision can be made serviceable by means of glasses. The lowest degree of myopia to which this operation is applicable differs somewhat in the opinion of different writers. Some writers give 13 dioptres, others 15. There is probably no upward limit, the highest recorded is one of Schweiggers, 33 dioptres.

The alteration in the refraction resulting from the removal of the lens is very different in myopia, from that in emmetropia. The lowering of the refraction has in most cases been from 16-18D. In some of Vacher's recently published cases, where a low degre of myopia was present, the improvement in visual acuity and capability was very marked.

The age: Fukala, Vacher, etc., operated at first only upon young patients, but in the last two or three years the treatment has been applied to adults, and even up to 64 years of age with satisfactory results. There can, I think, be no serious objection to operating in childhood if the degree of myopia be sufficiently high, and the conditions are likely to become less favorable if operation be postponed.

Technique: The general opinion of writers is decidedly in favor of discission of the lens, and subsequent removal of the opaque fragments.

Iridectomy as a step in the operation has been abandoned. It may be expedient, but the value of a circular active pupil is very great in these highly myopic eyes.

Results: Unless the operation be performed where there are less than 10D, of myopia, the alteration cannot but be beneficial. In the majority of published cases, visual acuity has been increased two fold, three fold, and sometimes more, and when it has remained unaltered, the capabilities of the eye have been augmented.

For the wage-earners the acquisition of good, or even moderate, distant vision is an enormous advantage. Another point gained for these myopes is an increased range of vision for reading and other near work. The highly myopic person must either read without glasses, having the book inconveniently close to his eyes, and often sacrificing binocular vision because he cannot maintain sufficient convergence, or he must increase his reading distance by glasses, which necessarily reduce considerably the size of his retinal images, and thereby render reading difficult and tiring. The loss of the power of accommodation, which Donders thought a serious objection to this method of treatment, has proved to be no objection at all. The range of distinct vision for reading is greater and infinitely more useful in these highly myopic eyes after removal of the lens, than that which the patients previously possessed.

The evidence as to the durability of the eye, and the arrest of the myopia after this operation, is too contradictory to be of much value.

Mr. Cross submitted statistics of 1,774 cases of myopia seen in private practice, showing that cases of 9 dioptres of myopia and upwards occurred in the proportion about $\frac{1}{7}$th of the whole number.

Detachment of the retina would seem to be not less likely to follow removal of the lens from old eyes (as in senile cataract) than from young or middle-aged eyes affected with high myopia.

Clinical experience entitles us to disregard the danger in the first case, and we are justified in assuming that it may not be very pressing in the other.

In nine cases when the lens was extracted for high myopia, there was considerable practical improvement in distant vision.

Dr. Argyle Robertson had operated in only two cases, but in both with favorable results.—*British Medical Journal.*

Subacute Conjunctivitis due to a Diplo-Coccus.—Morax has found a hitherto undescribed diplo-coccus in a subacute form of contagious conjunctivitis. The disease is of slight intensity, lasting from two weeks to six months, and readily yields to an eye wash of sulphate of zinc, 1-40. The diplo-coccus resembles somewhat Friedlander's pneumococcus, but has no capsule; it takes aniline dyes easily, and is decolorised by Gram's method. It is found both in the epithelial and the pus cells, and also free. It does not grow in ordinary media, but requires the addition of blood serum, serous or ascitic fluid. It is ærobic, and does not produce any lesion in animals. Cultures were introduced into a medical man's conjunctival sac, and gave rise to this special form of contagious catarrhal conjunctivitis.—*Annales de L'Institut Pasteur.*

ICHTHYOL AND FORMOL IN OPHTHALMIC PRACTICE.—Germain finds that a 10-15 per cent. ointment of ichthyol in lanolin is very efficacious in ciliary blepharitis, curing when the ordinary yellow ointment has failed. Collyria of $\frac{1}{3}$ per cent. are also very useful in phlyctenular conjunctivitis and simple catarrhal ophthalmia. The drug was well borne, soon eased the pain in the eye, and accelerated the cure. The author has also made successful trial of formol as an ophthalmic antiseptic solution. The drug is used in solution of 1-2,000, and the conjunctiva was found sterile twenty-four hours after its use. It was found useful in the treatment of phlyctenular conjunctivitis.—*Gazz. degli Osped.*

TREATMENT OF GONORRHEAL OPHTHALMIA.—Burchardt describes as follows the treatment he has found most successful in acute purulent ophthalmia of gonorrheal origin in children and adults. He formerly carried out the classical treatment of leeching, scarification of the conjunctiva, cauterization with nitrate of silver, and ice compresses. He has gradully omitted all these methods in consequence of some ill-effect they had, or because they appeared to him irrational, and he now confines himself to a very free irrigation of the conjunctival sac with a five per cent. solution of chlorine water, followed by a one-tenth per cent. solution of nitrate of silver. The head of the patient is thrown back so that he looks directly upwards; an assistant then allows the solutions to fall upon the inner canthus drop by drop, while the surgeon moves the lower lid up and down very freely with the thumbs, and the upper lid more slowly with one of the fingers. By this means he is able to clear the conjunctival sac very completely. The success of the treatment appears to lie in the very free movement imparted to the lids, whereby the fluids gain access to all the folds of the conjunctiva. Shreds or membranes are removed from the lids.—*Centralbl. f. Prakt. Augenheilk.*

IMPACTION OF CERUMEN—This should, of course, be removed by means of the syringe, sometimes rather a lengthy procedure, but which may be greatly shortened and facilitated if the plug is gently detached from the roof of the meatus by means of a small curette. For those, however, who are not accustomed to manipulate instruments in the ear, it is, on the whole, safer to soften the wax for a few days by means of such solvent drops as the following:—

℞ Sodii Bicarb.....grs. xv.
Glycerine.....℥ iij.
Aq-Destil.....ad ℥ i.

The drops for the ear to be warmed before use.

In the use of the curette, too great caution cannot be practised to avoid scratching the floor of the meatus, because this portion of the auditory canal is sometimes extremely convex, and when plastered over with even a very thin layer of cerumen, may give the appearance of a large plug of that substance, and mislead the operator, unless he is on his guard. It is to be remembered that an accumulation of cerumen is often complicated with an external otitis, giving rise to a considerable amount of pain. Fur-

ther, a form of external otitis characterized by a shedding of large quantities of epithelial scales and *débris* often leads to the formation of a plug stimulating impacted cerumen, (Keratosis Obturans). It is, however, much lighter in colour, and its separation from the walls of the meatus is extremely painful. It is difficult or impossible to remove this by simple syringing; in fact, the action of the liquid is to make the plug swell, and to increase the pain produced. The best instillation for the purpose of softening it is glycerine (to which Mr. Lake advises the addition of Salicylic acid), and after a few days of its use the plug can generally be removed by means of a blunt curette, and delicate forceps. Fortunately this condition is not a very common one, but the difficulties connected with it must be kept well in mind.—*The Medical Annual.*

ECZEMA OF THE AURICLE.—When acute, this best responds to dry-dusting with such powders as, iodol, dermatol, or oxide of zinc with starch. On each occasion the part may be previously washed with weak sublimate solution. When less moist, an ointment of iodol or ammonio chloride of mercury with coal tar, is best, firm crusts being previously softened with olive oil and removed. Where there is much thickening, a weak mercurial ointment may be well rubbed in, massage being thus at the same time practised by means of the finger and thumb. Internal administration of an aperient is often indicated.—*The Medical Annual.*

CEREBRAL COMPLICATIONS IN RELATION TO DISEASE OF THE MIDDLE EAR.—The tuberculous from the otitis media spreads slowly and with little pain, and sometimes reaches an advanced stage without perforation of the drum membrane. The deposits formed by the disease constitute excellent culture media for pyogenic bacteria, which by such means find their way into the softened bones. This is peculiarly true in the cavity of the middle ear, where food, warmth and darkness are supplied for their growth and multiplication. The danger of conveying disease from ear to ear by means of carelessly disinfected probes is very great. The spreading of infection from the middle ear to the brain, and its membranes, is preventible. When the disease is established the surgeon must ensure its eradication. When located in the brain the focus must be removed, as well as the paths by which the disease has travelled and the part that had secondarily become infected—MacEwen.—*Lancet.*

FOR NEURASTHENIA.—The *Med. Bulletin* gives the following as a nerve tonic and sedative:—

℞. Asafœtidæ, ℥j
Acidi arseniosi,
Strychniæ sulph., āā gr. ½
Extract sumbul, gr. xxx
Ferri subcarb., gr. xl
Quininæ valerianat., gr. xx
Fiant capsulæ, xxiv. M

SIG.—One after each meal.

PAEDIATRICS.

IN CHARGE OF

J. T. FOTHERINGHAM, B.A., M.B., C.M.,

Physician to Out-door Department Toronto General Hospital; Physician to Out-door Department Hospital for Sick Children.

CONVULSIVE TIC IN CHILDREN.

DR. CHARLES L. DANA read a paper with this title. He said that he had been much interested for some time past in the spasmodic disorders of children. He thought there was still much misconception regarding the true nature of many of them. He believed that all the functional neuroses of childhood (not infancy) could be classified under four heads, viz.: (1) Chorea, (2) spasmodic tics, (3) hysteria, and (4) epilepsy. It was his object in this paper to show the relationship between two of these groups particularly. He was of the opinion that there were many physicians who did not know technically what spasmodic tic was. It consists of quick spasms of certain muscles or groups, several rapid contractions succeeding each other, after which there is a period of rest. Eventually this clonic spasm might become tonic. In most forms of the disorder there was a tendency to become localized in certain nerves, as in the facial, or in some special twig, as the phrenic, or a branch of the zygomatic or of the vagus. They might take a wider range, producing quick, violent movements of the whole body. Between this form—spasmodic tic—and ordinary chorea minor there were many milder spasms, known as "habit choreas." These were the ordinary twitchings of the face or shoulders which occur irregularly in children, and are closely allied to true chorea. When these become localized in a certain group of muscles it might be considered a true spasmodic tic, and in these cases the treatment for chorea he had found had but little effect. In 95 per cent. of the cases of chorea minor recovery took place, but it might degenerate in several different directions. For instance, a girl of twenty, when five years of age, had an attack of Sydenham's chorea, which ran its ordinary course, and was repeated at intervals of a few years. After the third attack it seized upon the larynx. From sixteen to eighteen years of age it was almost constantly present. The girl was neurasthenic and weak. In another case, that of a boy of twelve years, choreic twitchings had begun in the right side of the face, then in the neck, and then in the arm, when he was five years of age. There was no known cause for this. When first seen by the speaker the boy appeared intelligent and well nourished, and there was no evidence of cardiac or other organic disease. He had choreic movements of the hand, and the facial muscles were also involved. In addition to the unilateral choreic movements, the neck muscles were at times affected with twitchings or with tonic spasms,

which turn the head to the left side—spasmodic torticollis. The speaker said that in his own experience there had been two other cases of a similar character. Thus, a boy of ten years had had a severe attack of rheumatism, and at the age of fourteen an attack of what was apparently ordinary chorea. These were repeated every two or three years, but during the intervals he had not been in perfect health. With each return of the chorea there was involvement of other muscles until finally he developed wry-neck and opisthotonos He ultimately developed a violent form of chorea and died of exhaustion. At the autopsy there was found a very marked meningeal thickening at the convexity of the brain, and degenerative changes in the outer layer of the pyramidal cells of the cortex, especially those involving the legs, trunk and arms. A girl, thirteen years of age, was attacked with sudden pain in the left side, and two or three days later she began to have choreic movements of the eye muscles, more particularly on the left side. When seen by him, three years later, there were choreiform movements, and she presented the appearance of a person suffering from chronic torticollis. These cases certainly show that at times the ordinary chorea minor, instead of disappearing, fastened itself upon a particular group of muscles, resulting in a spasmodic tic. This might be a tic involving the larynx, the phrenic nerve and diaphragm, or it might involve the facial muscles alone. In other cases this chorea degenerated into a tonic form of spasm, leaving the patient with some variety of torticollis, or some general tonic disorder. It had seemed to him that the following view could be taken of the pathology of these disorders: Chorea is an irritative disease resulting from some poison or infection, and is located in the cortex of the brain. On the other hand, the spasmodic tics are degenerative diseases, secondary, in some cases, to an inflammatory neurosis like chorea, or developing independently like other degenerative neuroses.

There were also special varieties of tic, such as those in which the patient snddenly uttered irrelevant or improper words. In most instances these tics began with peculiar irregular movements suggestive of chorea, but of a more co ordinate character. This form of tic might be called a psycho-motor spasm. Henoch stated about three years ago that the cases that he had formerly described as "electric chorea" were really examples of this spasmodic tic. Neither chorea nor spasmodic tics, in the speaker's opinion, had any special relation to epilepsy.—*Paediatrics.*

On Enuresis and its Treatment.—M. Mendelsohn (*Centralbl. f. d. g. Therapie*, 1896, *xiv.*, 49). Thirty-two cases of enuresis, in its narrower sense, have been observed during the last few years by M., amongst which there were only three cases over 14 years of age. Aside from the many theories held as an explanation of this form of enuresis, it is probable that in the majority of cases the shutting off apparatus of the bladder is not fully enough developed to resist the detrusor muscles when the latter are reflexly excited through the impulse of the will. A deficient development of the prostrate gland frequently accompanies this lack of development. In support of this fact we have the experience that enuresis usually occurs during sleep (enuresis nocturna), and generally during the

early hours of the night and morning; either because at this time sleep is exceptionally sound, or because the bladder is overdistended. In conjunction there may be morbid conditions through which a reflex may be exerted on the bladder, as for example rectal worms, obstruction of feces, masturbation and phimosis

For the treatment of enuresis, bearing in mind the above casual facts, the following rules are to be deduced: The forming of a habit for the regular emptying of the bladder by day or night, cutting down the quantity of fluid during school hours and in the evening. In particularly obstinate cases the little patients should not be allowed any fluids from the early afternoon, on; particularly should those be excluded which contain alcohol or carbonic acid gas. It is unquestionable that (with an equal quantity of fluid in the bladder) the later the urine comes in contact with the internal orifice of the urethra so much later will the contraction of the detrusor muscles take place. Thus is explained the obvious effect of raising the foot end of the bed in nocturnal enuresis. The bed should, after obtaining the good effects, be only very gradually lowered again to its horizontal position. Very good results have also been observed from the administration of tinct. rhois. arom. (10-15 drops frequently during the day). In enuresis nocturna one dose in the afternoon and another at night. In very obstinate cases he makes use of the well-known remedy by Trousseau, beginning with a dose of 0.005-0.01 grm. of the extr. belladonna, and gradually increasing to ten times the quantity, this to be continued for weeks or even months. Occasionally the belladonna will act better in combination with extr. nux. vom. or strychnia. Chloral hydrat is sometimes of benefit. He does not approve of the different methods of sealing the meatus, nor those means used to keep the children from a sound sleep. Local faradization of the sphincters (by means of rectal rheophors), using a medium strength of the current, also gives some good results. They are to be applied daily for 5-10 minutes during four to six weeks. It will always be of some service to follow hygienic rules, cold washings, cool sitz baths, cool bedding, gymnastic exercises and repressing a too frequent desire to micturate, as much as possible during the day.—*Pediatrics.*

PATHOGNOMONIC SIGNS OF CONGENITAL SYPHILIS.—In an address delivered before the Berlin Med. Gesellschaft, P. Silex recognizes three characteristic signs of congenital syphilis. The first relates to the eyes, the second to the teeth, and the third to the skin. As the only real pathognomonic symptom relating to the eyes, he mentions a choroidea areolaris, in which are found scattered over the fundus, particularly in the neighborhood of the macula, black points and patches, which present here and there white spots of different size, and larger areas with a black border. These represent atrophic colonies in the choroidea, and pigment patches derived from the pigment of the stroma and pigment epithelium. The retina also being involved, vision in these cases is always very much impaired. Mercurial inunctions and exhibition of potassium iodide effected no change. In a few cases the process, which is rare, remained unilateral. Of the numerous deformities of the teeth usually mentioned,

he only considers that one form pathognomonic where the permanent upper incisors present a central excavation, denuded of enamel, beginning on the surface for mastication, and continuing upward in the shape of a crescent. As a sign, which is only found in congenital syphilis, he considers the well-known scars radiating outward in straight lines, which do not confine themselves to the corners of the mouth or to the lips, but radiate further to cheek and chin. The histological examination of a case, which was particularly marked, proved that these lines are not scars in the anatomical sense, as papillae, glands and vessels were well preserved in the tissue under consideration. Very likely the peculiar furrow-like appearances, which are called pseudo-scars by him, are due to a muscular tension of the skin. These three kinds of conditions, which were demonstrated by the author both on the subject and through illustrations, are considered by him absolutely pathognomonic. So that the presence of even one of them will lead to a positive diagnosis of congenital syphilis.—*Pediatrics.*

Habitual Constipation in Infants.—Durante (*Archiv. f. Kinaerheilk,* 1896, *xx.,* 3 *and* 4, 254). There are many causes which, acting together, produce defective action of the bowels in infants. The sigmoid flexure is proportionately of much greater length than in the adult, the nervous forces also are not yet as well regulated, so the child does not feel the need of an evacuation. The infant lies most of the time in a horizontal position, very frequently it is drugged, on account of restlessness, with all kinds of medicines, and frequently opiates are used, which add to the trouble. Furthermore, the constipation may be due to other diseases—rhachitis, etc. The most important cause, however, is the feeding of the infant with food deficient in fat. The feces of the baby consists of fat and casein; it is therefore of importance that the food should contain an excess of fat, so that the necessary quantity of fat can be here produced, and through this the feces obtain their plastic condition. From a deficiency in fatty matter, the contents of the lower bowel will become dry and hard and hence difficult of expulsion. The milk of woman contains about 4 per cent. of fat, cow's milk only about 3.5 per cent. If the latter is mixed with an equal quantity of water, the percentage of fat falls to 1.75 per cent., and according to further dilution still lower. Other preparations in place of mother's milk, the different children's foods, add the difficult digestion of starch on to the absence of fatty matter, and therefore they are even worse as articles of diet than cow's milk, and readily give rise to diarrhœas following their constipating effects.—*Pediatrics.*

A new method of producing vigorous catharsis in patients suffering from mania or other mental disease, wherein an effort at oral administration would doubtless mark the inception of a struggle, is to blow a large dose of calomel into the nostril through a tube or roll of paper. The procedure is neither painful nor disagreeable, and the drug is distributed over the nasal mucous membrane, eventually finding lodgment in the intestinal tract, and operating as effectually as if given by the mouth.

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The Largest Circulation of any Medical Journal in the Dominion.

Editorial.

THE CANADIAN MEDICAL ASSOCIATION.

The last meeting of the Canadian Medical Association was held in Montreal on the 26th, 27th, 28th August. Perhaps the best feature of the meeting consisted of the *Clinics* held at the hospitals. This was something new, and proved a welcome and practical innovation on the old method of reading paper after paper, with no illustrative cases. We venture to predict that in future meetings there will be more of the practical and less of the theoretical than has heretofore been the case. Our Ontario Association may take a useful hint from the older organization in this.

Latterly, meetings of medical associations on this continent, for the purpose of science, have been deteriorating into quasi scientific meetings, and real junketings. The management, anxious for a large attendance, has been year after year gradually adding to the list of "attractions," as our able and energetic management has been doing with the Industrial Exhibition.

We should not perhaps be surprised to see some decades hence, posters and dodgers scattered broadcast throughout the land—(for at the present rate of going in Toronto most of the people, old and young, male and female will then be doctors) with lithographs of the then La Loie Fuller, giving the *savants* assembled for scientific purposes, exhibitions of the poetry of motion, clad of course in the regular diaphanous robes of silk gauze with meshes say one inch square; or the strong woman illustrating the origin, insertion and action of various muscles; or the Martelli Sisters walking heads downward from the ceiling while instantaneous photographs will be taken with 'Z' rays showing the state of the cerebral circulation while in the pendant state—and other things equally interesting to the assembled multitude of doctors.

The practice of fêting the visiting brethren was originated in that land of enterprise across our southern border, and while it has some advantages if kept within bounds, now bids fair to do injury to the value, dignity and eventually the success of our associations.

Dr. Thorburn ably fulfilled his duties as president, and the whole meeting ran smoothly, thanks to the energy of the committee of arrangements.

The programme which we have before us was of unusual interest, and we believe the papers were up to the average. One hundred and sixty-eight members were present—the largest number yet recorded at any meeting of this Society since its inception. Next year should show an increase even on this, as the place of meeting is to be again Montreal, in conjunction with the meeting of the British Medical Association.

The Society was very happy in its choice of president for next year. Dr. Moore of Brockville is well known as a leader in the profession, a man of ideas and energy. Dr. N. A. G. Starr, Toronto, was again made general secretary. The vice-presidents are as follows: Prince Edward Island, James Conroy, Charlottetown; Nova Scotia, J. T. Black, Halifax; New Brunswick, T. Walker, St. John; Quebec, J. M. Beausoleil, Montreal; Ontario, W. W. Dickson, Pembroke; Manitoba, R. S. Thornton, Deloraine; North-West Territories, E. H. C. Rouleau, Calgary; British Columbia, Dr. Harrington, New Westminster.

THE LATE DR. HARRIS.

We feel sure many of our readers will be pleased to see our photogravure of the late Dr. Harris, of Brantford, whose recent death was very keenly felt by his numerous friends throughout the country.

The doctor was only 44 when death came. He had been in very poor health for the past three or four years, but was always about at work. Even on the day of his death he was out driving. The immediate cause of death was an apoplectic seigure, and he lived only a few moments. Dr. Harris has been a prominent figure in the profession for the past fifteen or twenty years. He was for many years representative of Trinity University in the Ontario Medical Council, of which body he was president during 1895.

Interested in military matters, he was one of the oldest officers in the Dufferin Rifles.

Following is the resolution adopted by the County Medical Association with reference to the late Dr. Harris:

The John H. Stratford Hospital, Sept. 2nd, 1896.

Moved by Dr. Philip, seconded by Dr. Heath:

"That the Brant County Medical Association, in annual meeting assembled, desire to put on record their sincere grief at the sudden removal by death of their friend and confrere, Dr. W. T. Harris, and also the deep sense of the inestimable loss sustained by the profession, not only in the city and county, but throughout the Province as well.

"The members of this Association fully recognize that they have lost from their midst one who not only through his genial disposition had possessed himself of a large share of their affections, but also one who through worth and many sterling qualities had, at a comparatively

early age, won for himself the highest office in the gift of the profession of the Province.

"A physician who, in his earnest desire for professional advancement, never lost sight of what was due his confreres, but was always ready to treat with the greatest consideration the opinions of those of riper experience, and was ever willing to extend a helping hand to the struggling graduate.

"It would be useless for us to endeavor to convey any idea of the grief felt by those of us who have had perhaps more intimate relations with the late doctor, or the loss sustained by those numbered among his patients.

THE LATE DR. HARRIS.

"This Association does, moreover, most respectfully tender to Mrs. Harris and the family of our late colleague their most sincere and heartfelt sympathy in this their hour of bereavement. The late beloved member of this family will ever hold a place dear in the remembrance of his professional brothers."

Endorsed on behalf of the Association.

(Signed) REGINALD HENWOOD,
D. LESLIE PHILIP,
HARRY R. FRANK.

IRRIGATION OF THE COLON IN CHOLERA INFANTUM.

A word may not be amiss, though the season is late, on the value of lavage, especially of the large intestine, in the summer diarrhœas of children. The advocates of lavage of the stomach in such cases are not likely to get much of a hearing in this part of the world. Parents cannot be expected to tolerate with equanimity the spectacle of an attempt to introduce a catheter into the stomach of a child already feeble and ill, no matter what confidence they may have in the physician; and in the event of an untoward ending they are very apt to employ the *post hoc, ergo propter hoc* style of argument, with very damaging results to the reputation of the attendant. In any case, it does not appear on the surface just what good is to be done, when the main trouble lies much lower down in the alimentary canal, by any such procedure. It seems to the writer that much the same end can be gained, especially if there is occasional vomiting, by giving large quantities of warm water, alkalinized if need be with bicarbonate of soda. One or two free vomitings will rid the infant's stomach effectually enough of any irritating masses. This plan has the additional advantage of checking the consuming thirst with which the little unfortunates suffer, often unrelieved unless water be specially ordered by the physician.

When, however, lavage of the large intestine is proposed, one feels that there is good reason for it. Even if colitis be not an outstanding feature of the case, good must ensue upon the removal from the absorbing *mucosa* of the colon of the decomposed and ptomaine-laden contents sent down from the small intestine. It has been proven, if proof were necessary, that the motions, no matter how frequent, come only from the lower portion of the colon, and that for each stool that escapes, at least an equal bulk of similar matter remains behind. Our own experience of the treatment leads us to feel that one is neglecting a most valuable therapeutic measure if irrigation is not done. Of course the parents must carry it out, or the nurse, and here lies the main trouble. The lay-nurse very often soon ceases to carry out instructions. A soft catheter, silk woven and softened by warm water, is gently introduced (according to the example shown by the medical man, who should do the little operation himself at each visit), as high as possible. It should be rotated on its own axis and the stream kept flowing as it goes in, when it usually passes high up quite readily. If too soft, as the red rubber soft catheter usually is, it coils upon itself in the rectal ampulla. The child's hips should be well over the mother's knee, the legs held at right angles to the body as the child lies on its back, and the mother's knee elevated to raise the child's hips and facilitate the flow down hill into the colon. The child may resist the first time, but so great is the relief to tenesmus and straining that the little one invariably settles down to enjoy it after once or twice experiencing it. The bag should not be too high, say two feet at most, above the child. Or, if a syringe is used, it should be such as can be detached from the catheter to be filled, and should be emptied very slowly and steadily. The ordinary household

syringe is dangerous because too strong and intermittent. The rule should be that after every motion the bowel must be irrigated. The frequency of the motions will be very promptly lessened. The fluid may be a solution of boric acid, at any rate sterilized water; and may be either cool for its soothing local effect, or warm if there is much flatulent distention or tormina. No one who has once employed high rectal irrigation in cholera infantum will fail to avail himself of it again in every case of any great severity, though in our opinion its routine use will bring it into disrepute as an unnecessary measure. It has seemed to the writer to be the means of saving life in more than one case in which all the other ordinary modes of treatment were also employed.

THE HEIGHT OF IMPERTINENCE.

We have received the appended circular from a firm of opticians in this city. In our opinion a greater piece of impertinence was never offered the profession than the bargain calmly proposed by these people. A reference to the city directory shows that the address of this firm is also the address of a patent medicine company, and of a "professor" or "eye specialist." *Verbum sap.*

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TORONTO, August 25, 1896.

"DEAR SIR,—If you have not been writing prescriptions for spectacles "we would like to have you begin. You can do much good by doing so, "and it would be profitable to you. All you need to do is to write the "patient's name on the blank we send you, and we will give you one "half of what the patient pays us for the glasses. * * * *

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Could a more corrupt offer be made ?

"COLD AIR IN THE TREATMENT OF CONSUMPTION."

At the last meeting of the Canadian Medical Association at Montreal, Doctor Playter, in his paper on the above subject, first referred to the two principal causes of phthisis, the seed and the body soil. By nearly all physicians the bacillus was recognized as a cause, but a number of

them believed it to be but a consequence. The truth lay between the two views. The bacillus would not grow and multiply in the body unless the tissues were in a defective, practically *diseased* state; but it is indispensable to the formation of tubercle. The diseased state, Dr. Playter claims to have clearly shown in his recently published book, is caused by toxines produced by accumulations of the waste products of combustion, due to defective respiration. Hence more out-door air is the universal first remedy. The bacillus is probably, originally, a benign organism, and like some other microbes is rendered virulent and pathogenic by its environment. In some phase it may grow in the open air, like the bacillus anthrax, completing its "developmental cycle" outside the animal body, although, as a bacillus, flourishing best at a temperature above 100° F., as in bovine animals, or a "feverish" lung. In treatment, the Doctor depends on a "trinity of remedies":—pure cold air, nourishment in accordance with the digestive and assimilative powers, and attention to the skin to aid the respiratory function. Pure, dry, cold, sparkling, sunny atmospheric air, with its highly vitalized oxygen, is best of all remedies, and nearly all cases improve under it. At the Falkenstein Institute (Germany) the cold winter air allowed to flow through the bedrooms of the patients all night "quiets the cough, lowers the fever, arrests the night-sweats, restores the appetite, and retards the course of the disease." The colder the air, the better; the more oxygen it contains, bulk for bulk; the more it acts as an antiseptic; the more it expands when it has been inspired and in expanding dilates the air cells or chambers of the lungs; and the more it must tend to cool the overheated lung tissues, rendering them less favorable for the multiplication of bacilli. Dr. Playter is making preparations for rendering pure, filtered air cold by means of a freezing mixture, to be inhaled by patients at his sanatorium.

New Clinic.—We are pleased to hear that Dr. Meyers has begun a clinic for Diseases of the Nervous System at the Simcoe Street Dispensary, where he will see any indigent patients suffering from nervous diseases that the profession may care to refer to him at 1.30 p.m. every Tuesday.

Dr. Irwin, Li Hung Chang's physician, is a genial and talented Irishman. Just as he left Netley eighteen years ago he heard of a good opening for a doctor at Tein-Tsin, so he turned him cheerily to the Flowery Land. In 1879 he was called in to attend a serious case in the Imperial Yamen. His patient recovered, he was appointed Chief Physician to the Viceroy and the Viceroy's family, and ever since his lot has been a happy and prosperous one.

EXTRA DISPENSARY FACILITIES.—*Med. Brief.* Dispensary Patient to Medical Attendant:—Can I hang my sealskin where it would be safe until you get done with me?

Certainly, madam; kindly wait your turn and get a check from the superintendent.

How long must my coachman wait?

He must stand in line until his number is called.

THE TREATMENT OF ITCHING IN URTICARIA.—Berliner, of Aix la Chapelle (*Gaz. Med. de Liege,*) recommends the following methods for the relief of itching in urticaria:

The affected parts are first wetted with cold water, and then rubbed for ten to fifteen seconds with a minute quantity of common table salt with the pulp of the wetted forefinger. After the friction, a small quantity of oxide of zinc ointment, or rice, or starch powder should be applied. The application soon causes a pleasant feeling of freshness, the itching diminishes or ceases and the papules disappear. When extensive surface have to be dealt with, the saline friction should be made gradually over limited areas, lest too intense a mechanical irritation be produced. At the same time tepid bathing and appropriate dietetic and other treatment should be employed.

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