The Canadian Journal of Medicine and Surgery

A JOURNAL PUBLISHED MONTHLY IN THE INTERESTS OF MEDICINE AND SURGERY

VOL. XXIV. TORONTO, SEPTEMBER, 1908. NO. 3.

Original Contributions.

HYPODERMIC ANESTHESIA.*

BY D. DUNTON, PARIS, ONT.

THE question of hypodermic anesthesia has apparently not excited a very lively interest among our Canadian surgeons and physicians, but our professional neighbors have put it to the test and are constantly using that method. What is meant by hypodermic anesthesia is the production of general anesthesia by hypodermic medication.

It has been already used in many thousands of cases with only four deaths reported under its use, and it is claimed that those were not due entirely to the anesthesia. Therefore, it would seem worth while for us to look into it and ascertain if it has any advantages over the ordinary anesthesia, namely, ether and chloroform.

It would be a decided advantage to find something easier to administer and safer than the volatile anesthetics, for none will deny that there is considerable danger associated with ether and chloroform narcosis.

During the present month there was one death from chloroform in the dentist's chair reported by the newspapers in our own province.

Dr. Samuel Johnston, an expert in anesthesia, has even thought it worth while to write an article for *The Canadian Practitioner* on the "Danger Signals of Anesthesia."

The mortality statistics taken from large hospitals, where they have special anesthetists and the best appliances and assistance, do not look very formidable.

* Read before the Ontario Medical Association, Hamilton, 1908.

Gault found in 330,000 cases of anesthesia that the mortality from chloroform was 1 in 2,075, ether 1 in 5,112, A. C. E. 1 in 3,370, ethyl bromide 1 in 5,396.

But when a practitioner runs up against the actual experience with his own patient then it impresses him in a different way. My reason then for bringing to your notice the hypodermic method is to have it put to the test and pronounced upon by members of this association. If it is better we should know it, and if it is safer we should use it.

Every one of us is called upon to administer anesthetics. Sometimes we even have to anesthetize and then operate. We cannot all become experts or even proficient. It is, therefore, of immense advantage to have an anesthetic that will not demand such close attention when we are short-handed. The hypodermic method is admirably adapted to such cases, besides being quite as safe as any other kind.

The formula for one tablet is:

Chemically pure hyoscine hydrobromide	gr. 1-100
Chemically pure morphine hydrobromide	gr. 1-4
Cactin (from cactus grandiflorus)	gr. 1-67

Dosage.—Two hours before the operation one tablet is given, hypodermically in the arm, one-half hour before the operation another tablet is given. If the patient is not sleeping soundly at the end of the half-hour a few drops of chloroform may be given.

That would answer for such operations as appendectomy, lacerated cervix, thyroidectomy, etc.

For major operations such as trephining, hysterectomy, amputation of the thigh, three tablets may be given, and not a drop of chloroform used. One, two hours before; one, half an hour before operation, and one when the patient is put on the table. Is it safe? Not absolutely, for from the very nature of the case no anesthesia can be. Four deaths have been reported as being partially due to this method of narcosis out of many thousand cases used by 15,000 doctors.

The advantages of hyoscine-morphine-cactin anesthesia are best given in the words of Dr. Garcia, of St. Louis, who has used it in fifty-five cases. He says: "The advantages of H. M. C. Tablet, I find, are the avoidance of shock and fright on entering the operating-room, and the absence of nervous tension of hours preceding the operation. This is of great import as one will find by studying patients before operation; absence of nausea following operation and the continuance of sleep for a few hours. The uniformity of anesthesia is, to my mind, the best of all effects. Every operator will realize how difficult it is to obtain anesthesia of equal depth throughout entire operation. This tests the skill

of the best anesthetists, and I can best secure this by the tablet and chloroform combined. With few exceptions, two full-strength tablets were used; one immediately, and the other, one hour preceding operation, and about one-half ounce chloroform used in addition, for the work of an hour or more.

"The tablets, I believe, render the chloroform more safe, owing to the stimulation of both morphine and cactin. In a few cases I tried three full-strength tablets, and all these patients were operated on without chloroform, but in all, there was some cyanosis which perturbed me."

Dr. H. O. Walker, of Detroit, states that he has used the hyoscine-morphine-cactin compound in ninety-two cases to March, 1907. He says: "I have used them in extreme cases of age. While I had two deaths, they were not in my estimation due to the anesthetic.

"The boy of ten, on whom it was used received a severe injury in a railroad accident, necessitating the removal of one leg, above the knee, while the other was denuded of fully one-fourth of its integument. On the seventh day he developed tetanic spasms. One tablet was given twice daily for several days, when it was dropped to one daily. He made a good recovery.

"The gentleman, aged 82, physician, Senator of Ontario, was given one tablet hypodermically two hours before the operation on Saturday, January 19. About 60 drops of chloroform were used. He had chronic intestinal obstruction, due to malignant growth in the cecum. I short circuited with McGraw ligature, the ascending colon with the ileum. The operation was done at 8 o'clock in the morning, and in the afternoon he asked why they had not taken him into the operating-room.

"My experience has been very satisfactory with its use. For instance, one case in which I had a double amputation of the thigh three tablets were given and no chloroform used. The patient woke up late in the afternoon, and asked why he had not been operated upon—a usual question in such cases."

In some quarters it is claimed that hyoscine is identical with scopolamine, which has a number of fatalities charged against it. Here is the opinion of Prof. Thrush, of Philadelphia, bearing on the similarity. He says: "The dominant action of hyoscine is on the cerebral cortex. It is also a centric depressant of respiration and depresses the whole motor cord. Its influence on the circulation is only slight. No fatal case of poisoning by hyoscine alone is on record, according to the Elder Wood.

"Hyoscine and scopolamine, while of the same chemical composition, differ in physiological results, for the following reasons. In the first place hyoscine, scopolamine and cocaine are all the

same chemical composition, C 17, H 21, NO 4, yet the tyro in therapeutics knows the physiological action of cocaine differs greatly from the other two. In fact it is almost entirely different in its action. How then can we account for this? By the fact that there is a different arrangement of atoms composing the molecule.

"I think we are justified in saying that the mortality statistics which have been quoted from time to time relative to scopolamine-morphine anesthesia do not apply to hyoscine-morphine anesthesia. And I feel sure that they do not apply to hyoscine-morphine-cactin anesthesia."

My personal experience has been very limited. It covers sixteen surgical and twenty-six obstetrical cases. It is so easy and safe to administer, and I would much rather trust the nurse to give the few drops of chloroform that may be needed than to give a much larger dose of chloroform covering an hour more or less in obstetrical cases.

Only one tablet was used in my first trial that was not a success.

The next was one of hemorrhoids in a man, aged 50. I gave one tablet at 2 o'clock and one at 3.30, and at 4 o'clock. I used the clamp and cautery. The only resistance offered was during dilatation of sphincter. He slept well during the night, the next day the bowels moved with slight pain.

The H.M.C. narcosis served me well in an irreducible hernia that I was called to during the night. Finding I could not reduce by taxis, I injected one tablet at 2 a.m., and half of one at 3 o'clock with the idea of operating if found necessary. At 3.30 the hernia was crowded into the abdomen with gentle manipulation. Another half tablet would have completed the anesthetic effect, ready for the knife.

I am convinced that the H.M.C. compound will be even more useful in obstetrical than it is in surgical practice.

The use of one or two tablets will carry the parturient woman over her labor with comparative comfort.

Labor does not appear to be prolonged unless the first hypodermic is given before the second stage has well set in. My practice is to give the first hypodermic when the pain becomes troublesome if the os is dilated or easily dilatable, then one-half tablet every hour or more, just sufficient to keep her "doped," and I give none at, or near the termination of labor, lest it affect the child. Ordinarily the narcosis does not affect the child. In one instance after a prolonged forceps case, the baby could not be resuscitated, but I could not say the anesthetic was the cause of death. Both tablets and chloroform had been used.

In forceps cases I like the H.M.C. compound better than chloroform for the narcosis is more even, and when there is only partial anesthesia there is less resisting on the part of the patient. The hyoscine, being a motor depressant, would account for the difference. The slight difference is a decided advantage when enough help is not at hand.

The few hours of sleep the patient obtains after the toilet has been made frequently carries over the period of irritating after-pains.

For the accoucher it is the ideal anesthetic for he can obtain the desired effect without fear of an overdose.

The report of Gauss' 1,000 women delivered at the University of Frieburg under the influence of scopolamine-morphine is full of interest.

Scopolamine-morphine has been used as an anesthetic for surgical and gynecological operations by Kroenig, Kummel, Rotter and others. But to Dr. Gauss, of Frieburg, belongs the credit of discovering that by repeated injections of small doses of these two drugs, a peculiar state of half-consciousness is produced, in which the patient still perceives sensations, including pain, but retains no memory of these sensations afterwards.

In his first 300 cases it worked well, in 78 per cent. afterwards it was shown that if the time suffices before delivery, the method rarely fails to accomplish the desired result. It gives such relief from labor-pains, that the women beg for more injections.

But its greatest value, if time should justify Gauss' claims, lies in the effect on the mother, namely, in preventing nervous and mental diseases by sparing her the psychic trauma of childbirth.

The dosage is based on the memory sensation; that is, the repeated injections are given one hour or more apart, until the patient's memory is lost to objects she had been shown a few moments before. Then no more is given unless she wakens out of the narcosis. After the first dose sometimes scopolamine is given alone.

Gauss places great stress on the purity of the scopolamine. The same applies to hyoscine. In most cases four injections at intervals of one hour or more serves to sustain semi-consciousness until after the birth.

In the Frieburg clinic, the ears are plugged, and the room is kept as quiet as possible.

As to the duration of labor, comparison is made with the figures of Veit and Bumm. There is very little difference shown. It is possible that labor is slightly prolonged under scopolamine-morphine.

Gauss has never seen any vomiting unless it had already occurred before the injections. Dizziness is rarely complained of, and headache, diarrhea or constipation almost never.

The scopolamine has been observed to have an unfavorable effect on the heart; for that reason it is rational to use the cactin.

The effect on the child. Gauss found that extra precaution is necessary in looking after the child, owing to the liability to asphyxiation.

Sixty-five of the first 500 were born asphyxiated; 13 per cent. in the second 500, only half as many were asphyxiated and the mortality was 3 1-2 per cent. less than durin , the previous ten years at the Frieburg clinic.

Only one death occurred in the first 500, and that was due to rupture of uterus.

In first 500 forceps were used 49 times, in the second only 25 times.

In conclusion, allow me to give you the conclusions of Dr. Emory Lauphear, of St. Louis, who has used the tablets in nearly 1,000 cases without any trouble at all. He says: "My opinion is that ultimately this combination will be used more extensively for partial anesthesia, total unconsciousness being induced by a trifling amount of chloroform by inhalation, the full analgesic effect of three doses being reserved chiefly for those cases in which for any reason it would be injudicious to use chloroform or ether.

"But in my own work I am using it for practically all major operations. The narcosis is entirely too profound for minor surgery (though the supplemental one-dose method works well), and I am sure that others who try it carefully, in appropriate cases will become as enthusiastic as I am, on account of (a) its simplicity, (b) its freedom from post-operative nausea and pain, (c) its economy, and (d) its attractiveness to patients who so greatly dread either chloroform or ether."

Discussion.

A. H. Perfect.—I have used H.M.C. in sixty cases, and do not advocate its use generally as an anesthetic. In obstetrical cases it makes the conditions favorable, but one always gets a blue baby. The ideal anesthetic in these cases is the old reliable chloroform. Surgical cases are "punk" breathers when the necessary chloroform is given, because I do not regard it either as a complete or general anesthetic, and patients must be put asleep by some other means. It has some advantages in quieting nervousness in selected cases but will never take the place of the usual anesthetics.

F. J. Old, Port Colborne.—Use H.M.C. very cautiously; use only to extent of loss of memory in obstetric cases; use only chemically pure hyoscine, not an adulterated solution of hyoscine and atropine, namely scopolamine; use only as preliminary in surgical cases; advisable to use only small amount of chloroform necessary for operative procedure.

Dr. Hicks, Port Dover.—Has used H.M.C. tablets in thirty cases. In obstetric cases it is useful in cases of rigid cervix, but I have had trouble in nearly all cases with a suppression of the milk, and have been forced to bottle feeding of the baby. In medical cases such as gall-stones it is useful. In surgical cases it is well to consider well the condition of the kidneys and the effect on respirations which fall to 14 or 12 or 10.

Dr. G. A. Bingham.—I have tested stovaine in all sorts of operations—abdominal sections, resection of articulation, etc., and in all cases found it entirely successful. The first case was one of resection of bowels and end-to-end anastomosis and was quite satisfactory.

H. H. Sinclair.—My experience is one fatal case for a very simple laparotomy.

Dr. Dunton.—The cyanosis complained of by Dr. Perfect apparently comes from giving too much of the drugs, or from giving it too near the termination of labor. Dr. Olmstead's note of warning against using these tablets indiscriminately applies to all anesthetics, for the utmost care is needed in every case. With such care good results can be had with both methods.

Dr. Duncan Anderson.—Used scopolamine-morphine anaesthesia in twenty-five cases. Heart in some cases became rapid some days afterwards. I have used H.M.C. in a few cases, in some of which a delirium developed similar in every respect to that of scopolamine. I believe their chemical effects are the same.

EXSTROPHY OF THE BLADDER: THE PETERS OPERATION.*

F. N. G. STARR, M.B., TORONTO.

Mr. Chairman and Gentlemen:—No Toronto man would think for one moment of approaching the subject of exstrophy of the bladder without first paying some tribute to the genius and skill of the late Dr. George A. Peters. He it was who devised and carried to a successful issue an extraperitoneal method of transplanting the ureters into the rectum, thus furnishing the unfortunate sufferer with a receptacle in which he is able to retain his urine for several hours without inconvenience. I take pleasure in placing the credit where it belongs, notwithstanding the paper of H. Newland Simpson, Adelaide, S. Australia, B.M.J., April, 1906, claiming priority. One has but to read the two accounts to be made aware of who's who. I have followed his method in two recent cases, but before relating them will give a brief resume of the present condition of the cases done by Peters himself.

B. S. G.[1] Male, operated upon at the Hospital for Sick Children on July 15th, 1899, at the age of 5 years. Died about six months ago from an acute Bright's, having suffered for two years previously with ascending, infective pyelitis.

G. R. H.[2] Male, operation at the General Hospital on October 7th, 1901, at the age of 13 years. He is now a rugged young man of 20 years and is able to do a hard day's work. At the present time he can retain his urine for from three to five hours during the day, and for the whole night unless he is very tired and falls into a profound sleep, when the sphincter relaxes sufficiently to permit of some leakage.

Ada N.[3] Female, operation at Hospital for Sick Children on October 26th, 1901, at the age of one year. This case was complicated with a slight procidentia recti, which was cured by Van Bruen's method before the transplantation was attempted. She is now a child of eight years, and at the present time is well, goes to school, and is a bright, cheerful child. She retains the urine for from 3 to 5 hours during the day, though at night there is some leakage.

R. B.[4] Male, operation at the Hospital for Sick Children on January 24th, 1902, at the age of 4 1-2 years. He died of an ascending infection on the fifth day.

G. R.[5] Male, came under observation first on March 9th, 1903, suffering from a left inguinal hernia, as well as exstrophy of the bladder. One month later his hernia was operated on at the Hospital for Sick Children, and he was discharged for the time

*Read at meeting of the Ontario Medical Association, Hamilton, May, 1908.

being. In the following June he came under observation again with a right inguinal hernia and procidentia recti. On November 24th, 1903, the hernia and procidentia were operated upon by the Peters method[6], and it was not until January, 1905, that Dr. Peters operated to transplant the ureters into the rectum. Two days after the operation there was an escape of urine over the bladder surface, which continued from day to day until on the 4th of February he made an examination under an anaesthetic and found that the rosette of the left ureter in the rectum had become fixed to the

rectal wall. The right one, however, had disappeared, and upon searching for it on the bladder surface the rosette was discovered, and by means of a pair of forceps passed through the rectum and through the original opening in its wall, this rosette was again brought into the rectum and sutured there. From that on there was no escape of urine, and ten days later the openings in the rectal wall appeared to be closed, and the child went on to a complete recovery. When he left the Hospital he was able to retain the urine in the rectum for from 2 to 3 hours.

C. S.[7] Aged 11, the son of a physician in New York State, came to me in May of last year with exstrophy of the bladder, having been operated upon in New York City unsuccessfully on three occasions. He was admitted to the Hospital for Sick Children on May 11th, was given a general anaesthetic, and I did the Peters operation according to the original description. The rosettes surrounding the ureters were transplanted into the rectum, but not stitched in situ, and the catheters were removed, leaving a large drainage tube in the rectum to carry off the urine. The rectum was irrigated with boracic solution every 4 hours, and the wound in the bladder wall packed with gauze. On the 12th he complained of a great deal of pain in the back. There was no leaking from the wound. On the 14th the rectal tube was removed. On the 15th the rectum would retain the urine for from 2 to 3 hours. On the 16th a case of scarlet fever occurred in an adjoining ward and my patient was removed from the hospital.

From the time of the operation until the time of his removal from the hospital his temperature had ranged from 98 1-5 to 99 4-5. On the day following his removal his temperature rose to 102, and ranged for several days from 100 to 102, and some leakage of urine occurred. Pus also began to flow from the bladder surface, indicating trouble in one of the rosettes.

On the 22nd he returned to the hospital, and on the 23rd I made an examination, but found both rosettes in situ on the rectal wall, and discovered that the leak came from the right side. The leak continued, and as I could not make out a ureteral orifice on the surface of the bladder, I again examined the patient under an anaesthetic, having administered a grain of methylene blue half an hour before the examination. Unfortunately this was not excreted until after the anaesthesia was over. However, the rectum was filled full of sterilized milk, and there was no leak through to the bladder surface. An examination of the rectum showed the left rosette intact and urine coming from it, but the rosette of the right ureter had disappeared, although the end of the ureter could still be seen in the rectal wall, projecting perhaps 1-8 to 1-4 of an inch, the rosette having sloughed off and having allowed enough ureter to be drawn backward to permit of a certain amount of urine escaping in front. The bladder wound was packed tightly with gauze to try to prevent this leak. The following day, however, the pads were stained with methylene blue, showing that there was still a considerable leak.

On the 9th of June the patient was discharged, in good spirits but much emaciated. A letter received from his father a few days ago states that he is in excellent health, and can retain the urine in the rectum for several hours, the leak evidently having ceased from the anterior wall.

Baby O[8]. Female, aged 1 1-2 years, was brought to me the end of January, 1908, suffering from exstrophy of the bladder associated with a large procidentia recti. Fig. 1. On the 4th of February, in the Hospital for Sick Children, I operated for the cure of the procidentia recti by infolding the rectum with six fine silk sutures, leaving the ends long, and then tying these to the parietal peritoneum in the left iliac region, the upper two sutures being used to close the opening into the peritoneum.

From the time the child recovered from the anaesthetic her disposition seemed to be entirely changed; from being fretful and cross most of the time, she became angelic. There was no sign of recurrence of the procidentia, and her general condition had improved so much that on the 27th of February I decided to transplant the ureters into the rectum, after the method of Peters, and this was done. I took care to leave a very large rosette at the end of each ureter, and when these were dissected out they retained a normal pink color, and one could see minute vessels ramifying along the course of the ureter itself. I then transplanted these into the rectal wall, making sure that there was no tension on them, packed the wound in the bladder surface with gauze, and returned the baby to her ward. She came out of the anaesthetic in a short time, was comfortable and happy, and took her nourishment well all that day and the next until about 5.00 p.m., when she suddenly became ill, and, upon examination by the nurse, the child was found to be pulseless and the temperature sub-normal. Stimulants were administered, but she died in about three-quarters of an hour. As an autopsy was not allowed it was impossible to discover the cause of death, but I am suspicious of pulmonary embolism. I think, probably, if one had been satisfied to return the baby to her home with the procidentia cured, and had given her 3 to 6 months to recuperate, that the ultimate result of the operation of transplantation would have been different. The operation was not a difficult one in this child and was done quickly, but she did not behave well under the anaesthetic at this second operation. It seems to me that it would be safer to wait until a child is two or three years of age before undertaking the operation. The probability is that then our results will be more uniformly good and the mortality lower.

Jelinek, in a recent communication to me, tells me that he has collected reports of 140 of these cases done by the Peters method, but that there has been a high mortality, and adds that, with the addition of Peters' own cases, recently sent him, the mortality is greatly improved.

The technique of the Peters operation, described by himself, is as follows:[9] "On July 15th, 1899, the patient was anaesthetised, and the parts were disinfected as thoroughly as possible. The sphincter was well stretched, and the rectum, having been pre-

viously cleared by a purge and enema, was washed out with an antiseptic solution of non-poisonous strength. A fair-sized sponge, to which a tape was attached, was then passed into the rectum as high up as possible. This not only prevented any passage of faecal matter, but assisted materially in raising the anterior wall of the rectum towards the bladder. Turning now to the bladder, a Jacques soft rubber catheter, about No. 5 (English), was passed for about 2 inches into each ureter. The part containing the eye was cut off, so that the urine entered the opening upon the end of the catheter freely. A silk suture was then "caught" through the extreme end of the ureteral papilla once or twice, and was also passed by a needle through the substance of the catheter, so as to effectually prevent its slipping out, as it was the intention to retain these catheters in position at least 48 hours. Care was observed not to obstruct the lumen by passing the thread across it or by tying too tightly. The distal end of the ureter, with a goodly rosette of bladder muscle and mucous membrane, was then dissected free, the catheter affording an excellent guide to its position. The idea was that whatever virtue there might be in the peculiar termination of the ureter upon the inner surface of the bladder should be retained when the transplantation was completed. As soon as the entire thickness of the bladder wall (which is here uncovered by peritoneum) has been snipped through with scissors or scalpel, blunt dissection may be employed, and it will be found not to be difficult to free the lower end of the ureter along the wall of the pelvis without injury to the peritoneum.

Both ureters having been isolated, the whole of the bladder tissue was remorselessly ablated, from the perimeter, where it merged into the skin, to the prostate, where the vesiculae seminales debouched. (During this dissection great care must be taken not to expose or injure the peritoneum; and if its hazardous proximity be suspected, a portion of the bladder muscle may be left, though every vestige of its mucous membrane must be removed. In my case the peritoneum gave no trouble whatever, and was never in the least jeopardized.)

The next step was to expose the lateral aspects of the rectum at a point below the reflection of the peritoneum. The deep dissection was found to be surprisingly easy, and by pressing back the retro-vesical cellular tissue I was able to expose the anterior and lateral walls of the rectum with readiness. This part of the operation was greatly facilitated by an assistant, who inserted his finger into the rectum and lifted it into the wound.

The final step of the operation was the implantation of the ureters into the lateral walls of the rectum, and this was accomplished in the following manner:

With his finger in the rectum the operator carefully determines

the exact point at which the implantation is to be made. The requisite qualifications are: (1) It must be above the internal sphincter; (2) it must be in the lateral and not in the anterior wall, so as to avoid kinking (this actually occurred in the first instance in the author's case, necessitating a subsequent adjustment of the implantation); (3) it must be high enough up to permit the ureter to project slightly—say 1-4 to 1-2 inch—into the lumen of the bowel without stretching. If the ureter thus projects it forms a papilla, which, when pressed upon from within the bowel, becomes converted into a valve, similar to that at the entrance to the bile duct and the salivary ducts. This point having been decided upon, the operator or his assistant passes a slender forceps through the anus, presses them against it from the rectal aspect, and lifts it carefully into the anterior wound. The wall of the bowel is now excised upon the projecting forceps, which are then forced gently through. By stretching and cutting the wound is enlarged with great exactness, so that the ureter, with its contained catheter, will actually fill it, and yet not be injuriously pressed upon. The forceps are now opened, made to grasp the distal end of the catheter, and withdrawn into the bowel and out of the anus, the operator at the same time carefully directing the ureter through the slit, and satisfying himself that its termination forms a papilla at least 1-4 inch long upon the rectal mucous surface. In guiding the mouth of the ureter through the slit in the rectal wall forceps may be passed back again beside the catheter, and made to grasp the edge of the rosette of bladder tissue around the ureteral papilla. This process is repeated upon the other side. The sponge plug is now withdrawn, care being taken not to disturb the catheters while doing so.

There seems to be no necessity whatever for stitching the ureters in position, and in my case the attempt was not made. The catheters are left in position at least two or three days, or until they come away of themselves, which occurred in my case in about sixty hours.

The Dressing.—I do not think it judicious to attempt any plastic operation for immediate closure of the abdominal wound. The whole area to be healed will be found surprisingly small, and a moderately firm packing with iodoform gauze will afford efficient drainage, and at the same time furnish a support and splint to the delicate ureters in their new position. When the implantation has healed securely, and granulation has been established, a plastic closure may be done if it be deemed advisable. I allowed my case to heal entirely by granulation, and the scar is quite small and firm."

Harry M. Sherman[10], of San Francisco, reported a successful case by the Peters method.

In his last operation, that of G. R., and with the memory of the case of R. B. in his mind, he did not use the catheters as guides even, but grasped the mucous membrane above the openings of the ureters and then made a transverse incision three-quarters of an inch below the entire posterior bladder wall, dissecting up behind the ureter, first on one side and then on the other. The bladder wall between the ureters was then divided, leaving a large, well-nourished rosette attached to each ureter. Into each rosette a chromic catgut stitch was inserted, and then the rosettes were brought into the rectum in the usual way, and the ends of the catgut suture carried through the mucous lining of the bowel only, and tied. No catheter was used to drain away the urine, but a large-sized drainage tube was left in the rectum.

The absence of the anterior wall of the bladder is such a terrible condition, both to the child and to the parents, that it seems to me that any operation that will make for a betterment of a lack of development that we cannot overcome, is an operation in the right direction, and I would close by saying: All honor to the man whose mechanical ingenuity led him to devise this extra-peritoneal method, and who had the surgical skill to lead us along a safe path for its successful accomplishment.

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LARYNGOLOGY AND RHINOLOGY IN RELATION TO GENERAL MEDICINE.

BY PERRY G. GOLDSMITH, M.D., C.M., TORONTO.

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In discussing a topic such as this, I fear I will be unable to add anything new to the sum-total of our knowledge of the subject, but my excuse for taking up your attention for a short time is that we are very prone to forget some simple physiological or etiological facts concerning our special organs. He who treats any organ as if it were a thing existing alone, and not as a part of a great and complex system, has not a sound idea of the natural history of disease. Some are prone to see nearly all the ills of their generation as arising in that locality in which they are entirely interested, while on the other hand, there are others, whose number is decreasing all the time, who fail to grasp the importance of looking to distant organs for signs and causes of some general disease. Somewhere between these two extremes will be found the successful specialist and general practitioner.

The subject may be considered in its relation to various systems of which I will first take up the Respiratory System.

Diseases of the lungs may owe their origin to direct extension of disease of the upper air-passages to the Trachea and Bronchi. The nose, which is the gateway to the lungs, is charged with the following duties in preparing the air for its entrance to the lungs:

(1) Removal of foreign substances as much as possible.

(2) Warming the air.

(3) Imparting to the air the requisite degree of moisture.

(4) A subordinate function consists in protecting the organism by means of the sense of smell and nasal reflexes. Unless nasal respiration is normal we find almost invariably some disturbances in the upper respiratory tract, the most common of which are the various types of laryngo-trachitis and chronic bronchial affections. Owing to the lowered resistance of the bronchial mucous membrane, acute diseases are much more liable to occur. Furthermore, disturbances of the sensibility and of the reflex activity of the pharynx and larynx have an important bearing on the lungs and bronchi, as they facilitate the development of inhalation pneumonia.

The relationship between suppuration conditions in the nose and naso-pharynx, and acute and chronic bronchial affections has

* Read at a Clinic at the Western Hospital, Toronto.

not had the attention it deserves. One must not forget that in cases of chronic lung disease with tenaceous irritating secretion there very often arises a chronic laryngeal and pharyngeal catarrh, the intensity of which is in direct proportion to the amount and consistency of the expectorated material, and to the amount of effort required to effect its expulsion—example, asthmatic, emphysematous and tuberculous with cavities. Laryngeal ulceration is seen in typhoid, croupous pneumonia and pulmonary tuberculosis and laryngeal paralysis, in central nervous disease, aneurism, apical disease of the lung, chronic induration, pleuritis and disease of the bronchial lymph glands. Then again, not only may one have paralysis of the recurrent laryngeal nerve, from pressure of an enlarged thymus, but compression of the trachea may occur in cases of mediastinal tumors.

One could hardly discuss the nose and throat in relation to general medicine without saying something regarding that common complaint—cough. It is esssentially a reflex movement, necessarily associated with some irritation of the sensory fibres of the pneumogastric. The impulse created by this irritation being transmitted to the ganglia, is referred back to the trachea, bronchial tube, through the motor filiment of the same nerve. Ear cough is not by any means rare,—clearing the ear of wax has cured many a chronic cough. Cough may be due to local or systemic conditions. Among the nose and throat conditions which cough may be found are granular pharyngitis, pharyngeal ulceration, lateral and central, nasal neoplasms and irregularities, enlarged tonsils, pharyngeal naso-pharyngeal, or lingual, elongated uvula, chondritis and perichonditis of the larynx, specific and tubercular granulations and ulcerations. Boys at the age of puberty have not infrequently a laryngeal congestion, which, while innocent enough, may produce considerable cough.

One author, whose name I have forgotten, speaks of a cow or goose-like cough in persons with aneurism of the arch of the aorta. This is almost a sure diagnostic sign. The so-called night cough may be due to mechanical conditions, or brought about by obstruction to nasal breathing and enforced mouth breathing. Stork's inflamed areas are blocked-up glands of mucous membrane, and the small inflamed area, acts as an exciting factor.

I do not intend entering into any discussion on the question of the nasal origin of asthma. Many writers after drawing rather hasty conclusions tell of the numerous cases of cures through some nasal operation. My own experience is decidedly against this view, and this is also the experience of the London Laryngological Society, who discussed the question at very great length, and whose conclusions were published.

Diseases of the Circulatory System.—Hemorrhages from the

mucous membranes of the upper respiratory air passages constitute a frequent concomitant of cardiac disease without compensation, and occur also in consequence of the rise of arterial pressure when compensation exists; they are most common with venous stasis, due to failure of compensation in mitral disease, and in aortic insufficiency. Nasal hemorrhage, in elderly people, may be the starting point to a diagnosis of granular kidney or a general arterio-sclerosis or blood dyscrasia. Hemorrhage in the pharynx and larynx are rare, and are generally found in chronically engorged mucous membrane or varix of the lingual tonsil. A condition of very great pharyngeal venous stasis has been observed in cases of pernicious anaemia. The congestion catarrh of the nose pharynx and larynx seen in chronic heart disease must not fail to be recognized, as it materially affects the treatment. Topical applications fail or do harm without constitutional treatment, nor should that type of granular pharyngitis, seen in young anaemic girls, be expected to respond to local applications. Such treatment is not indicated, but a course of Blaud's pill certainly is. Oedema of the larynx may be due to venous stasis in old laryngeal inflammation, or to a general oedema in uncompensate heart disease. Not long since I saw a patient, a boy twelve years of age, with very marked laryngeal oedema, due to chronic nephritis. Aneurism of the arch of the aorta may be first suspected when a laryngoscopic examination is made to account for some hoarseness. The hoarseness when complete is typical of complete paralysis of all the muscles supplied by the inferior laryngeal nerve, the adductors as well as the abductors. This is quite different from the other form of paralysis of the recurrent, which affects only the cricoa aryteriodius posticus, and exerts but little influence on either phonation or respiration. It represents the early stage of paralysis, and may be present when the aorta dilation is only beginning, and before any clinical symptoms have made their appearance. As no functional disturbance is here produced, it is only discovered accidentally. Laryngospastic attacks, and periodic palsies of the cords, may also occur in aneurismal disease, as well as pulsating movements, extending to the larynx, tracheal stenosis by pressure, pressure ulcers and perforations. A pericardial exudate may produce paralysis of the left recurrent, if the exudate is very abundant and distends the pericardium as far as the jugular notch, the engorgement of the veins that meet at that point may exert direct or indirect pressure on the right recurrent. Palpitation of the heart is one of the reflex neroses, due to irritation in the nose. It occurs in chronic rhinitis with hypertrophy and polypus formation. Functional aphonia partial or complete, may be due entirely to anaemia. As an expression of hemorrhagic diathesis one might mention the

epistaxis seen in leukemia. In this dyscrasia we also sometimes find lymphoid nodules and infiltrations, with secondary necrosis and ulceration in the pharynx and larynx. Hypertrophy of the palate and tonsils may be an early sign of leukemia. In the hemorrhagic diathesis, hemophilia purpura, and scorbutic, the same processes are found in the mucous membrane as in the skin.

Digestive System.—The intimate relationship between the nose and throat and the digestive tract has, no doubt, been appreciated by all of you. A chronic dyspeptic condition may result from constant swallowing of post-nasal discharge, whether from naso-pharyngeal disease or from sinus suppuration. On the other hand, chronic rhinitis and chronic naso-pharyngitis often depend for the chronicity to faults in eating and digestion. Chronic conditions of the mucous membrane of the pharynx are very often benefited by a liver stimulant or intestinal disinfectant. Blue pill and Apenta water are often of more value than all the sprays and pigments one could use.

Acute and Chronic Infectious Diseases.—It would make my paper far too prolific were I to attempt the description of the various inflammatory conditions of mucous membranes in the exanthemata. I would remind you however that in all acute coryzas in children, that this may be but the early manifestation of either measles (in which Colpeck's spots should be sought) or some ptomainic intestinal absorption. A very severe rhinitis with marked constitutional disturbance, with or without albuminuria, should excite the suspicion of latent diphtheria.

Acute rheumatism and even acute nephritis are now by many good authorities supposed to have their initial infection through the tonsils, hence in pericarditis one should not forget that the infection may have arisen from decomposition of the lacunar detri. We may have a laryngitis with ulceration even to necrotic perichondritis in typhoid fever. In influenza, while the points of entrance of the infection is through the mucous membrane of the nose and throat, the evidence of the disease ends there, to come forth to all its grave manifestation in the heart, nerve, kidneys or pulmonary system. Even types of influenzal enteritus are not uncommon. The nose bears later evidence of the poison in the injection of the mucous membrane of the various accessory sinuses. In fact, influenza causes by far the majority of cases of acute and chronic sinusitis, parosmia and anosmia and a peripheral neuritis of the nerves of the pharynx and larynx are of frequent occurrence. Under the head of infectious diseases we must mention rheumatoid arthritis. It is not clear just what the pathology of the disease is, but it is agreed that the two portals probably most concerned with the entrance of the disease, are the intestinal tract and the tonsils. Erysipelas is, as you all know, not infrequently begun by a small

abrasion in the nasal vestibule. I have seen it spread from there to even an acute oedema of the larynx. I do not intend entering into any discussion on the points relating to the entrance of tuberculosis in the system. In the larynx it is of fairly common occurrence, but never primary. One may find it in the larynx before he is able to discover it in the lungs, but Jobson Horne has proved by dead house work extending over many years that the larynx is always secondarily involved. The association of enlarged cervical glands and diseased, though not necessarily enlarged tonsils, is familiar to you all.

Acute leukemia often begins with symptoms of tonsillitis; often the exudate, which may be mistaken for diphtheria or Ludwig's Angina Pseulo-leukemia, may follow at some point if local irritation, or follow a chronic nasal catarrh. Epistaxis may be the initial symptom of leucocythemia. It might surprise some of you to know that the first infection of leprosy is to be found in the nose, and that the nasal secretion of lepers constitutes the most important factor in the spread of the disease.

Selected Articles.

ARRANGEMENT AND OCCLUSION OF ARTIFICIAL TEETH.

BY J. H. PROTHERO, D.D.S., CHICAGO, ILLINOIS.

STUDIES of the movements of the mandible in mastication have established certain facts that are of vital importance to the prosthetist in the construction of artificial dentures. Many in the profession to-day are familiar with these facts, but fail to profit by or put them to practical use. Others, again, have given this subject but little consideration, principally because its importance and value have never been impressed upon their minds.

Bonwill labored long and earnestly with the profession in encouraging the study of normal occlusion of the natural teeth, and urging the necessity of following nature's methods in the arrangement of artificial teeth. He was a pioneer in this field, and practically worked alone without the sympathy or assistance of any one for many years; therefore, it is not strange that he should have failed to complete the system in all of its details, nor is it strange that he made some erroneous deductions. The bulk of his work, however, stands as a monument to his memory, which compensates in a small degree for the lack of appreciation of his efforts by the profession while he was living.

I have brought with me a skull in which the full complement of the teeth is present, and which I hope to exhibit at your clinic. One need but glance at it to appreciate the beauty and utility of arrangement of the organs of mastication. A close study of this particular specimen will, I am sure, inspire in the minds of those who examine it a desire for greater light, and prove an incentive to higher, larger and broader efforts in the field of prosthesis. From its examination one can also readily understand why Bonwill, who examined thousands of such specimens in his research work, became the enthusiast that he was.

Within the last decade a few men have taken up the work where Bonwill laid it down, with the result that more accurate occluding frames have been devised, appliances for recording the normal movement of the mandible have been invented, and new terms and expressive phrases have been introduced for simplifying the study and carrying out more accurately the practical details of this subject.

The lower jaw, on account of its peculiar attachment to the base

of the cranium, and of the direction traversed by the muscles controlling it, is capable of a great variety of movements. Mastication, however, is accomplished by the jaw movements being carried out along certain definite lines. There is no haphazard "catch-as-catch-can" condition prevailing. Every movement is for a purpose and is carried out with almost mathematical precision.

MOVEMENTS OF THE LOWER JAW IN MASTICATION.

The facts I wish to present will be rendered clearer by giving a brief description of the movements of the lower jaw in the act of masticating food on one side of the mouth. We will suppose the food has been introduced into the mouth and carried between the upper and lower teeth on the left side by the tongue. The right side of the mandible is then drawn forward and downward a short distance, the condyle passing onto the eminentia articularis, and following what is known as the "condyle path," while the other condyle is slightly rotated, but remains practically at rest in the glenoid fossa, thus becoming the pivotal point around which the mandible rotates. This movement brings the marginal ridges of the buccal cusps of the lower bicuspids and molars on the pivotal or working side of the mouth, in alignment with the buccal cusps and marginal ridges of the corresponding upper teeth, while their lingual marginal ridges occupy a similar relation to the corresponding upper teeth and surfaces. The distance traversed by the buccal marginal ridges of the lower teeth in passing from normal occlusion in the central grooves to the buccal marginal ridges of the uppers in partial occlusion is most expressively termed the "differential" by Dr. T. W. Pritchett.

This differential movement brings the teeth in such relation as to form a long rectangular groove extending from the third molars to the first bicuspids, into which the food is forced and prevented from lateral displacement by the tongue and cheek muscles. On the opposite or projected side the buccal cusps of the lower third molar engage with the lingual cusps of the upper second or third molar, and sometimes both, depending upon the mesio-distal relationship of the teeth in the two arches. Anterior to this contact, the other molars and bicuspids are not in occlusion, and consequently are not in correct relation to masticate food. The lower incisors are usually in contact with the upper incisors between the central and cuspid on the working side of the mouth.

It will therefore be seen that contact of the lower with the upper teeth is secured at three widely divergent points, triangularly located, and hence the term, three-point contact, has been applied to both natural teeth and artificial substitutes exhibiting such contact. This term expresses a condition that should be present in either natural or artificial dentures in order to insure the most

effective results in mastication, and prevent the tipping of dentures and the jaw under stress. Under normal conditions, the simple opening and closing, or hingelike movement, is only employed when lateral motion is not possible, or when food of the softest variety is being triturated and is not nearly so effective as the lateral movement.

When the upper anterior teeth over-bite the lowers, the bicuspids and molars are arranged so that their general occlusal surfaces present a curved line, with convexity downward, more or less prominent, depending on the depth of over-bite. This line if projected backward passes just anterior to or through the condyle. The center of this curve lies in the region of the upper anterior margin of the orbit under normal conditions, and correspondingly higher as the arrangement approaches a plane. This curve has been called the "compensating curve," or "curve of Spee," so named from the man who first described it. The inclination downward and forward of the condyle path coincides with this curve and varies from a horizontal plane to an angle of 45 degrees, the average being about 25 degrees.

Occasionally in the same individual there is a difference in the angles of inclination taken by each condyle. This curved arrangement is a provision of nature to preserve contact of the teeth at various points in the arches, by compensating for the dropping down of the condylar processes as they move forward on the eminentia articularis. The lower third molars, which are placed in a higher position in the curve, when brought forward come in contact with the upper second molars, which are placed correspondingly lower. At the same time the incisal edges of the lower anterior teeth are carried downward and forward, and usually come in contact with the corresponding upper teeth and surfaces, although contact in this location is not an absolute necessity, thus equalizing the force exerted by the muscles of mastication and enabling them to exert their maximum effort.

Many other interesting and important facts relating to normal occlusion and mastication might appropriately be mentioned in an essay of this character, but time forbids.

DETAILS TO BE OBSERVED IN ARRANGING ARTIFICIAL TEETH.

An effort will now be made to describe a few of the many important details to be observed in arranging artificial teeth as near to nature's methods as possible.

The mission of the prosthetist in replacing the lost natural teeth by artificial means is two-fold: first, to restore the function of mastication, and second, to meet æsthetic requirements. In order to arrange and occlude artificial teeth correctly an occluding frame must be used which is capable of reproducing the masticatory

maintained pressure on the point of the chin, the correct position will be found. Excessive pressure on the chin will compress the tissues in the glenoid fossa and result in backward displacement of the mandible.

When the normal closure is established, the base-plates being in contact and pressure being still exerted on the chin, the patient is instructed to "keep the lower jaw closed." This is readily done without any tendency to disturb the secured relation. Two four-pointed staples should be at hand, which can now be forced into the wax rims to hold the base-plates firmly together. The stem of the face bow is now inserted into the upper base-plate in the opening previously made for it, care being taken to see that it is firmly imbedded in the wax and immovable. The face bow is then placed in position, the centre clamp passing over the stem projecting from the base-plate, and the side rods carried to a point about 12 mm. in front of the external opening of the ears, and on a horizontal plane with it. They are then pressed firmly against the sides of the face and the clamp nuts tightened. Care should be taken to see that the face bow is evenly balanced before tightening the clamp nuts. This can be done by slipping the bow sideways on the rods, as indications require, until the same number of graduations show on each rod between the face bow and face.

The clamp nut on the stem is next tightened firmly, when the base-plates are ready for removal. This is accomplished by loosening the side clamp nuts and drawing out the rods. The patient is then instructed to open the mouth, and the base-plates are removed by grasping the rods attached to the upper plate. Reasonable care should be observed to prevent the relationship of the two base-plates and that of the face bow with the upper plate from being disturbed.

Mounting the Models.

Mounting the models on the occluding frame is the next step. The side rods of the face bow are pushed inward to their limit, and the clamp nuts tightened. This brings their inner ends, in which there is a slight depression, in proper relation to receive the projecting lugs of the frame hinge. The upper bow of the frame is thrown open, the face bow adjusted in position, the upper model placed in position in its base-plate, and the bow dropped back to position again. It might be well to secure the model to the base-plate with a little hot wax to insure stability while being attached to the frame. Plaster is now mixed and applied to the model, and around the bow as usual, to hold it in place.

The entire frame, with face bow, base-plates, and upper model, is now inverted, the lower bow of the frame thrown back, the lower model placed in position in its base-plate, the bow dropped down upon it, and the model attached as usual. When the plaster is

the nose over the angle of the mouth in those cases where loss of tissue is marked.

Care should be taken to see that uniform contact of the wax rims throughout is secured while the base-plates rest solidly upon their respective borders. This is tested by having the patient close the mouth firmly; then, with a thin, flat instrument inserted between the rims in the region of the second bicuspid or first molar, attempt to pry them apart. If they do not yield at this point, repeat the step on the opposite side.

Should the base-plates separate on either side, the other side remaining in contact, or on both sides while contact is maintained in the anterior portion, more wax should be added to the deficient rim until uniform contact is secured anteriorly and on both sides at the same time. Failure to correct this error would result in the teeth on the deficient side failing to occlude.

The high lip line should be marked, which will give some idea as to the length of tooth to use to avoid the exposure of a large area of artificial gum material, and yet allow a reasonable amount to show in laughing. The median line should be marked on the base-plates at this time. One of the best methods of doing this is to place a straight edge along the median line of the face, striking an average between the point of the chin, the philtrum, and a point midway between the inner termination of the eyebrows. The result will be harmonious, and as a general rule more accurate than if the frenum labæ is taken as a guide.

The upper base-plate is now removed and the stem of the face-bow heated and forced into the wax rim two or three millimeters from the incisal plane. Having been forced deeply into the wax, it can be removed to facilitate the carrying out of subsequent steps and replaced in position later when the base-plate is *in situ*.

The next step is to secure the correct or normal relation of the lower to the upper jaw. The method about to be described has been followed by the writer for a number of years with uniformly accurate results.

METHOD OF SECURING CORRECT RELATION OF UPPER AND LOWER JAW.

Both base-plates being in position, the patient is instructed to relax the muscles of the jaw so that the operator may open and close the mandible at will. The tips of the fingers are then placed on the point of the chin, moderate but not excessive pressure upward and backward exerted, and the mouth opened and closed several times, pressure as indicated being maintained at all times. The fingers of the other hand are employed to hold the lips apart and careful attention given to striking of the wax rims together. It will frequently be noticed that they do not at first strike uniformly in the same place, but after a number of trials with

maintained pressure on the point of the chin, the correct position will be found. Excessive pressure on the chin will compress the tissues in the glenoid fossa and result in backward displacement of the mandible.

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The entire frame, with face bow, base-plates, and upper model, is now inverted, the lower bow of the frame thrown back, the lower model placed in position in its base-plate, the bow dropped down upon it, and the model attached as usual. When the plaster is

firmly set, the face bow can be removed from the frame and base-plates.

The models now occupy such a position upon the occluding frame that their occlusal planes bear the same relation to the hinge that the natural alveolar planes bear to the condyles. This relation is not procurable in any other way known to the writer than by means of the face bow mentioned.

Registering the Inclination of the Condyle Path.

One other step of importance remains to be carried out before proceeding to arrange the teeth. This consists in registering the inclination of the condyle path and setting the hinge slot of the occluding frame at a corresponding inclination. The staples are removed from the base-plates and on either side of the lower base-plate on the occlusal surface, near the distal termination, is placed a small U-shaped appliance having a projecting tapering pin. The "U" portion is pressed into the wax, leaving the pin projecting above the occlusal plane.

The base-plates are now inserted in the mouth and the patient instructed to project the jaw forward and then return it to normal position. This may be done a number of times before final attachment of the two plates, to insure against lateral motion. When the patient can move the mandible evenly forward, he is instructed to close while the jaw is projected. The base-plates, instead of being in normal position, will usually be separated at their distal extremity, relation being maintained by the projecting pins, which have passed upward into the opposite base-plate. The lower plate will also be considerably advanced beyond the upper. The incisal rims of wax, however, should be in contact.

On removal, the base-plates are returned to the lower model on the frame, the hubs of the hinge slots released, and the spring controlling the lateral movement of the frame thrown off its attachment. This releases the upper portion of the frame so that the upper model can be moved up or down, forward, backward, or sideways without restriction. It may now be placed in the upper base-plate, and its correct position found. This adjustment, it will be found, will cause the hinge slots to assume approximately the same angle or inclination or the condyle path, in which position they are permanently fixed by tightening their respective clamp nuts. The base-plates are separated, the U-shaped appliances removed, and the hinge spring thrown into action, which brings the base-plates back to their original relation as when first mounted on the frame. *As before stated, however, when lateral motion is produced,* the lower bow of the frame is carried downward and forward at approximately the same inclination as that of the natural jaw.

The frame should now be subjected to the lateral motion and

the occlusal planes of the wax rims modified so as to remain in contact in the lateral motion, as well as in normal occlusion. This modification, it will be found, will usually necessitate the curving upward of the occlusal planes, the amount of curvature depending on the angular inclination of the condyle path.

Selection and Grinding of Teeth.

Teeth of good form appropriate to the requirements of the patient should be selected. The molars and bicuspids should be as nearly normal in their bucco-lingual diameter as is possible, to secure a good working differential in mastication.

The principal object in the grinding of the teeth, and which should never be lost sight of, is to so modify their occlusal forms as to increase the contact area of those surfaces involved in mastication to the greatest possible extent. In other words, it is the developing of surfaces from what would otherwise be mere contact points in the teeth as supplied by the manufacturers.

With a little experience and skill, the development of correct occlusal areas on bicuspids and molars can be accomplished without marring appreciably their general outline form, thus rendering them capable of food reduction with minimum effort.

As a general rule, the central groove should be deepened somewhat and broadened materially. This treatment not only reduces the mesial and distal marginal ridges, which usually are too prominent, but it reduces the lingual inclination of the buccal and the buccal inclination of the lingual cusps, which are too rounded and tubercular in form, to broad planes so necessary for accomplishing the desired results.

The modifications just mentioned may be made before beginning the arrangement of the teeth, and when properly carried out the teeth will need only occasional touches here and there in the final adjustment. These preliminary steps having been carried out, the teeth are ready for arrangement.

Arrangement of the Teeth.

Since the facial contour was restored by carving the labial and buccal surfaces of the wax rims, the teeth should be arranged progressively in such manner as to take their proper alignment without destroying any more of the contoured surfaces than is necessary. A section of wax adjoining the median line on the upper base-plate is removed from the rim, of sufficient length and depth to admit one of the central incisors. This is placed in proper alignment labially and incisally, and firmly attached by melting the wax lingually. Another section large enough to admit the adjoining lateral is then removed, and this tooth dropped into position, the tooth already fixed and the adjoining margin of the wax to the

distal serving as a guide in securing the correct labial alignment. The cuspid, and then the three opposite anterior teeth, are similarly adjusted, then the bicuspids and molars, the occlusal surfaces of which are arranged to correspond to the compensating curve previously developed in the wax rims.

Two methods are in vogue for arranging the lower teeth. First, the second bicuspids are set in position to occlude with their opposite fellows, the teeth anteriorly and posteriorly being arranged from this fixed point.

The second method, and the one recommended by the writer, is to arrange the six anterior teeth first, allowing the upper incisors to overbite the lowers slightly, and when the first bicuspid is reached, correct the disproportion in width as far as possible between the uppers and lowers by grinding the proximating surfaces of the cuspid and bicuspid. This method usually requires less modification of the anterior teeth than the one first mentioned. As a rule, disproportion in the relative mesio-distal diameters of the lower bicuspids and molars, compared with the uppers, nearly always exists. In such cases the larger teeth should always be reduced by grinding on their mesial or distal surfaces, or exchanged for a set of proper proportion, which, however, can seldom be done with exactness. The mesial and distal planes of the various cusps are modified as conditions require, so as to secure positive contact with the corresponding planes of the opposing teeth.

Beginning with the placing of the first lower tooth, the frame should be moved from side to side to test the correctness of the position of each tooth placed, and modified, or its opponent modified, as conditions require. Further remarks along this line are unnecessary. To those who have never attempted a case of anatomical occlusion, I can say that if you will undertake one with a careful determination to succeed, you will learn more from that one case than can be derived from a paper ten times more explicit than this.

As one gains experience, enthusiasm grows, and a class of procedure shunned by some and a bugbear to many more because of unsatisfactory results, becomes a pleasure.

Let me quote a paragraph from an unpublished paper by Dr. T. W. Pritchett, to whom I owe much for many hints in this field: "There is fascination in the thought when edentulous persons, helpless as to the function their lost organs perform, present for our service, we can, in a measure, by our art restore the lost function and make them presentable to their friends again. The romance comes in when we succeed beyond our and their expectations."

My friend Pritchett succeeds, and so do many more whom I could name, and so can every one who makes the effort. It is the only way. Get into the front rank and help the work along by

doing it yourself and helping the other fellow. If all would put their shoulder to the wheel and follow nature's methods, the plain line articulator and barn door hinge would be relegated to the scrap heap where they should have been cast years ago.

DISCUSSION.

Dr. H. D. Weller, Indianapolis, Ind.:, I believe that in the last few years, or in the past years, there has been too little said on prosthetic dentistry; that is, on the making of dentures. There is no doubt in my mind but that Dr. Prothero has gone into this subject in a very scientific way, and there is no reason why, in the State of Indiana, each of us should not go into this subject in the same way, because he has started us out on the right track, and he has given us a very valuable paper this evening.

In the past years I have had a great deal of experience in setting up teeth and in taking "bites," having been connected with the Indiana Dental College for a number of years. Students come to college, and Dr. Byram starts them out as Dr. Prothero has outlined here to-night. The next year they come under my charge, and I try to follow out Dr. Byram's theories, but some of them will say, "Why, Dr. So and So, my preceptor, does not use an anatomical articulator; he uses a plain line articulator neither does he take a base-plate 'bite'; he takes a biscuit 'bite'; and he does not pay any particular attention to the arrangement of the teeth from an anatomical standpoint."

There are a good many dentists who do not understand these theories, and there are a great many others who say that this method of taking a base-plate "bite" takes too much time. They say they can pick up a hunk of wax, throw it into the patient's mouth and tell him to close on it, and dismiss him in five minutes. The patient goes away, comes back in the course of a week, and they have a full upper and lower done. The chances are that they will have to take a stone and grind each of the teeth in order to get them to articulate half way decent.

Now, it is true, to a certain extent, that it does take some time, but I am sure that when they are finished they will give much better service. Of course, a great many dentists do not get enough money for making teeth, and, therefore, cannot put the time on them, but I believe that every "bite" taken should be a base-plate "bite," and it should be taken as Dr. Prothero has indicated here to-night. It is a very simple matter, after one becomes accustomed to it, to take a "bite" in a reasonable length of time, and to set up the teeth anatomically. It is very little more trouble than if we set them up without having any of those lines, and I hope, gentlemen, that in the future we will all think about the subject of setting up teeth anatomically. I do not believe the manufacturers supply the

Nowhere on God's green earth is there an association of men who do as much for humanity as the dentist; and this truth, though in rather a hazy way, is forcing itself upon an unsympathetic public. Knowing ones are casting aside the Cheap John, advertising quack, who has done so much to hold our profession in (if not actual disrepute) very ordinary standing.

The knowing public is surely finding out that the conscientious, æsthetic dentist must have a place as high in the educated professions as any other.

Now, the paper this evening is not only full of practical suggestions, but contains much that will lead us up to the realization of the beautiful, of the art side of our work. Do you know, I have a belief that a dentist who is not only practical, but a dreamer as well, will not reach the highest plane that is intended for him to attain. Had Dr. Prothero and the many good men of his kind not been dreamers, how could they project themselves into the future and bring to us the many improved methods we have? Dr. Bonwill had a dream, and in that dream he saw his articulator and brought it forth as the first great and distinct improvement in prosthetic dentistry in years. I heard some one the other day speak about clover fields for the dreamer. If you want a real inspiration, go out into the country, climb upon a rail fence to the windward of a forty-acre clover patch, and drink in its wonderful beauty and rich perfume; and as you dream, what is it that places you above the cattle across the brook?—they, too, are enjoying the clover; but do they see its beauty? Do they enjoy its sweet perfume? Then the thought comes to us, shall we be like the cattle in the field or shall we make practical our dreams, and thereby uplift humanity and bring credit upon our profession?

Dr. J. H. Morrison, Connersville, Ind.: I feel that perhaps one of the most valuable features of the paper this evening is the pointing out of some of the results of setting up teeth regardless of or without any sight of the proper occlusion or character of the teeth. I have followed the literature upon this subject some little during the past ten years, and I believe that I can easily say to you that one of the greatest joys that comes to the dental worker comes to him when he is successful in setting up a set of teeth and has attained the results that are possible by the methods outlined in the paper read before you to-night. I do not, by any means, consider those things as matters of theory, and to disregard them is to disregard a practice that is worth your while when pursuing the profession from a practical standpoint. It is the one thing that will save a person more trouble than any other. We used to set up a set of teeth, and if the patient found one spot where she could masticate, we considered that a successful job, and I suspect that many of you have made artificial teeth with which the patient could

dentists with the proper moulds for articulating teeth anatomically, because we have to grind a great many teeth to make them articulate as they should.

I remember a few years ago I called on a friend of mine in a small city. He was at that time articulating a full upper and lower set of teeth. He was swearing at the manufacturers because they were sending out teeth that would not articulate. He told me that he could never make the bicuspids articulate in the right place, and that he could never make the bicuspids hit right. I said to him, "Doctor, if you will permit me, I think I can show you how to avoid that trouble in the future," and I proceeded to articulate the teeth as Dr. Prothero has instructed us here to-night. This man had been in the habit of articulating the upper teeth first; then he would start with the lower central incisors and articulate the incisors and the cuspids. If the first bicuspid came in the right place he was tickled to death; if it didn't he did not know what to do. I suggested that he articulate the first bicuspid first, and then grind the distal surfaces of the cuspid and the mesial surface of the bicuspid. Then, if you have to grind more to make these six anterior teeth articulate, grind them on the mesial and distal surfaces. Now, I do not pretend to be able to set up teeth like Dr. Prothero, but I was able to show this dentist how to get rid of his difficulty.

In the first place, his teeth were too small for the case he had in hand, and right here is a point I wish to impress upon you. A great deal of trouble is caused in setting up teeth by not using the proper judgment in the selection of same. A great many men try to set up teeth that do not anyways near fit the case they have in hand. The cuspids come too near the front of the mouth, and, therefore, the bicuspids do not articulate at the proper point.

Dr. F. R. McClanahan, Rushville, Ind.: Very recently I heard a prominent speaker make the statement that anything in this age that is not practical is worthless. There is evidently much of truth in the assertion, and we see it every day in the profession of which we form a part; and in the very practical paper of the evening we have not sacrificed art and beauty for utility, but, rather, has Dr. Prothero combined the two into perfect completeness.

The work, then, of the prosthetic dentist is to successfully bring together works of art with practical results. I have no sympathy with the dentist who is a blacksmith and nothing more; or, as the *Indianapolis Star* puts it in this morning's issue, "When we get every tooth carpenter into our society," etc.

In looking over my work, I fear I have been about as much the carpenter as the artist, and it really takes years of hard study and many papers and demonstrations like we have had to-night to educate us up to the standard we must finally achieve.

chew only on one side of the mouth, and could do nothing with the other side. The patient did not know the reason for this, nor did we ourselves, but when we study the motions of the mandible we see the reasons for the defects and are able to correct them. A set of teeth articulated properly come together and operate on one side just as well as they do on the other.

Some complain of the manufacturers because the pins are so small, when perhaps the whole trouble is that the teeth were not articulated properly, and were not in the proper position to resist the forces that were to come against them. You may discover something of the fault of teeth in setting porcelain crowns on the anterior teeth. You know what trouble you get into if you make the articulation too strong, and it is the line of this force that we sometimes overlook.

A good many of us look upon these things as a matter of theory only, things which are too difficult to work out, and are not worth our while, so far as practical results are concerned, and this is where we make a great mistake.

I am very glad to have heard this paper, and very glad to know that our society is giving attention to this subject. Dentists used to think that it was beneath their dignity to discuss artificial teeth.

Dr. D. A. House, Indianapolis, Ind.: I believe this is the first time I have asked the privilege of the floor at this meeting. I do not know any other reason for it than the piety of which I am often accused, but a man who can listen to a paper like that and not get up and express his feelings as regards the good he has received from it, shows that his sense of appreciation is very shallow.

The first gentleman discussing the paper made a remark to the effect that the subject of prosthetic dentistry is discussed and written about entirely too little. I very heartily agree with that. I believe if we had a little less of gold crown, crown and bridge-work, a little less of porcelain inlays, and a little less of some of these other things, of which you can use one, two, three or four other things, and a little bit more of the prosthetic side of the work where you have to use one thing, and cannot substitute anything else, I think we would be better off. I have made quite a few artificial dentures; I have made very few that I can positively say I feel proud of; I have made a number that have worked with reasonable success, but I believe I can go to my office to-morrow and make a better denture than I ever made before.

Dr. J. Q. Byram, Indianapolis, Ind.: Those of you who have had the misfortune to listen to my melodious voice within the last eight or nine years know that I have said a great deal upon the subject of the arrangement of artificial teeth. I have contended ever since I made a study of this subject that the dentists who rely upon the plain line articulator for the arrangement of artificial teeth do

not comprehend the laws of occlusion. I grant you, Mr. President, that a number of dentists of good reputation, and dentists who are skilful in the arrangement of artificial teeth, use the plain line articulator. But the question is, do they do as good work as they could do if they would change and use the anatomical articulator? If the results obtained by the use of the plain line articulator appear satisfactory to a dentist who has never used an anatomical articulator, let him use the anatomical articulator, and I am quite sure he will be much more gratified by the results obtained.

The first point in Dr. Prothero's paper to which I wish to call your attention is the manner in which he looks out for details. If there is any work which necessitates caring for the minute points, it is in the arranging of artificial teeth. I do not doubt but that a number of you, when he showed the slide on the screen, where he cut out in the wax to arrange one central incisor, and then the other central, then the lateral, and so on, thought, "That is all foolishness; why not cut off enough in that wax at one time for all of those teeth, instead of bothering with each tooth separately?" I wish to say that we as dentists get into the habit of hurrying our work. Let us bear in mind that in the arrangement of artificial teeth we are working in a negative way. The sculptor selects his model; the landscape artist studies the landscape before he begins to paint; and unless we can get an exact model—if you please to call it a model—of those teeth, I believe that the majority of us cannot give to our patients the best arrangement, and I wish to lay particular stress upon that point. It is time lost, and it is not all foolishness to care for the minutest detail.

The next point to which I wish to call your attention is this: that he who saves time in the beginning of the operation by using a simpler form of "bite," if you please to term it that, usually loses time at the end of the operation when he grinds the teeth to occlusion. And does he give his patients as good service? After all, I believe that the total amount of time consumed in the arrangement of the teeth with an anatomical articulator, and the use of the base-plate "bite" is but little, if any, greater than the time consumed in the arrangement of the teeth with a plain line articulator.

Another point to which I wish to call your attention, and one which Dr. Prothero only mentioned indirectly, but I think he will bear me out in it when I say it is almost impossible to get a mechanical device in the way of an occluding frame that is an absolute imitation of the natural jaw. The idea is to get one with which we can as nearly as possible imitate the movements of the jaw, and then do the final arranging in the mouth, but I believe I am safe in saying that he would not have you believe that he relies upon the articulator altogether, but does the final arranging of the teeth in the mouth, and that, it seems to me, is a point overlooked. The method

of obtaining the condyle path, it seems to me, is a very valuable point, and one which I hope to take up at once and try to perfect myself along that line. Another valuable point is the use of the Snow face bow. I agree with Dr. Prothero that the only way to get the casts upon the articulator accurately is by the use of the Snow face bow. I have tried every form of measurement, and I have never been able to do it in the same accurate way that I have by the use of the face bow. It seems to me that this is a valuable adjunct. An anatomical articulator is of very little value, however, if you get the casts turned laterally, because you have not the planes of the surfaces of the ridges in relation to the planes of the surface of the jaws, and you spoil what you started out to obtain. One other thing so often overlooked is the arranging of the casts upon the articulator. It is essential that the bows stand parallel to each other.

I cannot praise Dr. Prothero too highly for this paper. I feel that this Association is to be congratulated upon having him with us, and I feel that his paper is one that we have all enjoyed. The one thing I regret is that he stopped so soon. I was in hopes that he would carry the subject a little further.

Dr. R. I. Blakeman, Indianapolis, Ind.: I feel that I cannot let this paper go by without giving a word of thanks to Dr. Prothero. It is certainly a beautiful thing to see the way Dr. Prothero has handled the subject. Until one has become an expert in this line of work, it is a very up-hill job to do it, and what seems very hard to us has worked out very easy and beautifully in Dr. Prothero's hands. I shall never forget my first experience in trying to mount a set of teeth on the Bonwill articulator. It was in the office of the man for whom I worked at the time. He had met Dr. Bonwill, and Dr. Bonwill had given him instructions for the use of his articulator, and he was giving me the details of the operation. I placed that set of teeth on the articulator in a sort of haphazard way, and then ground on them until there were no teeth left. I worked as hard as I possibly could. I had been raised up in a Christian family, and in a Christian community, but the thoughts that came to me when I realized that I had used that set of teeth up in grinding, I must say, would not go in Sunday school. I worked for a long time, and finally gave up in disgust. Of course, the whole trouble was lack of knowledge in placing the model on the articulator.

Another point in Dr. Prothero's paper that interested me very much was the manner in which he obtained the length of the "bite"; that is, raising the lip to full height to get the size and length of the teeth. That is a very important point, and one which should not be overlooked in order to get the proper length of the teeth. There were so many points in his paper that were interest-

ing to me that I do not feel that I can take them up separately, but I do want to thank Dr. Prothero most heartily for his paper.

Dr. S. T. Kirk, Kokomo, Ind.: I have the pleasure of having had the acquaintance and friendship of Dr. Bonwill, and through him I got to using his articulator a great many years ago. I have always recognized the fact that we need a certain rule of action to place our models on the articulator. I have studied that point a great deal, but never understood the facts as I do to-night. I feel so incapable that I believe I shall just have to go back home and learn it all over again. Still, I have some work that I am not particularly ashamed of.

Dr. J. A. Dinwiddie, Lowell, Ind.: I am an enthusiast in this work, but there is only one thing I wish to say, which, I hope, will make you a little more appreciative towards prosthesis, and that is this: That the operating men of our day shed buckets and buckets of tears for the loss of a tooth, while there is not one tear shed for the poor, toothless being.

Dr. J. H. Prothero, Chicago, Ill.: I have always heard that the gentleman from Indiana was a pretty fine fellow. I am going to use the plural now, and say that the gentlemen from Indiana are pretty fine fellows, but I never knew that they were capable of throwing so many bouquets as have been cast to-night.

As has been intimated, I met with an accident the 10th of May, which disabled me and put me to bed for some time. As a result, I missed our own State society meeting, at which I was to deliver a paper on another subject, and I was pretty badly discouraged. Then came the closing of our school, and the preparation of this paper, which I had already begun, was still incomplete. I finished it to-day, which accounts for the gentlemen who were to open the discussion not receiving a copy, and I hereby tender them an apology for my seeming neglect. I am disappointed in the effort here presented for the reason that there are so many interesting things that I could not even touch upon.

There is not a man in this room who cannot get an occluding frame and the appliances that go with it and get to work. While he may meet with failure at first, anything that gives such results is certainly worth striving for. The teeth on the denture I will show you Thursday morning, if I am able to stay that long, were ground and arranged one by one in the wax, just as described, in 20 or 25 minutes, and I am not particularly expert either. I have no more ability than most of you gentlemen have. You can do the same thing. I always hold that what one man can do another man can do, and if this first man does it well, the other man can do it just as well if he has the right spirit in him. This is what I am trying to arouse among you to-night. I want to say that the profession in Indiana has just as many following this line of work as

it has in Illinois. I know that this is a fact from reliable information. The number of plain line articulators sold, as compared to the anatomical occluding frames, tells the story. The plain line articulator should have no place in the laboratory whatever, not even for crown and bridge-work. The construction of crowns calls for the reproduction of the movements of the human jaw, so that the occlusal surfaces of the bicuspids and molars, when the lateral motion is used, will occlude, and not interfere, and for this reason you should use an anatomical articulator. There is not a man in this room who cannot construct dentures that are occluded anatomically, and almost perfect. This system enables you to get from $50 to $75 for full upper and lower dentures, instead of $25 and $30. There is not a profession to-day whose members, on the average, are paid so poorly as in the dental profession; there is no class of men who give their time and energy for the benefit of suffering humanity for so little compensation. Now, if you are able to give your patients better service, if you can make a denture with which they can chew beefsteak or any other food properly, so that it can be taken into the stomach—as can be done by this system—you have a right to charge them more, and patients will be willing to pay better fees. It means better health to them. I have constructed dentures for patients for whom impractical dentures had been constructed, other dentures for some who were using dentures only partially successful, and dentures for some who had only recently lost their teeth. In every instance satisfactory results have followed the use of this system.

A Voice: Do you make any attempt to use the anatomical articulator in the construction of partial dentures?

Dr. Prothero: Yes. There is not much variation in the steps in the construction of a full upper or lower or partial cases. It is a very easy matter to get the key to the occlusion.

Two or three have mentioned the method outlined as my method. The method I have presented to you was taken from the writings of Bonwill, Walker, Snow, and Christiansen, and others I could name. What I have tried to do is to gather the best from each of them, giving each man credit when it is possible. If I have been able to assist you in this good work, I shall feel fully repaid for my trouble.—*Dental Summary.*

MEDICAL THOUGHTS, FACTS, FADS AND FANCIES.

To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY.

Zola has said in "Fecondite" that 20,000 women in France, not from necessity, had voluntarily submitted to the operation of being unsexed in order to escape the possibility of being burdened by the fruit of their wombs. This most horrible statement of the condition of women and the dangers they willingly submit to is proven or endorsed by Leon Daudet in *Les Morticoles,* and in *Les Florifènes,* by Camille Pert, however to some appearing as exaggerations, is worth study to illustrate the state of society and the depravity of a nation which is most rapidly rushing headlong to the destruction that awaited and reached Babylon. One will ask, "Is it possible in this civilized land of ours, that any young woman would, not from disease of any of the sexual organs, voluntarily submit to the operation of being unsexed?" To this question the answer is, "Yes; there are records preserved in the memory of men, but these records are few." However, in time, foolish young women, assisted and encouraged by young and aspiring surgeons, will arouse an American Zola, who, with words more carefully selected, not banal, will give us a chapter that will arouse moralists and all good citizens, who have apparently been sleeping during the last decade—even longer—while their sisters, daughters, even wives, and the innocents among their acquaintances have had their ovaries removed—to please operators in search of reputations more than to satisfy the demands of honest surgery for the removal of diseased organs. It may be said and with encouragement that humanity has to some extent been wise enough after the slaughterers have been surfeited with blood and won honors, so termed, to quickly consider in due time, even if late, the widespread havoc and the great losses our own and other civilized countries have sustained. Why not the sterilization of men? No, except in the case of criminals of every grade, and although this has wisely been advised and considered, yet it is not adopted as it should be. This age, it may be said, considering the widespread publicity it allows to be produced and introduced, of sexual interests, so-called, is not wisely tolerant of or enriched by this so-called literature, but is really debased thereby.

That lawfully qualified doctors should assist in spreading any writings relating to the genitalia of either sex, whereby others not of our profession are the supposed readers, is an injustice not only to themselves as doctors, but to us who are compelled to call them brothers, to all of the best interests and good and honored name

of medicine, and not least to the country which very unfortunately for its honor gave them birth, or which contains residences for their foul bodies.

It is unbecoming to us who, as contributors to medical literature, make explanatory remarks in reference to what may be termed delicate subjects, to use vulgar expressions or words, even if medical journals should be given our copies, for our lexicons are rich in words and terms or expressions, which, when carefully selected and introduced, convey the thoughts of the brother without the evidence, too often noticed, that the writer was a blackguard—unfortunately a doctor.

The several able and most distinguished writers whose articles have occasionally appeared in our best journals in medicine, have so modestly and professionally clothed their words and expressions, that if one holding a D.D. and was in possession of our medical works were to assume authorship he certainly could not have succeeded better in using clean words and expressions while describing the many disorders, the result of too much civilization, so-called, and the absence of the belief in too many instances of the divinity in man and the divine possibilities and responsibilities, of which he too often is ignorant. If the author of *Religio Medici* (Sir Thomas Browne), or Harvey, or Sydenham, or any of those of our venerated masters were to give literature of a case whose history was repulsive, one fact is this, that the scholarly men among us could most intelligently read such classical literature without disrespect to themselves or their profession. The absence of ability to express one's views or description of the said delicate subjects in language purely medical and classical, is evidently due to lack of scholarship in the English or ancient classics so prevalent in those who too frequently disgrace our medical journals by their banal writings. Then, too, the advertisements, so-called ethical, of our medical journals, are, when associated with illustrations, none too chaste, and too often not in keeping with the dignity and honor of medicine and as proof one has illustrations before him when inspection of any medical journal is made, and it is needless here to give examples, for if such were done it would be adding material to our disgrace. Now and then I notice in our journals statements that some weak brother allows, and with his encouragement, his wife to discuss with him current medical publications. Such admissions, however, fortunately for the honor of medicine, are few, for a doctor's wife should be an exemplar of purity and a leader in the ranks for its encouragement, yet if debased in or by sexual thoughts, the daily papers, new cure fads, corset journals, religious monthlies, whirling spray syringe advertisements, advertisements of bust developers, etc.,

will partially satisfy her salacious cravings, corrupt thoughts and aspirations.

The publication in book form of matter in any way descriptive of sexual relationships and disorders by qualified men in our ranks has never produced the good results had in view by the over-zealous and yet narrow-minded authors; in fact, when such information is thus publicly launched it often proves misguiding or misunderstood and very frequently is injurious to the lay reader and always to the family doctor, who not only has to combat the newly-acquired ignorance and erroneous impressions of his patient, and in so doing will find stubbornness and want of fidelity ever present and in association, which are as detriments to the welfare and cure under advisement. No one honorable man bearing the relationship to us of brother in our profession will ever defame himself and medicine by authorship of any work which may be classed with publications bearing such titles as "The Family Physician," "Medical Adviser," etc. If so, he is indeed ignorant of the harm that will be produced through his ill-founded zeal and furore for authorship, not least the injury to the work of his honest brother. To the traitors in medicine—those who are unfortunately licensed by our State or Provincial licensing boards—unfortunately for our good standing and work—obscene medical literature and false promises are their stock. Yet these non-supporters of our medical ethics, of whom it may be truthfully said, "Gentler pirates never scuttled ships," exist and are allowed to exist and grow rich, and even our medical journals encourage and our State or Provincial medical societies through indifference or the lack of formulated restriction, silently encourage.

"*Fidus in Arcanis*" appears on the seal of my Provincial license. "*Studia Abeunt in Mores*" is on the seal of my diploma, and there appears in the diploma a sentence which states that I have proven a worthy and educated man, worthy of the honored degree of Doctor in Medicine. If such an honor has been given by long study and examination, is it not my duty as an alumnus and as a good citizen to follow the brief teachings of these Latin words? If these admonitions are not sufficient, my own conscience and the knowledge that I am a member of one of the most learned professions, whose virtues have been "cradled in story and nourished in song," should afford me instruction what to do, and what to avoid to preserve professional good standing, while encouraging and advancing, in my humble way, every good interest of our profession—even if to the minorities does such fidelity appear as essential when there are so many weak links in the medical chain.

A weak link, and untrustful is he whose misguided zeal

prompts him to do any act by which he is disgraced and such acts are too frequently those as have herein been named, not forgetting others, of which the endorsement and use of purely proprietary so-called ethpharmacal preparations and testimonial-giving may be named, which are condemned by our code or principles of medical ethics, which the father of the American Medical Association, N. S. Davies, M.D., LL.D., of Chicago, so well illustrated and encouraged in his teachings and his writings. Yet if one carefully reviews the most rascally literature, such as refers to non-ethical and non-official compounds, and of which our offices are the dumping-grounds, it will be found too often to our disgrace that many professors and other leading lights are guilty of testimonial writing.

We can and will pity him, our brother, who in his ignorance —in his youth—ignorant of medical ethics (for such was never mentioned by his professors), who egotistically writes a paper for his journal in praise of a patent dope; but when the aged President of a Western State Board of Health or licensing system, who was quite recently the President of a State university and has LL.D. attached to his name, affixes his name as an endorser of a proprietary preparation, we abandon hope. The signature of this weak brother is attached to the State license on Diploma A., No. 4018, which names me as a licentiate. The only medical journal of said State has, when publishing the names of the State's licentiates, furnished each member of the State Medical Board with a copy of Medical Ethics quite similar to that issued by the American Medical Association. Is there any excuse why an old practitioner, a President of the State Board of Examiners, should be ignorant of medical ethics, which to us M.D.'s is as much a religion as the Ten Commandments are to the Christian world. Dr. Cathell, in his able work "The Physician Himself," for many years has re-echoed this fact, and in my "Medical Ethics and Cognate Subjects" it has been repeated. My MSS. for a new publication contain many references to the code; its personal and public necessity; its demands, and reasons for adherence to it if we believe "united we stand, divided we fall." "We must hang together or we will hang separately," said the immortal Franklin, and the divine Hippocrates—*Princeps Medicorum*—who wrote the oath which Gomperz says "is the most memorable of all human documents," tells us that if we wish to give away our studies and our experience our sons and the sons of fellow practitioners should alone be the ones selected as our disciples. When I am told that nurses are instructed in medicine and that even our best men are instructing butterfly nurses in the *arcana* of our profession, I endorse, unreservedly, the old statement that "we doctors are easy

marks." I ask, "Were the Japanese spies feasted when caught in the act of taking draughts of fortifications in the vicinity of Los Angeles?" Does the legal profession honor and nourish those who, as assistants or hangers-on, may be anxious to get into the shoes of their masters? No! Does the ministry encourage, feed and house those who are quietly undermining their churches? No! Does the Law or the Church allow its satellites to assume for themselves the title of "*profession*" and to be considered the equals if not the superiors of their masters? No!

With no wish or attempt to express my views in felicitous expression (*felicitas curiosa*) I sincerely hope, however, that one or more suggestions or interests named may be worthy of the attention of my zealous brother, and if I have presented this paper in vain, and if it is not pregnant with good thought or consideration, certainly love's labor has been lost, and with Anne of the "Merry Wives of Windsor," I must exclaim: "Alas, I had rather be set quick i' the earth and bowled to death with turnips."

I may be pardonable in this publication of a midsummer night's dream, however I will await your decisions, consoling myself with this: *Finis honorat opus: stant omnia rite peracta* (the end atones: all's well when all is done).

JAMES S. SPRAGUE, M.D.

Stirling, Ont.

ADVERTISING UNOFFICIAL PREPARATIONS.

THE American Medical Association—or rather the bureau which *controls* the association, for it cannot be supposed that the members at large had any concern in the matter beyond the perfunctory passage of any resolutions presented to them from the council chamber—has recently communicated to the medical press of the country a resolution adopted at its last annual convention requesting them to refuse advertisements of all unofficial remedies which have not yet been passed upon by the Council on Chemistry and Pharmacy and assigned a place in its blue book.

It is unnecessary to reopen at this time the whole subject of proprietary remedies and the jurisdiction of the Council on Chemistry and Pharmacy. Undoubtedly the communication referred to will carry to the society organs in the various States the expression of a more or less peremptory command, which we, nevertheless, venture to predict will not be any too broadly observed. For the rest, it is enough to point out that there are many and excellent reasons why the independent medical press cannot and should not

comply with a request of this gratuitous and unreasonable character.

It might, indeed, occur to any intelligent person, as a foregone and axiomatic reply to such a propaganda, that the independent medical press, in virtue of the essential nature and quality of its function, is estopped from complying with the request. It is like asking an employer who is, as a matter of principle, contending for the open shop, to treat with the union. The independent medical press has obligations which it is bound to fulfil, no less than the society organ—obligations more sacred and binding because more fundamental. It stands distinctively for the independent practitioner, *whether inside or outside of the union,* who, while he approves of organization for purposes of scientific and economic progress, *denies both the right and the expediency of any organized paternalism, and resents any attempted curtailment of his individual judgment.*

But supposing that we waive the question of unionism, and discuss the matter sheerly upon its merits; the result will not be widely different. Granting, for the nonce, the value and validity of the Council's function, is it wise at this time to engage in a concerted boycott of all those pharmacal preparations which have thus far failed to undergo its investigation and to receive its approval?

In the first place, the number of preparations already passed upon by the Council is exceedingly small. It cannot for a moment be assumed that all the rest are unworthy. Does the Association really and seriously suggest that all preparations—many of which are in every-day clinical use and favor by thousands of practising physicians throughout the country—shall be arbitrarily kept in the ante-chamber, cooling their heels and awaiting the convenience of the self-constituted grand jury? And if so, *cui bono?* It does not even appear that the Council is provided with, or is employing, any clinical methods of trying out the preparations under investigation. The fact is—and this affords a further powerful argument against acceding to the Association's ill-advised request—it has already examined and rejected more than one unofficial remedy of whose clinical worth, despite all of the Council's erudite criticisms, there is no doubt in the minds of thousands of able and honest practitioners of medicine. Does the Association really and seriously expect that the verdict of the Council upon these preparations will finally dispose of them in the face of their almost universal clinical endorsement?

But far more fundamental than any of the considerations thus far mentioned, is the baneful and mischievous effect which such a concerted action on the part of the medical press of the country would have upon pharmacal and therapeutic progress. Scarcely

any proposition could be formulated which would more powerfully demonstrate the pernicious tendencies of an overorganized medical press, and the imperative necessity of the independent journal. Specialized investigation is a very excellent thing in its proper province and at its proper valuation. But there never has been an instance of its playing any effective part in permanent evolution or progress, and in this respect it can never supplant, nor will it ever again replace, the more trustworthy process of natural selection. The adoption of such a plan as that suggested by the Association would set the matter of pharmaceutic commodities back where pharmaceutic knowledge was in the middle ages. It would establish an index purgatorious of pharmaceutical preparations subject to the papal autocracy of the Council on Pharmacy. Imagine a condition of similar restriction upon the dissemination of scientific knowledge, and figure how much progress science would be likely to make under such a prohibition. Already the free discussion of proprietary preparations in the editorial pages of medical journals is tabooed as an undesirable proceeding; only the very bravest of the independent journals dare to engage in it. Now it is proposed to cut off the economic channels by which the products of pharmaceutic skill may freely reach the medical man for his own unhampered trial and judgment. *Can anyone seriously believe that such a course is for the best interests of medical science or anyone connected with it?*

It must not be supposed, because this is our attitude, that we therefore advocate the throwing open of the independent advertising columns to any and every preparation that is offered, provided only that it pays the price of the space. We anticipate just such an alleged alternative in the thoughts, if not in the words, of our extremely ethical (?) friends; and indeed it has already more than once found expression in their criticisms. But it is not well chosen, and displays a lack of discrimination. On the contrary, we regard ourselves, in our journalstic capacity, as a responsible factor in that true evolution of medical science and medical technique which we have characterized as natural selection. But we do not regard ourselves as the omnipotent arbiter of such evolution. We believe it to be the function of a medical journal to provide, both in its editorial and its advertising pages, "things honest in the sight of all men," and to use its reasonable care and judgment in so doing.

If we are offered, for our editorial pages, an article or a report, emanating from a scientific man, which bears upon its face the ordinary evidences of good faith and honesty, and which, if true, is of value to the practitioner, we publish it. To refuse to give it place until its absolute value had been permanently established would put a stop to all scientific progress, so far as our efforts were

concerned. It is for the medical public, to whom it is offered, to "try the spirits." In the matter of pharmaceutical armamentaria, made public through our advertising pages, the same principle applies. The exercise of reasonable judgment in the discrimination of ordinary good faith and honesty and of probable value to the profession is, in our judgment, the only legitimate part for the medical journal to play in the process of natural selection by which the good is garnered and the useless rejected. The ultimate determination of permanent values is not the function of any journal, nor of the Council on Chemistry and Pharmacy, nor of any other institution, but of the profession at large.—*Medical Brief, St. Louis.*

ABSTRACTS.

Antithyroidin in Basedow's Disease.—De Waele describes the case of a patient, twenty-six years old, who presented all the classical symptoms of exophthalmic goitre. After 70 Cc. of antithyroidin had been employed the subjective symptoms were considerably relieved, the pulse had dropped from 100-120 to 84, and the thyroid swelling was diminished one-third. As soon as the serum was discontinued the old symptoms returned, showing that the drops were undoubtedly responsible for the improvement.—*Le Scalpel,* June 16, 1907.

Treatment of Basedow's Disease with Antithyroidin.—In an undoubted case of Basedow's Disease, W. Baumann gave antithyroidin for three weeks in the following doses: At first 8 drops three times daily, then 10 drops three times daily. All in all, only 30 Cc. were employed. There was no other treatment except electric baths, bodily rest, and very gentle gymnastic exercise. The results were quite remarkable, since the patient felt better after four to five days, and after the three weeks were over had no more complaint. The thyroid tumor had diminished 1 Cm., the pulse was strong and only 70 per minute, and the nervousness and irritability had completely disappeared. There is no possibility of suggestion, since the patient had no confidence in the drug and at first refused to take it. The most pronounced effect was upon the pulse, which was regulated better than by any other drug. Bad after-effects have never been seen. It is best to give the drops in water, and not in red wine, since the latter is not indicated in Basedow's disease. The disappointments which are reported from time to time find their explanation in the fact that too much is expected of antithyroidin in too short a time.—*Berl. klin Woch.,* May 18, 1908.

The Canadian Journal of Medicine and Surgery

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Reprints supplied Authors at Cost.

VOL. XXIV. TORONTO, SEPTEMBER, 1908. No. 3.

Editorials.

SHOULD THE ONTARIO MEDICAL COUNCIL RENOUNCE THE RIGHT OF EXAMINING CANDIDATES FOR THE LICENSE?

THE Ontario Medical Council has been of great service to the medical profession and people of Ontario, by providing an independent examination for the license to practice. To obtain the license, graduates of the universities of Ontario, of the other Canadian provinces, or of foreign countries, are placed on a level

and must pass the test with a suitable percentage of marks. Obviously, such a test must prevent the entrance of incompetent persons into the medical profession of Ontario. But a difficulty presents itself. Should candidates who have passed the primary and final examinations in Medicine of the University of Toronto be dubbed incompetent because they have failed to pass the examinations of the Ontario Medical Council? Answering one question by asking others, one might inquire: (1) Are the University examinations easy?; (2) Are the Council examinations hard?; (3) Are the candidates sufficiently prepared? Replies to these questions would depend on the evidence of unprejudiced witnesses, and general replies would be tantamount to guesses. However, it certainly does seem extraordinary that sixty per cent. of the graduates of the University of Toronto failed to pass the Intermediate Course at the examinations of the Ontario Medical Council in 1908. We have learned, incidentally, that Mr. J. H. Cameron, Professor of Surgery in the Medical Faculty of the University of Toronto, was satisfied that the questions asked in the Department of Clinical Surgery at the examination held by the Ontario Medical Council this year were fair and reasonable questions. The unhappy result, therefore, while not reflecting on the professional capacity or industry of the Faculty of Medicine must, in the last analysis, redound to the discredit of the unsuccessful candidates.

In estimating the results of a *viva voce* examination, something depends on the scope of a question, and much on an examiner's method of putting it. For instance, an examiner in Surgery at the examinations of the Royal College of Physicians and Surgeons (Edinburgh), is said to have handed to a candidate a specimen consisting of a hypertrophied bladder and a urethra containing two strictures, and to have asked him the following question, What was the occupation of the owner of these organs? Had Sherlock Holmes himself been the candidate he might have failed to give the correct answer, which proved to be "Making water." The questioning method of another examiner was shown in the following way: Handing a skull, which exhibited a depressed fracture close to a trepanned opening, he asked the candidate to mention some of the more important events or circumstances connected with the later history of the individual to

whom the skull had belonged. The question was not answered. A correct reply would have been: This skull belonged to a man who died poor, as the skull is the property of the museum; the injury to the head, which called for an operation, occurred over forty years ago, prior to the introduction of the trephine into surgical practice; the patient died on the table, because the depressed fracture was not elevated.

Clearly, candidates obliged to face such formidable examiners would require, in addition to ordinary professional knowledge, a considerable capacity for reading riddles. Most probably, none of the questions asked of the luckless candidates at the examination of the Ontario Medical Council this year were of the above-mentioned type, and it is quite likely that a physician fit to practice in Ontario would not have failed to answer such questions as were propounded.

What then? Should the independent examination test be given up, and should the universities of Ontario be allowed to grant the license, as it is granted in Quebec? The Quebec plan is a good one. Examiners appointed by the Provincial Medical Council co-operate with examiners appointed by the universities at the annual examinations in Medicine. There is but one test for the license, but it is made in the presence of two sets of examiners, one appointed by the university, the other by the Medical Council. If the Quebec plan of licensing practitioners were adopted here, complete reciprocity between Great Britain and Canada would follow. Writing on this subject in the *Globe*, June 13, 1908, Mr. J. H. Cameron, Toronto, says: "In this way, by passing the one examination test, our graduates would be admitted to the degree of the university, to the license of the Province, to the register of Great Britain and Ireland, the other provinces and the colonies, and to the portals of the public services of the Empire, and thus stand on a parity with their cousins-german of Laval and of McGill."

In the matter of examinations, the Ontario Medical Council is more interested in testing the capacity of candidates in Clinical Surgery, Clinical Medicine and Clinical Midwifery, rather than in primary branches of medical study. If the combined examination test were adopted, the assessors to be appointed by the Ontario Medical Council should not merely be present at

the examinations as is done in Quebec, but should be allowed to exercise the right of examination, especially in final subjects. Were matters arranged in this fashion between the Ontario universities and the Ontario Medical Council, the independent examination test for the license might be renounced, because (1) The combined examination test would be a sufficient guarantee of the competency of candidates; (2) the Ontario Medical Council should not, by act or neglect, interfere with the legitimate wishes of members of the College of Physicians and Surgeons of Ontario who may wish to practise in the United Kingdom, or any British colony, outside of Canada, or in any part of the Dominion of Canada. J. J. C.

PUERPERAL FEVER.

Puerperal fever is discussed by Dr. McMahon, Milwaukee, in an exhaustive paper, which appears in the June, 1908, number of *The Wisconsin Medical Journal.* It would not be possible to condense all of this paper in an editorial, but we propose bringing to the notice of our readers some of the more important data. A correct appreciation of the symptoms and signs observed in a case of puerperal infection will enable the attendant to decide on appropriate treatment. The symptoms and signs depend on the character and extent of the lesions present and through these one may recognize putrid puerperal infection (sapremia, or septic puerperal infection, septicemia). The symptoms and signs requiring interpretation are: (1) Chill or chills; (2) degree of temperature; (3) frequency of the pulse; (4) arrest of involution of the uterus; (5) character of the lochia.

A chill appearing on the third or fourth day of the puerperium, without premonitory symptoms, save languor, suggests sapremia. A chill appearing on the second or third day, preceded by malaise and followed by headache, is presumptive of septicemia. Invasion of the parametrium is followed by another chill in from four to six days. A chill appearing from the fifth to the seventh day, following the initial chill, and lasting from ten to twenty minutes, invariably means pelvic peritonitis. A

chill appearing during the puerperium and lasting from one-half hour to two hours, indicates general peritonitis.

A rise of temperature to 101 deg. or 102 deg. within a few hours after the initial chill, and followed by an irregular temperature curve, indicates sapremia. A rise of temperature immediately after the initial chill to 102 deg.-104 deg., where it remains for some time, invariably indicates septicemia.

A pulse of low tension, only slightly increased in frequency and not at all in keeping with the elevation of temperature, is found in sapremia. A pulse of 100-110 is the average found in septic endometritis, increasing to 110-120 in local or pelvic peritonitis. A puerperal pulse, small and wiry, with a frequency of 120-140, accompanied by shallow, rapid respirations, indicates general peritonitis.

In sapremia the uterine walls are thin and flabby, pain and tenderness are almost entirely lacking. In septic infection the uterus is sensitive to pressure and palpation causes pain.

A lochial discharge, increased in amount and bloody, containing shreds of membrane, pieces of placenta, often gas bubbles, which may be seen and sometimes heard, and emitting a disagreeable odor, is pathognomonic of sapremia. A lochial discharge, diminished in amount on the first and second day of temperature, increasing again on the third and fourth days, quite bloody, containing pus, with little or no odor, characterizes a septic infection. Absence of odor is particularly characteristic of a streptococcus infection.

Besides the symptoms common to all puerperal infections, a patient with puerperal peritonitis has great thirst, the bowels are at first constipated, but later become loose. Hiccough and vomiting are troublesome symptoms. The legs are drawn up, tympany causes abdominal pain. Respirations are shallow and the face presents an anxious expression. Somnolence, followed by delirium, announce the final stage. When the symptoms present indicate sapremia, local treatment is beneficial. The finger of the obstetrician, or, if need be, a dull wire curette, is used to remove debris from the uterine cavity. This procedure should be followed by a copious intra-uterine douche of normal salt solution. The patient's uterine cavity is then dried and afterwards swabbed out with a 95 per cent. phenol, followed by

alcohol. A wick of gauze is then pushed up to the fundus uteri, to stimulate contraction. The patient is placed in bed in a half-sitting posture. Occasionally, a second irrigation of the uterine cavity may be necessary, especially if the uterus is antiflexed or retroflexed. If diarrhea is present it should be controlled, but not arrested. Normal salt solution, per rectum, and by hypodermoclysis, is useful, by diluting, and aiding in the elimination of toxins and ptomains. In intractable sapremia, due to an adherent placenta, a condition which is diagnosed by the continuance of the symptoms, with no bacteria in the blood, vaginal hysterectomy may be necessary.

If the condition is diagnosed as septicemia, the prognosis of the case is bad. The patient should be kept absolutely quiet, in the open air, and under the direct rays of the sun, for as many hours of each day as possible. Enforced feeding should be employed and normal salt solution administered, per rectum and by hyperdermoclysis, in doses of 500 c.c., repeated every four to six hours. Excessive temperature should be lowered and restlessness relieved by cold applications, ice-bags or sponge-baths. Anti-streptococcic serum is said to increase the opsonins in the blood, thereby rendering the bacteria more acceptable to the phagocytes, rather than by neutralizing toxins. To get good results from it, it should be used when the first symptoms of puerperal infection appear.

Pelvic exudates or pelvic abscesses should be looked for; if found, they should be evacuated and vaginal drainage maintained. Multiple uterine abscesses are an indication for vaginal hysterectomy. Acute puerperal peritonitis, due to the rupturing of a pelvic abscess, constitutes an indication for immediate abdominal and vaginal drainage.

Acute puerperal peritonitis, following extension of an infection by the lymphatics may, in selected cases, be successfully coped with by a celiotomy. In pyosalpinx, following puerperal infection, the tubes should be removed, after the patient has recuperated, when nature has had time to wall off the pus.

Dr. McMahon discountenances the following forms of treatment in puerperal fever:

(1) Repeated douching.

(2) Intravenous injection of a formalin solution.

(3) Intravenous injection of silver salts.

(4) Removal of thrombosed pelvic veins.

(5) Hysterectomy done after symptoms of puerperal infection are discerned.

(6) Purging with salines.

(7) Use of the sharp curette. J. J. C.

EDITORIAL NOTES.

Local Treatment of Erysipelas.—Dr. Dell B. Allen, New York, uses active local treatment in cutting short an attack of idiopathic erysipelas. The affected area is painted with pure carbolic acid, extending the painting about three eighths of an inch beyond the line of redness. The acid is allowed to remain until it becomes white, when it is washed off with 95 per cent. alcohol. Carbolic acid acts as a germicide to the streptococci present in the skin and subcutaneous cellular tissue, while the cauterized ring about the affected area prevents the further march of the infection. This treatment causes a burning sensation for a few moments, but it is quickly relieved by the alcohol. In some cases the burning sensation continues for an hour or two and a cloth saturated with alcohol may be laid on the affected area. If the disease should involve the eyelids, where it is impracticable to use strong carbolic acid, Dr. Allen prescribes a two per cent. carbolic acid solution in unguentum hydrargyri ammoniatum, which is to be applied frequently. He claims that the results of this treatment have been satisfactory in twelve cases of idiopathic erysipelas. The author says: "I have never made more than two applications over the same area, one application being usually sufficient. In one case only did the inflammation spread beyond my first frontier." In no case was there fever on the second day and never any delirium. Desquamation began on the average in four days and was complete in another week, making the duration less than two weeks, instead of three or four weeks with milder and weaker solutions. The skin under the desquamating epidermis is pink and healthy and heals without scarring. Disagreeable sensations in the inflamed skin—ting-

ling, burning, itching—may be relieved by excluding the air with vaseline or the following preparation:

℞ Bismuthi Subnitratis..... ʒi
Plumbi Carbonatis..... ʒij
Creasote..... ℥ iij
Unguenti Aquæ Rosæ..... ʒi—M

Condensed Milk.—Bulletin No. 144, Condensed Milk, (Laboratory of the Inland Revenue Department, contains some instructive data on the composition of condensed milk manufactured in Canada. A. McGill, Chief Analyst, says on the subject: "(1) Condensed milk should mean the reduction of volume of normal milk by evaporation of a greater or less portion of water; (2) When sugar is added, this fact should be stated on the label, and preferably, if not necessarily, in the name of the article, as sugared or sweetened condensed milk; (3) The word *Cream* is largely used to designate condensed milk. This is incorrect and should be made illegal. As a matter of fact, these so-called *creams* are not any richer in milk fat than the sugared condensed milks and many of them are distinctly poorer; (4) Among the samples examined, only one is entitled to be called a cream; (5) The average milk value of most of these samples shows them to be about 2-3 to 2-5 the value of normal whole milk. Hence, a dilution to about two and a half (2-5) times their volume results in converting them, for practical purposes, into milk. The instructions for dilution printed on the labels are quite misleading in many cases. 'For making a rich cream, add from one to two parts pure water.' The result would be a liquid containing about three to four per cent. of milk fat, and would be in no sense a rich cream. Several brands advise the addition of three parts water to make 'a pure, rich, economical milk.' Such a dilution would give a resultant containing about two per cent. of fat. The sugared milk bears larger reduction of 'body,' but the fat content being practically identical with that of the non-sugared kinds, the product of dilution cannot be regarded as other than a very poor milk, thickened with sugar. One brand advises the addition of four (4) parts of water to produce a rich milk. This would give an article containing distinctly less than two per cent. of milk fat. It may be contended," continues Mr. McGill, "that the consumer should use his own

judgment in diluting. This is true, but it is no justification of the manufacturer who states that the product will be 'a rich cream,' etc."

Corn Oil in the Treatment of Pulmonary Tuberculosis.—Dr. John Ritter, Instructor in Medicine, Rush Medical College, Chicago (*The Journal of the American Medical Association,* July 4, 1908), advises the use of corn oil in tuberculosis. "In making starch the corn grain is steeped until the kernel is softened, and the germ has assumed a tough elastic condition. The warm steeping water is run off, the grain washed and then shredded apart and coarsely ground. This usually suffices to loosen the germ from the rest of the grain. The magma is now placed in tanks of rinsing water, in which the starch granules settle rapidly to the bottom, while the light germs float off from the top. These germs are then washed, dried, ground, and the oil removed by hydraulic pressure. The oil as obtained is very easily refined and clarified, by placing the expressed oil in large air-tight containers for a definite time, when the albuminous matter subsides, or the subsidence of the albuminous matter may be hastened by the addition of an inert insoluble earth, such as kaolin, decanting the clear oil and filtering." As the cost of corn oil is low, as it does not cause the disagreeable eructations which usually follow the taking of cod liver oil, and as it equals cod liver oil or olive oil as a tissue builder, Dr. Ritter thinks that corn oil should be favorably considered by the profession.

A Department of Health, or a National Health Commission.—The editor of *American Medicine,* June, 1908, contends that those who have been urging the establishment of a National Department of Health in the United States have made a tactical error. The Republican machine is opposed to any new departments or any additions to the President's official family. President Roosevelt has gone on record as opposing a Department of Health. In the face of these obstacles to the establishment of a Department of Health, it would have been wiser to have worked for a National Health Commission. This Commission might be composed of three members—a chemist, a sanitarian and a physician—and the work of the Commission could be divided into three divisions—a division of sanitation and quarantine, a

division of pure food and drugs, and a division of laboratory research. Each member of the Commission could head a division, with proper assistants and a suitable organization for the work he would naturally be called on to do. Each division could and would co-operate with the others and a satisfactory scheme of public health defence could be developed. If a Department of Health is not to be created in the United States, it is unlikely that a Department of Health will be added to the Canadian Federal Cabinet. It would be gratifying to the medical profession and useful to the people of Canada, if a Commission of Health were established in Canada. The laboratory of the Inland Revenue at Ottawa has for many years been engaged in the examination of foods and drugs. A division of sanitation and quarantine already exists as a sub-department of the Department of Agriculture. A division of laboratory research could be established; perhaps a statistical division might be added. Such a Commission could co-operate with Provincial Boards of Health, utilizing their work and officials. It would be a tentative measure and its usefulness would be measured by the results of its operations.

Religious Therapeutics.—In the early days of Christianity the functions of priest and physician were often administered by the same individual. "Is any man sick among you? Let him bring in the priests of the church and let them pray over him, anointing him with oil in the name of the Lord" (St. James v. 14). As medicine has become more scientific, the care of the sick has been left in the hands of the physician and most Christian churches do not apply direct therapeutic measures to heal the sick. Exception should be made for the Roman Catholic Church, whose priests sometimes use mental therapeutics when waiting on the sick. Reference might be made to successful therapeutic efforts made at Lourdes in France and Ste Anne de Beaupré in Canada. Religious therapeutics has also been enormously exploited by the Christian Science Church, with very favorable results in some cases. Efforts are now being made by Christian churches in the United States to do something in the way of mental or religious therapeutics. This subject is discussed in *The World of To-day*, March, 1908, by Bishop Fallows, of Chicago. The religious therapeutist, accord-

ing to him, is to co-operate with the physician, instead of antagonizing him, as is done by the Christian Scientist. Speaking generally, one might say that the co-operation of priest and physician may be of use in selected cases, particularly when patients keep worrying over their physical troubles, aches and pains, which are aggravated by introspection. An appeal through the religious faith of the sufferer may prove effective in tranquilizing the mind. J. J. C.

PERSONALS.

DR. CLARENCE L. STARR, after September 1st, will confine his practice exclusively to General and Orthopedic Surgery.

DR. R. D. RUDOLF, 396 Bloor Street West, begs to announce that in future he will confine his attention to office and consultation practice.

News of the Month.

ANNOUNCEMENT OF THE NATIONAL SANITARIUM ASSOCIATION.

The National Sanitarium Association begs to inform the Canadian Medical Profession of a recent reorganization of the medical department of its Muskoka institutions, the Muskoka Cottage Sanatorium and the Muskoka Free Hospital for Consumptives.

Dr. W. B. Kendall has been placed in immediate charge of both institutions as physician-in-chief, with an assistant resident physician at each institution. It is intended also that a resident pathologist should shortly be appointed. In May, 1908, Dr. C. D. Parfitt, who had been in charge of the Muskoka Free Hospital during the six years since its opening, was made consulting physician to both institutions and will continue to live on the grounds of the hospital.

Dr. Kendall, after graduating at Trinity University, Toronto, spent some months in London, Dublin and Edinburgh, where he qualified before the examining boards of Edinburgh and Glasgow (L.R.C.P. & S., Edinburgh; L.F.P. & S., Glasgow). He was appointed to the Cottage Sanatorium on his return to Canada, in April, 1907, and in May, 1908, was also given charge of the Free Hospital.

Dr. Parfitt graduated from Trinity University, Toronto, in 1894, and, after serving as an interne for a year at the Toronto General Hospital, spent two years in London and Vienna. While in London he qualified before the conjoint examining board (M.R.C.S., Eng.; L.R.C.P., London). A year and a half more was given to post-graduate work in Baltimore in the service of Dr. Osler.

In order to extend the usefulness of its work the Association has arranged for its physicians to attend patients who come to Gravenhurst and are unable for some reason to enter or continue in either of the Sanatoria, but who wish to receive special medical supervision.

The Association is very glad at all times to have physicians visit its institutions, especially those who may wish to consult with the sanatorium physicians regarding their own patients in residence.

The Physician's Library.

BOOK REVIEWS.

An Aid to Materia Medica. By ROBERT H. M. DAWBARN, M.D., Professor of Surgery and Surgical Anatomy, New York Polyclinic Medical School; Professor of Surgery, Fordham Medical College, New York; Visiting Surgeon to the City Hospital, New York. Fourth Edition, revised and enlarged by EDEN V. DELPHEY, M.D. Toronto: The Macmillan Company, of Canada, 27 Richmond St. West. 1908.

The changes in the Eighth Decennial Revision of the Pharmacopoeia of the United States of America has made a complete revision of this book, a necessity to conform with those changes. Careful consideration regarding pleasant medication has been given, so that nauseous and bitter medicines are rendered more palatable. The book is most thorough and will be well received by the medical profession. A. J. H.

Golden Rules of Dietetics: The General Principles and Empiric Knowledge of Human Nutrition; Analytic Tables of Foodstuffs; Diet Lists and Rules for Infant Feeding and for Feeding in Various Diseases. By A. L. BENEDICT, A.M., M.D., Buffalo; Member of the American Academy of Medicine, and of the American Gastroenterological Association, etc.; author of "Practical Dietetics." St. Louis: C. V. Mosby Medical Book and Publishing Company. 1908.

This is a work of convenient size and has good clear type. There are 407 pages, including an index. It is divided into forty chapters, with an appendix of recipes for invalids.

The first twenty-one chapters treat of matters relating to physiological chemistry, the general hygiene of eating, the composition, nutritive value and digestibility of foods; methods of cooking, diet lists, etc.

Chapter XXII. is devoted to infant feeding. The remainder of the book deals with the dietary of the various diseased conditions.

The author has spared no pains to make this work practical and up to date.

In dealing with the various diseases the work does not follow

closely, or rather exclusively, the lines of dietetic treatment, bu' enters into the etiology and enough of the general treatment t make it a very useful book from that standpoint. It is undoubt edly what its title indicates, the Golden Rules of Dietetics.

W. J. W.

The Sexual Question: A Scientific, Psychological, Hygienic and Sociological Study for the Cultured Classes. By AUGUST FAREL, M.D., Ph.D., LL.D., formerly Professor of Psychiatry at and Director of the Insane Asylum in Zurich, Switzerland. English adaptation by C. F. Marshall, M.D., F.R.C.S., late Assistant Surgeon to the Hospital for Diseases of the Skin, London. Illustrated. New York: Rebman Company, 1123 Broadway.

For any author to take up and write a volume, small or large, dealing with "The Sexual Question," is no easy task. Even in professional circles, such a writer is sometimes blamed for being a little too plain spoken; but, in dealing with this subject, it is absolutely essential that the author "call a spade, a spade." That there is a lamentable prevalence of ignorance regarding sexual matters, this being due to too great a sense of modesty on the part of mothers especially, is undoubtedly true. The family physician should accept it as part of his mission to educate his patients as to the amount of knowledge to be imparted to growing girls and boys regarding sexual subjects, and, after reading Dr. Forel's book, he will be better fitted to do so. The book consists of, in all, nineteen chapters, each one worthy of careful perusal. We can recommend it as a scientific work and promise that the reader in search of knowledge will be repaid for its study.

Clinical Lectures on Surgical Diseases of the Urinary Organs. By P. J. FREYER, M.A., M.D., M.Ch., Surgeon to King Edward VII.'S Hospital for Officers, and to St. Peter's Hospital; Consulting Surgeon to Queen Alexandra's Military Hospital; Late Examiner in Surgery at the Durham University; Lieut.-Colonel, Indian Medical Service (Retd.). London: Balliere, Tinda' and Cox. Canadian Agents: J. A. Carveth & Co., Toronto. Price, $3.75.

This volume is composed of a series of post-graduate lectures, some of which have been published in medical journals. They have been "amplified, brought up-to-date and arranged in convenient order" until they make a very comprehensive work on the subject. The author's Indian medical service gave him a great field for observation. He seems to have made much of his opportunities. Think for a moment what it means to have operated 1,358 times for stone in the bladder. The average surgeon sees a very small

per cent. of that number. He strongly advocates Litholapaxy and his wonderful experience should make us willing followers.

His work in suprapubic prostatectomy marks a step in surgery. His technique is so simple, his directions so clear and his results so good that it makes one resolve to hereafter choose this route instead of the perineal. The man who limits his work to genito-urinary diseases is not the only one interested in this work. The general practician will find it a great help though he does no surgery and the general surgeon will find a splendid guide to his work. It is the work of a master mind. L. K.

Contributions to the Science of Medicine and Surgery, by the Faculty, in celebration of the Twenty-fifth Anniversary, 1882-1907, of the founding of The New York Post-Graduate Medical School and Hospital. 1908.

This volume came to hand a week or two ago and is without doubt a most important "contribution to the Science of Medicine and Surgery." It is a worthy effort and a fitting souvenir of such an occasion as the Twenty-fifth Anniversary of the Founding of an institution, now recognized as one of the foremost Medical Teaching Bodies in America. The Volume consists of a collection of 49 articles on different subjects from the pens of such writers and teachers as Robert T. Morris, Carl Beck, Max Einharn, Reynold Webb Wilcox, John J. McGrath, Merman St. J. Boldt, Augustus Caille, W. B. De Garmo, Willy Meyer and a number of others.

We wish to thank the Editors for favoring us with a copy of this Volume. W. A. Y.

A Text Book of Human Physiology, including a section on Physiologic Apparatus. By ALBERT P. BRUBAKER, A.M., M.D., Professor of Physiology and Hygiene in the Jefferson Medical College; Professor of Physiology in the Pennsylvania College of Dental Surgery; Lecturer on Physiology and Hygiene in the Drexel Institute of Art, Science and Industry. Third Edition, revised and enlarged, with colored plates and 383 illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1908.

A work on Physiology pure and simple is to the average every day busy practitioner not particularly helpful. On the other hand, a Book of Human Physiology, written in such a way as to be of practical assistance to a student or practitioner of medicine, is worth having. Dr. Brubaker's Text Book comes under the latter heading, as he has presented his subject in its relation to disease, and its diagnosis and method of treatment. The third edition has

undergone careful revision, a good deal of unnecessary matter having been left out and some fifty pages of new material added, the latter being included in the chapters on the physiology of muscle tissue, absorption, the physiology of the heart and vascular apparatus, the nerve system and vision.

The Treatment of Gonorrhea in the Male. By CHARLES LEEDHAM-GREEN, M.B., F.R.C.S., Surgeon to the Queen's Hospital, Birmingham; Surgeon to the Birmingham and Midland Hospital for Children; Consulting Surgeon to the Birmingham General Dispensary. Second Edition. London: Bailliere, Tindall & Co., 8 Henrietta Street, Covent Garden. 1908. All rights reserved. Canadian Agents: J. A. Carveth & Co., Limited, Yonge Street, Toronto.

Owing to advances in the knowledge of gonorrhea a second edition was necessary and the present volume has been thoroughly revised and brought up to date. A short description of Goldschmidt's new irrigation urethroscope and of the use of Bier's hyperemic treatment in gonorrheal arthritis has been inserted. A practical handbook. A. J. H.

The Practical Medicine Series, comprising ten volumes on the year's progress in medicine and surgery, under the general editorial charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume I.: General Medicine, edited by FRANK BILLINGS, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago; and J. H. SALISBURY, A.M., M.D., Professor of Medicine, Chicago Clinical School. Series 1908. Chicago: The Year Book Publishers, 40 Dearborn Street.

This volume is one of a series of ten, issued monthly, and covering the entire field of medicine and surgery.

Each volume is complete for the year prior to its publication on the subject of which it treats. While this series is published for the general practitioner, at the same time the arrangement in several volumes enables those interested in special subjects to buy only the parts they desire.

The present volume treats of diseases of the respiratory and circulatory organs, the blood and blood-making organs, infections, diseases of the ductless glands, metabolic diseases, and diseases of the kidneys. Three-fourths of this volume is devoted to diseases of the chest and blood.

The articles are well selected and arranged, and nothing better could be desired for a review of this part of the year's work in Medicine. W. J. W.