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CANADA
MEDICAL RECORD

MAY, 1898.

Original Communications.

**PREGNANCY FOLLOWING VENTROFIXATION
WITH IMPROVEMENTS IN TECHNIQUE.**

AUTHOR'S ABSTRACT OF PAPER READ BEFORE AMERICAN
GYNÆCOLOGICAL SOCIETY AT BOSTON, MAY 24, 1898.

By A. LAPHORN SMITH, M.D., M.R.C.S., Eng.

Fellow of the American Gynæcological Society; Professor of Clinical Gynæcology
Bishop's University, Montreal; Gynæcologist to the Montreal Dispensary;
Surgeon in Chief of the Samaritan Hospital for Women; Surgeon
to the Western General Hospital.

The following conclusions were based upon about 2,500 cases by 41 operators, including 111 cases of his own, reported in reply to a circular letter of inquiry.

1st. That as far as curing retrodisplacements is concerned, whether retroflexion, retroversion, anteflexion with retroversion, and also prolapse of the uterus, ventrofixation with two buried silk stitches passing through peritoneum and fascia gives the most reliable results. Failures are unknown when the operation is performed in this way.

2nd. Ventrofixation should be reserved for cases in which abdominal section is necessary for other reasons, such as detaching of adhesions and the removal of the diseased tubes which caused the adhesions. When it is expected that pregnancy may follow, some other operation should be chosen, because

3rd. Although pregnancy only followed in 148 cases out of about 2,500, still, in 30 per cent. of these, or 36, there was pain, miscarriage or difficult labor, requiring obstetrical operations.

4th. When suspensio uteri was performed, that is the uterus attached to the peritoneum, only a few relapses occurred; but, on the other hand, the patients were free from pain during pregnancy and the labors were less tedious neither did they require to resort to serious obstetrical operations. The uterus should therefore be suspended rather than fixed to the abdominal wall in all cases in which any part of the ovary is allowed to remain.

5th. A third method, it is claimed by some,—namely, the intra-abdominal shortening of the round ligaments—is preferable to either ventrofixation or suspensio uteri. This may be done either by drawing a loop of the round ligament into the loop which ties off the ovary and tube: or in cases in which the latter are not removed, simply to detach them from adhesions and shorten the round ligament by drawing up a loop of it and stitching it to itself for a space of about two inches. By this means the round ligament develops as pregnancy advances, and the dragging and pain and other more serious accidents which are present in 30 per cent. of the cases of ventrofixation are certainly avoided.

6th. If the uterus is attached to the abdominal wall, the stitches should be kept on the anterior surface, but near the top of the fundus; the complications were more frequent when there was too much anteversion than was the case when the anterior surface of the fundus was attached to the abdominal wall.

7th. As large a surface as possible should be made to adhere, by scarifying both the anterior surface of the fundus and the corresponding surface of the abdominal peritoneum, in which case one buried silk suture will be sufficient to keep the uterus in good position.

8th. Several of my correspondents mentioned incidentally that they knew of many cases of pregnancy after Alexander's operation, and that in no case was the pregnancy or labor unfavorably influenced by it. Alexander's operation should therefore be preferred whenever the uterus and appendages are free from adhesions.

9th. The results of Alexander's operation are so good that even when there are adhesions it might be well to adopt the procedure of freeing the adhesions by a very small

median incision and then shortening the round ligaments by Alexander's method ; after which the abdomen should be closed. This could be done without adding more than $\frac{1}{2}$ of 1 per cent. to the mortality, which in Alexander's operation is nil.

CLINICAL LECTURE ON BILATERAL ABDUCTOR LARYNGEAL PARALYSIS.

Delivered to the students attending clinic at Throat and Nose Department, Western Hospital, Montreal

By GEO. T. ROSS, M D.

Fellow American Laryngological Association ; Prof. Laryngology Bishop's College ; Laryngologist Western Hospital, etc.

GENTLEMEN :—The nervous system is almost entirely inaccessible to direct observation, with trifling exceptions ; the state of this system, therefore, can be ascertained only by the manner in which its work is done, and morbid states in the system reveal their presence by the derangement of function which they cause. The larynx is no exception to this fact, and disordered function here is our only guide to diagnosis. Remember in examining the larynx that only a few unimportant affections of this organ are independent of systemic disease or of disease in contiguous organs. Since then the interpretation of doubtful cases will always depend largely upon examination of neighboring parts of the air passages, especially the fauces, the alimentary canal, and even the entire body, it is wise in the absence of very large experience to make a careful general examination in order to check even such local findings as seem to be perfectly clear and easy to explain, for not infrequently a preconceived opinion concerning the primary cause of the disease is in this way shown to be erroneous. Your examination cannot be too thorough ; in no other organ of the body is disease so dependent on the general condition as in the larynx, and conversely, the finding of certain conditions in the larynx often throws light on latent or obscure processes in the entire organism. The importance of these remarks is well illustrated by the case we have before us for study to-day. This patient, a married man, aged 50, gives the following history :— he complained of hoarseness about beginning of the year 1897, and says it has con-

tinued more or less since that time. His attention was specially directed to the state of his throat in March last year, when on taking a drink of cold water he experienced a choking spasm which he says almost suffocated him, and this spasm has always been repeated whenever he attempted since that time to swallow cold fluids. At times he complains of distress from gas in stomach and bowels, and that "rumbling and roaring" in these organs makes him miserable occasionally. He continued his work of cab-driving until beginning of Feby. last, when the difficulty of breathing was such as to compel him to quit. At night his noisy inspirations were such that his wife feared he would suffocate. Every morning a fit of coughing would dislodge a quantity of thick mucus, after which he had some relief. He had been under the care of several physicians, but the throat trouble becoming so pronounced he was referred to this clinic. Eight years ago he had gonorrhoea for three months, but never was confined to the house sick until three years ago when he had an attack of what was called rheumatism. His left leg became weak and painful, causing lameness for over 8 months. The pain was not spasmodic or of the character of "lightning pains," but simply caused by the effort of walking, and getting on and off his cab was difficult. Says his right leg was always quite strong and is unaffected to-day. The left leg improved and he returned to work, but it continued perceptibly weaker than the right. For the past 23 years he took liquor freely. Thinks he averaged 3 or 4 quart bottles of beer daily.

On examination the calf of left leg measures 5-8 inch smaller than right, and at middle of thigh the left is 1 1-2 inches smaller than the right. Left patellar reflex is exaggerated. Right patellar reflex is normal. The cremaster and abdominal reflexes are normal. No local or general areas of disturbed sensation except in the left leg and foot, which patient says is always cold. Eyes act normally to light, but pupil of left eye is smaller than right eye. No Argyll-Robertson pupil. On speaking there is at times a decided stammer and effort to proceed; the voice will break occasionally and take a high falsetto note. On walking there is a slight want of co-ordination in left leg. His arms in respect to co-ordination are

normal. On the patient closing his eyes he can't maintain his equilibrium or walk without staggering. Examination of the other organs and systems of his body, excepting the larynx, gives negative results. The laryngeal examination shows a catarrhal laryngitis. Epiglottis normal in color and size. Ventricular bands are hyperæmic overlapping the vocal cords partially. The breadth of vocal cords in sight is not more than 2 m. m., and their margins are thickened and reddish. Glairy mucus covers the aryepiglottic folds and fills the pyriform sinuses. The true cords are permanently adducted so that only a very narrow chink allows entrance of air. The inspiratory effort instead of causing abduction forces the cords closer together by the resulting suction, and in consequence much noisy stridor is produced, while the expiratory effort mechanically forces the cords apart. This noise is much increased on patient falling asleep, so that the necessity for intubation or tracheotomy has been threatening for a time. This tonic spasm of the cords is permanent, although less severe in waking hours. The head is occasionally tossed back to assist inspiration, but the patient seemed to get enough oxygen because cyanosis has not appeared. Temperature and pulse are normal.

In all cases of disease in which there is an organic lesion of the nervous system, the object of the physician is not merely to give a name to the disease, but to make an exact anatomical and pathological diagnosis. Both the anatomical and pathological diagnoses are of importance, not merely from a scientific point of view, but for the practical purposes of prognosis and treatment. The object of the anatomical diagnosis is to determine the exact part of the nervous apparatus which is directly implicated by the lesion. In spite of the attention which has been paid to the functions of the larynx by means of physiological experiments, and clinical and pathological observations, knowledge of the innervation of this apparatus is still imperfect. To help understand the curious and fascinating phenomenon with which we have to deal, I first would remind you that the motor nerve *par excellence* of the larynx is the recurrent laryngeal nerve. With the only exception of the tensor of the vocal cords, the crico-thyroid muscle (this

being supplied by the external branch of the superior laryngeal), the recurrent laryngeal innervates all the laryngeal muscles proper, that is the antagonistic groups of the abductor and adductor muscles of the vocal cords. The former (*abductors*) are represented by the *posterior crico-arytenoid muscles* only, the latter (*adductors*) by the *lateral crico-arytenoid*, the *external and internal thyro-arytenoid* and the *inter-arytenoid muscles*. The statement of several German authorities that the superior laryngeal nerve takes part in motor innervation of all the laryngeal muscles proper has been strongly opposed by late observers. The ultimate derivation of the recurrent laryngeal nerve is, however, warmly contested. Many anatomists and physiologists considered the spinal accessory nerve the source of laryngeal innervation, but recently, Grossman, Spencer and others, by experiments, held that the true source of this impulse was the lower bundle of vagus roots. The question is not definitely settled. Dr. R. Russell has split up the recurrent laryngeal nerve throughout its peripheral length into three different bundles of fibres, one of which supplies the abductors and another the adductors, whilst from the third, no motor effect can be produced in the larynx. We, therefore, know now definitely that the fibres going to the antagonistic groups of laryngeal muscles are differentiated throughout their peripheral course. These fibres ultimately supplying the abductor of the cords are situated on the inner side of the recurrent laryngeal nerve. I now show you a plate illustrating, first, what is beyond question the ordinary respiratory position of the vocal cords, and 2nd, what is the cadaveric position of them. The question arises, what is the greater width of the glottis in life due to? The reply is, the abductor muscles of the cords are endowed with a special reflex tonus, by means of which the glottis during life is kept open during both phases of respiration to such a degree that that type of respiration which we call "ordinary" is rendered possible. In this degree of respiration, we breathe by the aid of diaphragm and intercostal muscles only. As soon as during life the glottis is narrowed to the same degree as we see it after death, we find that with every unusual muscular exertion dyspnoea begins, shown by very quick and shallow or by very deep and labored inspiration,

accompanied by audible inspiratory stridor. At the same time, whilst the action of the diaphragm and intercostals becomes intensified, the accessory muscles of respiration come into play. The reason is simple. The laryngeal tube is the narrowest part of the whole respiratory apparatus, and this tube is still further narrowed by the insertion of the vocal cords into its calibre. Semon has shown that this arrangement has narrowed the space for entry of air to less than 1-3 its natural area. The result of this narrowing would be that if it were not counterbalanced by some compensation of nature, no sufficient space would exist for the entrance of air when any extra demand was made upon the breathing powers. To obviate this, nature has endowed the abductor muscles with the tonus referred to, by means of which the glottis is kept sufficiently open for ordinary breathing. This tonus is produced by certain centripetal fibres, contained mainly, but not exclusively, in the pneumogastric nerve, which are stimulated by the interchange of gases in the lungs during respiration and act rhythmically upon certain centres in the medulla oblongata, where they are changed into tonic impulses, which again descend along the fibres which ultimately form the recurrent laryngeal nerve and keep the glottis open to a degree sufficient for ordinary respiration. A knowledge of these facts is essential to understanding the pathological phenomenon of the case we are studying. If you cut any motor nerve which supplies various muscles horizontally across, all these muscles become completely paralyzed, unless innervated at the same time by other nerves. But should the lesion be slow instead of sudden, one of two things may occur, viz: either all the nerve fibres contained in that nerve may suffer together and in equal degree, and a stage of paresis instead of complete paralysis be first seen, or the cause may act in an unequal degree upon the nerve fibres contained in the nerve trunk, when the paralytic changes may be more pronounced in one set of muscles supplied by that nerve than in another. Authorities have shown that whilst the abductors were the first to succumb to disease, the adductors were the first to recover, and in fact the abductors may remain permanently damaged after complete recovery of the adductors. The ultimate cause of this greater

liability to attack of the abductors is still unknown. The following facts are clinically important: First, the motor nerves of the larynx have so long and tortuous a course, that from their medullary origin to their endings in the laryngeal muscles they are exposed to an enormous number of various pathological influences. Second, the laryngeal abductor paralysis caused by any of these influences may and in a good many cases does remain for a long time the only positive sign of these various pathological processes. Third, this paralysis, if unilateral, may in no way proclaim its existence but must be sought for, if one does not wish to miss the opportunity of making an early diagnosis in many of these cases.

Undoubtedly a number of cases of abductor paralysis occur in which it is a silent storm signal of impending grave trouble, while it may again be present for many years without other symptoms developing. In the latter cases some trivial local lesion, such as an enlarged gland compressing the motor laryngeal nerves at any point in their long course, may induce persistent abductor paralysis owing to the greater vulnerability of the abductor fibres. Thus it would be unwise to frighten a patient by suggesting possibilities of serious trouble; at the same time it is necessary to watch the course of such trouble and carefully follow it, for the reasons stated. In the case we have before us, symptoms of tabes dorsalis are by no means typical, the patellar reflexes being unimpaired and no history of lightning or girdle pains, but the other signs are such as to leave the diagnosis sufficiently positive at this stage of the disease. If the gastric and laryngeal crises had not asserted themselves so positively as well as the laryngeal inco-ordination, and had the paralysis alone existed, then the question of alcoholism might have reasonably been considered, but with the foregoing history we may look for developments of a more pronounced tabetic nature later on. The patient remained two weeks in the Hospital on full diet, sedatives, tonics and complete rest with electricity to larynx, when he gained in every way. The glottic chink widened sufficiently to afford fairly comfortable breathing, and this is now only slightly stridulous. His sleep is not much disturbed, and he has been

allowed to go home where he can continue treatment. The differential diagnosis between alcoholic neuritis with paralysis and tabes dorsalis I will leave to the professor of neurology, in whose domain this work lies. We will keep up Galvanism and Faradism and such constitutional restoratives and symptomatic treatment as the case indicates from time to time and report upon it later.

Selected Articles.

CHEYNE-STOKES RESPIRATION.*

By N. S. DAVIS, Jun, M.D., Chicago, Ill.

Mr. —, merchant, 73 years old, of good habits and good family history, came under my care in September last. His health had not been robust for many months. In mid-summer his legs became edematous and he then first consulted a physician. He was found to have dilatation of the heart, a slight aortic murmur, atheroma to a moderate extent of the peripheral arteries and interstitial nephritis. His symptoms underwent no material change up to September, when I first saw him. As time went on he grew feebler, thinner and mentally depressed. He had little appetite for food or drink. He was often sleepless. About the middle of October he was too feeble to walk, and rarely slept more than an hour at a time. At night he was tormented by hallucinations which were very persistent. At this time Cheyne-Stokes respiration first manifested itself. The rhythmically increasing and diminishing respiratory movements with short pauses were very noticeable. The periods of apnea were short and the periods of dyspnea were not severe. The pulse was quite regular and was kept at about eighty-five by strophanthus. The pupils showed no change in size and there was no hebetude during apnea.

Cheyne-Stokes respiration was not constant at this time. It lasted for several days, and disappeared only to reappear from time to time for a few hours or days. Occasionally apnea was almost wanting, and even at the height of dyspnea the respiratory movements were not labored.

*Presented in the Section on Practice of Medicine, at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 14, 1897.

In November he improved; respiration became normal, sleeplessness was less troublesome and hallucinations were more infrequent and less persistent. Early in December he grew worse. Cheyne-Stokes respiration reappeared in an aggravated form and persisted for almost a month until he died. Dyspnea was more intense than during the first attack of Cheyne-Stokes respiration and the pauses were longer. His pulse quickened during apnea, and as respiratory movements grew shallower his eyes converged slightly, his lids closed and he seemed to be in deep sleep. If at this time his lids were lifted the pupils were uniformly found to be closely contracted. Conversation with him was slow, for he would cease speaking and apparently become unconscious during the period of apnea. With the first few shallow breaths his lids would open and his eyes would roll slightly as they are apt to do when one is suddenly roused from deep sleep. He would, so soon as respiration was fairly established, resume a conversation without interruption of argument or break in the continuity of events that he might be describing. During apnea the power of speech was lost and mentality seemed suspended. If spoken to when thus apparently dozing he was not conscious of the question. Conversation with him was tedious, for these pauses occurred once in every eighty to ninety seconds, and lasted about twenty-five seconds. The dyspnea was very wearisome to him. He was never cyanotic.

I have described this case as it illustrates Cheyne-Stokes respiration in its mildest form, and in that form in which all the accompanying rhythmic phenomena of pulse, eye and mind are present. In 1818, Cheyne (*Dublin Hosp. Rep.*, 1818, vol. ii.) first called attention to rhythmically ascending and descending periods of respiration, separated from one another by short pauses.

Cheyne-Stokes respiration should be clearly distinguished from irregular breathing accompanied by pauses. In the latter form of respiration pauses occur, followed by several long, gasping breaths which may gradually grow less violent and rapid or irregularly become so and cease with the beginning of another pause. Cheyne-Stokes respiration is characterized by a pause of from ten to forty seconds, followed by from ten to twenty respirations, which grow gradually quicker and deeper until they are dyspneic in character, both because of their violence and rapidity. During the succeeding ten to twenty respirations the movements grow progressively less violent and rapid until they cease and apnea begins. Usually the ascending and descending series of movements number about the same,

but they are not always equal. The descending series are often less regular than the ascending. In the mildest cases apnea may be wanting, the ascending series of respirations may follow the descending without interruption. If, during the respiratory pause, voluntary efforts are made to breathe, the whole chest is lifted by the unusual muscles of respiration, but the diaphragm and intercostals do not move.

Cyanosis is rarely observable, although the pauses are frequent and many of the respiratory movements are shallow. Patients often complain of the wearisomeness of respiration, but not of hunger for air. In 1859, Reid (*Dublin Hosp. Gaz.*, vi., 308) pointed out the commonly observable changes which occur in the pulse during Cheyne-Stokes breathing.

In most cases during apnea the pulse rate is quicker than during dyspnea; it will beat once or twice oftener in the quarter minute. Not infrequently the pulse is paradoxical. It is apt to be large and soft during dyspnea and small during the respiratory pause. Biot uniformly observed less arterial tension during apnea than dyspnea (*Rev. Mensuelle de Med. et Chir.*, 1878, ii., 975.) While these are the usual changes in the pulse, if any occur, it has been found in rarer instances to be slow during apnea instead of quick, and once Hesky (see Gibson, *Edin. Med. Jour.*, xxxiv.) observed almost a complete disappearance of pulse beating during each respiratory pause.

In 1866, Leyden (*Arch. f. Path., Anat. und Phys., und f. Klin. Med.*, xxxvi.) first called attention to the rhythmic changes that occur in the pupils during the phases of Cheyne-Stokes respiration. In very many cases, though by no means in all, the pupils become closely contracted during the pause and do not respond to the stimulus of light, although during dyspnea they are normal in size and respond readily to light. Contraction of the pupils usually takes place slowly and progressively, but in a few instances it has been observed to occur in slight successive spasms. Biot thinks these changes are due to variations in blood pressure, which are so often noticeable in the different phases of Cheyne-Stokes respiration. Recent observations, however, make it probable that they are not to be explained in this way, but are due to the direct influence of the nervous system upon the eye. Often, just as the pupils begin to contract, a slight convergence of the eyeballs occurs, and still oftener the lids close during the period of apnea and the patient appears to be in deep sleep.

Not only do rhythmic changes occur in respiration, pulse and pupils, but in a proportion of cases, as in the one that I have just described, mental processes seem to be suspended during apnea, although so soon as respiratory move-

ments begin the mind awakes and seems normally clear. In many cases of Cheyne-Stokes respiration patients are deeply comatose and no mental variations are observable. Even in these cases, however, the pulse and eye phenomena are often seen.

In 1876, Ross (*Canada Med. and Surg. Journal*, v., 544) described a case in which general muscular rigidity occurred during each respiratory pause. Several similar cases have been described since. This is, however, not a frequent concomitant of Cheyne-Stokes respiration, and cannot be regarded as one of the phenomena usually accompanying it.

In individual cases we find various combinations of these modifications of pulse, pupil and mental state. They by no means all occur coincidentally. The pulse and respiratory changes are the commonest, and next in frequency the eye and respiratory changes. Gibson (*Edin. Med. Jour.*, xxxiv.) has described one case, which is interesting and important, as it throws light upon the nature of these phenomena. It was a case of meningitis, in which at regular intervals there occurred contraction and dilatation of the pupils, and coincident periods of somnolence and waking, but respiration remained normal. This case cannot be called one of Cheyne-Stokes respiration, but it illustrates the fact that certain portions of the brain may be involved and produce certain of the rhythmic changes characteristic of Cheyne-Stokes phenomena, although the medulla is not affected. The reverse of this condition, which produces Cheyne-Stokes respiration, is much the commonest.

The phenomena of periodic respiration are very variable in their duration, sometimes lasting only a few minutes or hours, at other times persisting for many days or even for many weeks. An anonymous contributor to the *Lancet* (1890, i., 776) says that his father, who is advanced in years, has exhibited characteristic Cheyne-Stokes phenomena continuously for many years, although otherwise apparently well.

The dyspnea varies greatly in severity. For instance, in one case which was under my care this winter, the respiratory movements were so moderate that they caused the patient little annoyance, and he scarcely ever complained of difficult breathing. Usually, however, it is sufficiently severe to weary the patients very much, and every now and again it is intense. When respiration is wearisome and difficult it seems to demand relief by treatment. Text-books upon therapeutics and upon medicine give practically no information as to the mode of action or the utility of drugs for the relief of these peculiar symptoms. As one case after another came under treatment, I tried successively the nitrites and

soporifics, thinking that they might relieve the dyspnea, as they so often do that of asthma, but I soon found that their effects were uncertain, that apparently they afford relief in one case and none in another. I then tried respiratory stimulants and oxygen inhalations, but with similar results. As during the last year there came under my observation in quick succession a series of these cases, I was prompted to review the literature of the subject with care, hoping that I might there find more information in regard to the nature of the phenomena and its mode of treatment than is to be obtained from our usual books of reference. I have found the literature of the subject very large, but unfortunately it contains almost no exact information of a therapeutic character. It is chiefly controversial in regard to the nature of Cheyne-Stokes phenomena.

When we approach the treatment of this affection we naturally ask ourselves: Under what conditions does it arise and what is its nature? Cheyne-Stokes respiration has been observed as a complication of the most varied maladies, and has been provoked experimentally in very many ways. Edes (*Boston Medical and Surgical Journal*, 1879, ci., 734) and Cheyne have both pointed to certain families in whom there was apparently an inherited tendency to this peculiar form of respiration. It is rarely associated with such infectious diseases as typhoid fever, small-pox, diphtheria, cholera and whooping-cough. It occurs much more frequently in cerebral affections, such as meningitis, apoplexy, cerebral embolism and thrombosis, sunstroke, insanity, hysteria, hæmorrhage into the cerebellum and medulla, or aneurism in the latter. Complicating hæmophilia, hæmorrhage after operations and deep anæmia from other causes has been observed. It is frequently associated with certain circulatory affections, oftenest with fatty degeneration of the heart, valvular disease, pericarditis, aortic aneurism and general arterial atheroma. At times, it also complicates respiratory affections, such as bronchitis, pneumonia and tubercular disease of the lungs. It has been observed as a sequel to tracheotomy. In these affections, however, unconsciousness or semi-unconsciousness exists before Cheyne-Stokes respiration develops. It is also rarely observable in severe catarrhal affections of the gastro-intestinal tract. It occurs oftenest of all associated with chronic renal disorders, when it is usually regarded as a manifestation of uræmia. It has been observed in healthy individuals who were sleeping deeply from the effect of prolonged or excessive exertion. It has also been seen when narcosis produced by morphin, chloral and the bromids was deep. In some animals it seems to be the

normal mode of respiration during hibernation. It has been produced experimentally in frogs by subjecting them to very considerable changes of temperature, or by holding them under water for an unusually long time. It has been provoked by bleeding and by the complete removal of the heart. In higher animals it has been caused by alternate compression and relaxation of carotid and vertebral arteries; by section of the medulla with or without section of the vagi; by pressure upon the medulla; and by various injuries to the brain and the medulla. It has been produced quite uniformly by section of the latter at the level of the *alæ cineræ*. Of all these conditions under which Cheyne-Stokes respiration arises, it occurs oftenest in *uræmia*, next in meningitis and other cerebral diseases, next in cardiac, and least in other affections. In all cases there is malnutrition of the brain, due either to toxic agents in the blood, to an imperfect blood supply, or to other causes.

It must be admitted that the exact nature of Cheyne-Stokes respiration is unknown. Very many theoretical explanations of it have been given. No explanation worthy of the name of theory was propounded until 1869, when Traube (*Berliner Klin. Woch.*, vi, 1869, 277) offered the explanation that in all cases less oxygen was carried to the medulla than was natural, that, therefore, it was less sensitive than it should be. Accordingly more carbonic acid gas was needed to rouse it to activity than under normal conditions. He believed the stimulus of an excess of carbonic acid gas in the tissues was transmitted to the brain by the pneumogastric and other sensory nerves. An unusual accumulation of carbonic acid gas in the system took place during apnea. It stimulated the respiratory center and thus excited dyspnea, but it was soon wearied and apnea reappeared. This theory is no longer tenable, for it has been demonstrated experimentally that Cheyne-Stokes respiration will continue even though the pneumogastrics and all sensory nerves that might transmit impulses to the brain are cut. In 1874 Filehne (*Berlin. Klin. Woch.*, xi., 1874, 152) propounded another theory, which I need not describe, for it, too, has been thoroughly disproven. He believed that rhythmic changes in blood supply to the brain were essential for the production of the phenomena. But it has been shown that Cheyne-Stokes respiration will continue even when the aorta is ligated and a varying blood supply is impossible. In 1877, Hein (*Wiener Med. Woch.*, xxvii., 317) announced his belief that whenever Cheyne-Stokes respiration was produced, vitality generally was lessened and the irritability of the medulla especially so; at the beginning of the pause in respiration, the blood was well oxygenated,

out during the pause it gradually became venous; at the beginning of the pause when tissue change was taking place vigorously the respiratory center became more irritable, and as the demand for more oxygen gradually increased it was aroused to activity and produced the succeeding dyspnea, during which the blood was again well oxygenated. This theory, as that of Filehne, is refuted by the experiments which show that variations in blood supply or tissue oxygenation has nothing to do with the phenomena. Moreover, if artificial respiration is maintained during a few of the respiratory pauses, it will not prevent their regular recurrence afterward. In 1879, Luciani (*Lo Sperimentale*, xxxiii., anno tome xliii., 341) and Rosenbach (*Zeit. f. Klin. Med.*, Band I., 583) independently propounded theories which are somewhat similar and which to-day seem to be most tenable. They both believe that the respiratory center is automatic, although normally controlled by reflex motives, or by demands due to the nutrition in various tissues, or to mental states. Rosenbach believes that when Cheyne-Stokes respiration exists the whole brain is affected, although the medulla is especially so. The normal irritability of the central nervous system is lessened so that it feels influences from without less and its automatic power is more manifest. Its normal periodic exhaustibility is increased at times even to paralysis. The experimental proof which has been produced, that periodic respiration is not due to irritation of sensory nerves, or variations in blood supply or oxygenation of the nerve centers, is good evidence that the respiratory center is automatic.

That Rosenbach is right in thinking that the whole brain is involved seems probable, because of the complex phenomena which are associated with the characteristic respiratory movements. Ordinarily the medulla is first affected and produces periodic respiration; later other centers are involved and produce the pupillary, pulse and mental changes. The case described by Gibson, and already referred to, in which only the pupillary and mental phenomena of Cheyne-Stokes respiration were present, shows that at times the higher nerve centers may alone be involved or sometimes may be first involved.

Unquestionably, the best treatment is that which is applied to maladies causing Cheyne-Stokes respiration; for instance, the general treatment for uræmia when it is the cause of the respiratory phenomena. Improved cerebral nutrition and increased sensitiveness to reflex and external influences might be expected to directly aid the respiratory trouble. Therefore, as good nutrition as possible should be maintained, by carefully regulating diet and correcting

digestive disorders in chronic cases of Cheyne-Stokes respiration. Inhalation of oxygen gas has not unfrequently been prescribed, in order to improve cerebral nutrition and make tissue change generally more perfect. Different observers give conflicting evidence as to its utility. In several cases it has seemed to me useless. In the case which I described at the beginning of this paper it was administered very faithfully during the first period of Cheyne-Stokes respiration, and during the first part of the succeeding three weeks, when respiration was normal. About a week after the inhalation of oxygen was continued Cheyne-Stokes respiration reappeared. Oxygen was again used, but not as persistently, for it seemed to have no effect upon the respiratory phenomena or other symptoms. By these methods the attempt has been made to improve nutrition; and simultaneously strychnia has been given to increase the sensitiveness of the respiratory center. In the literature of the subject there is no evidence that strychnia has done good. Indeed most authors frankly say that it is useless. In uræmia it is contra-indicated, for it might hasten the onset of convulsions. There is one instance on record in which it apparently provoked Cheyne-Stokes respiration. This was in the accidental poisoning of a pet dog. The animal was thrown into convulsions by strychnia, but its owner so supported it that the convulsive movements could not be easily re-excited by external influences. Periods of calm were thus produced between the gradually lessening convulsions, in which characteristic Cheyne-Stokes respiration occurred. (Tuke, *Edin. Med. Jour.*, xxxiv., 1888-9.)

Venesection has done good in a few instances. By it impurities can be removed from the blood, and an overloaded heart and engorged cerebral vessels can be relieved. It has been resorted to chiefly in cardiac and cerebral affections.

Various soporifics have been tried. As, however, normal sleep occurring in the course of Cheyne-Stokes respiration does not always modify the respiratory phenomena, so soporifics cannot be expected to uniformly give relief. In some cases, it is true, sleep lessens the dyspnea. In such, morphin and chloral are most sure to give relief. Knaggs (*Lancet*, 1890, i., 744) reports one case that was greatly helped by paraldehyde. Sulphonal and urethan have been tried unsuccessfully. Hyoscin and atropin (Stadelmann, *Zeit. f. Klin. Med.*, 1894, 267) seem to aggravate the phenomena. The nitrites have been used by many observers, who undoubtedly hoped for as prompt relief of this nervous disturbance of respiration as is so usually obtained in asthma when these drugs are administered. Unfortunately they do

not produce any more uniform results than the soporifics. In several of my own cases nitroglycerin has afforded decided, although not complete relief, but in other cases it has been useless. In several I was unable to use it in efficient doses, because of the discomfort which it produced by dilating cerebral arterioles.

Cheyne-Stokes respiration cannot be regarded as always indicative of grave disease, for it occasionally occurs in health when sleep is unusually deep. If it is produced by drug narcosis it is significant of serious poisoning. In renal, in cerebral and cardiac affections, it is always to be regarded as a grave complication, and as usually indicating approaching dissolution. It is least significant of gravity when it is most chronic. It is very frequently completely recovered from. This is oftenest true when it occurs in connection with infectious and cardiac diseases.—*The Journal of American Medical Association.*

Progress of Medical Science.

MEDICINE AND NEUROLOGY.

IN CHARGE OF

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THE BACTERIOLOGY OF PERTUSSIS.

BY HENRY KOPLIK.

This communication appears in the *Johns Hopkins Hospital Medical Bulletin* for April, 1898. Of the many workers he considers only that of Afanassjew and Burger. The former's work appeared in the *St. Petersburg Med. Wochen*, in 1887. He describes a bacillus, which he regards as the cause. The next most important work on the subject was by Czaplewski and Hensel, published in 1897 in Germany. They isolated a bacillus or pol-bacterium having a size about the same as the influenza bacillus, and its character is described. Dr. Koplik collected in Petri dishes during a paroxysm of coughing. Small scale-like particles found in the mucus were inoculated on solidified hydrocele fluid. The bacillus can be seen with difficulty even, with a 1-12th oil immersion the zoogloea look like a collection of cocci. It grows on the hydrocele fluid as a delicate grayish-white pearly growth. On agar the colonies are irregularly round or oval, whitish by reflected light, straw color by transmitted light. A whitish granular stick is developed in gelatin with a nail-head and does not fluidify the gelatin. It grows in pepton bouillon and on

Loeffler's diphtheria serum, not on potato, grayish-white abundant growth on human blood serum.

Stained with Loeffler blue it is an exceedingly minute bacillus, thinner than the diphtheria bacillus and not more than $\frac{1}{3}$ or $\frac{1}{4}$ its length. There are involution forms in old cultures. Loeffler methyl blue stains it deeply at the extremities. Some of the extremities or poles are round, some lancet shaped, one or two spaces in the long axis are not stained; spores or flagella have not been found. The movements observed are Brownian. No remits of any moment have been obtained from inoculation experiments. He concludes:

From the above it will be seen that from the sputum of pertussis cases in the convulsive stage, Czaplewski and Hensel and I, independently of each other, have isolated pure for the first time a bacterium which is constant and found in no other sputum. This bacterium is especially characterized by a minuteness comparable only to the influenza bacillus (Pfeiffer) or that of septicæmia of mice (Koch). In staining the dotted (not granular) appearance spoken of by me and compared to that of the bacillus of diphtheria, can best be brought out by the Loeffler alkaline blue stain. Fuchsin stains more coarsely and more uniform. The swollen end forms, or as I call them the involution forms, can also be brought out by Loeffler blue stain. I wish to point out here also that both in my first paper and in this I worked with pure cultures only (obtained by means of plate colonies). In this perhaps we find a reason why authors who have preceded the communications of myself and Czaplewski and Hensel differ so widely in what they saw. They failed to obtain the bacterium in pure culture. It may be remarked in passing that in my second cases as well as in some of my first cases there could be found among other bacterial forms a bacillus closely resembling the bacterium isolated in this work. This latter is somewhat thicker, grows in longer chains and fluidifies gelatin. I am inclined to think that observers have hitherto been much baffled by this bacillus, which I think with Czaplewski and Hensel is simply accidental. Such must have been the case of Cohn and Neumann.

I have tried to isolate my bacillus or bacterium in the early stages of pertussis before the convulsive paroxysm has appeared, and have not succeeded thus far in separating it from the saliva.

What significance can we attribute to the bacterium which is the theme of this paper? I doubt whether this can be solved except by direct experiment on the human subject. I may not be going too far to predict that the bacterium will aid us in understanding the mode of contagion in pertussis. It may be the first definite step in showing that in the sputum of the pertussis sufferer lies the danger of the communication of the affection to others.

THE THYROID GLAND-TREATMENT OF CRE- TINISM, WITH REPORT OF A CASE.

By SAMUEL H. FRIEND, M.D.

In the *Medical Press*, March 2nd, 1898, a case is reported by Dr. Friend with some general conclusions in regard to structural changes and their cause. He says:—

Cretinism, myxœdema, and other diseases allied to abnormalities of the thyroid gland have received such carefully detailed attention since the results of the work of Gull, Schiff, Ord, Reverdin, Kocher, Bircher, and Horsley were made known, that the time seems fitting to draw absolute conclusions as to the physiological function of the gland and to interpret the far-reaching physical effects caused by its disease or absence, and, at the same time, to indicate the range of the specific therapeutic application of thyroid treatment. The following report of a case of cretinism I trust may lend assistance in the interpretation of this curious disease :—

The case occurred in a female aged 14 years. All the features of an extreme type of cretinism were present and are fully detailed. The treatment was continued from April, 1894, to the time of her death in January, 1896. Mental and physical improvement resulted during the three periods of treatment. 4 to 5 grains of thyroid extract daily was the average quantity given. At the post-mortem examination no thyroid gland could be found around the trachea. On the left side of the cricoid cartilage was found a pear-shaped gland, 2.5 cm. in length, 1.2 cm. thick, and 2 cm. wide, resembling on section an enlarged lymph-gland. The thymus gland weighed 64 grains. Small glands studded the entire pleura. The other organs of the thorax and abdomen were normal except the bladder which was thickened, its capacity was half an ounce. A calculus was imbedded in its wall above the vertical openings.

Upon opening the calvarium the dura was found to be thickened and firmly adherent throughout its entire extent to the bone. Extending from 1 to 1.5 cm. on each side of the longitudinal sinus was a deep-red discolouration of the membrane, from which bloody fluid exuded. Nothing of interest was observed in connection with the pia mater. The grey and white matter of the brain was of normal consistence. About two ounces of bloody fluid were found in the lateral and fourth ventricles. The convolutions were flat and the sulci very shallow. The weight of the brain was 1.555 grams. As I desired to preserve it for future microscopic examination, sections were not made. The pituitary body was .8 cm. wide, .7 cm. long, and .3 cm. thick, and weighed 0.2 grams.

An examination of the marrow of all the bones revealed nothing but the red variety. A microscopic examination of the pear-shaped gland found in the thyroid location revealed nothing but hypertrophied and hyperplastic lymph-cells. A like study of the pituitary body, thymus gland, and suprarenal capsules, as well as of other tissues throughout the body, merely showed an excess of fibroid growth in all.

A study of this case strikingly illustrates the place occupied by the thyroid gland in the physiology of man, as well as the therapeutic application and limitation of its extract. Structurally there was present in this patient an increased thickness of the skin softening and inhibited growth of the bones with a compensatory enlargement after co-ordination was produced, and dwarfism.

As a result of the knowledge obtained by the study of the cases reported, it is evident that structural changes and their cause may be classified under the following headings :—

1. Congenital absence, diminution in size, or acquired atrophy

of the thyroid gland results in myxœdematous thickening of the skin, persistence and enlargement of the thymus gland, hypertrophy and hyperplasia of the lymph-glands, changed structure and retarded development of the entire osseous system, and dwarfism. Functionally, there is mental apathy and lack of development, retarded and deficient motor and sensory-nerve mechanism, and manifold inco-ordinations and muscular retrogression.

2. Acute disease of the thyroid gland results in softening and retarded development of the osseous system, and anæmia, producing a condition which retards absorption and excretion in the stomach and intestines, bronchitis, and abnormal nervous manifestations.

3. Chronic disease of the thyroid predisposes to malignant adenoid, and cystic growths, and microbic diseases.

4. Hypertrophy and hyperplastic excess of thyroid structure, as shown by Mobius and Greenfield, and by Horsley, results in exophthalmic goitre or Graves' disease.

Anatomical, physiological, therapeutical, and pathological data all tend to prove that the thyroid gland directly controls the co-ordinate growth and development of the entire organism; this evidence suggests that the diseases of the gland are limited by the absence, diminution, or excess of special gland structure, and by changes in the gland secretions and excretions, resulting in the production of cretinism, rickets, and exophthalmic goitre. It would seem, moreover, that the skin and thymus gland attempt above all other organs to compensate for the absence of the thyroid function, and that structural and functional diseases of the bones are directly caused by disease of the gland; and that the therapeutical application of the extract of the gland should be confined to conditions in which there is absence, diminution in size, or disease of the thyroid structure, as indicated by functional changes in the skin, sensory or motor nervous systems, structural changes in bones, and dwarfism.

BUBONIC PLAGUE IN BOMBAY.

ABSTRACT OF REPORT.

By KEAN BAHADUR N. H. CHOKSY,

Extra Assistant Health Officer, Bombay Municipality, appearing in the *Medical Press*,
March 23rd, 1898.

The cases were treated in the Arthur Road Hospital situated on an island. He speaks of some incidents in regard to the carrying on of the hospital work and the difficulties met with. Once a mob of 1,000 natives attacked the hospital, having got it into their heads that the only object in the admission of patients was to kill them and send their hearts to Queen Victoria. Among the troubles was an invasion of quack selling specific remedies, who like vultures fattened on the dying.

The mortality was highest in February, 1897, when 81.64 per cent. of all admitted died. Of the races, the Hindus suffered most, their mortality reaching 75.46 per cent.; next to these came the Jews, whose mortality was 75.0 per cent. Mussulmans suffered least, their mortality being 66.38 per cent. As a rule, children bore the attack better than adults, and women better than men.

Of trades, the mortality was highest among blacksmiths, carpenters, cartdrivers and beggars; of the first three classes every one attacked died.

The clinical report tells us that a third of the cases admitted were in a moribund condition.

Six types of the plague, as follows, are enumerated by the author:—

1. *Pestis minor.*
2. *Pestis ambulans.*
3. *Pestis simplex bubonica.*
4. *Pestis septicus.*
5. *Pestis pulmonalis.*
6. Non-typical forms of plague.

Of these, the pulmonary form, which is usually unaccompanied with bubonic swelling, is the worst. It "is a frightful source of spreading the infection from the sputum, which is loaded with plague bacilli."

Referring to the condition of the patient the author declares that "Aphasia, with high fever, and the peculiar aspect of the patient, would be a strong presumption in favour of plague."

Of temperature we learn: "The range of temperature, except when it is very high, is no criterion of the severity of the case;" and that "the temperature generally ends by lysis—crisis being exceptional. When the latter is observed, and it has a fall of from 4 degs. to 5 degs. or 6 degs., it almost invariably indicates collapse and impending death."

Sometimes it is observed that on the second, third, or fourth day, the temperature falls to normal or thereabouts, rises suddenly and again falls, the case ending fatally with the second fall.

After the buboes are incised, the temperature may show a slight evening rise, but in ordinary cases, when suppuration and sloughing are not extensive, and there is no retention of pus, it soon falls to normal, and continues so until complete recovery.

The bubo may appear before, with, or after the rise of temperature, but, as a rule, its appearance is coincident with it.

The size of the bubo was quite independent of the gravity of the case, small glands the size of a pea have proved fatal; on the other hand, cases with large and diffused buboes have turned out to be apparently mild attacks.

Of the 939 cases admitted, 8·83 per cent had buboes.

Pulmonic cases formed 8 per cent. of all admitted to the hospital.

More than half of the 856 bubonic cases had the buboes in the femoral and femoro-inguinal regions.

Once the buboes have appeared, they take one of two courses. They either resolve or end in suppuration, or suppuration and sloughing. Suppuration is, however, the more frequent method of termination.

Delirium, if present, may be acute and active or low muttering, as in the typhus condition. Hallucinations were not uncommon.

Of the circulatory system we read:—"In no other infectious disease does the pulse—an index of circulation—present so many variations in force, frequency, volume and tone." In the majority

of cases the pulse is compressible, extremely feeble and very frequent. Dicrotism in some cases is extremely well marked, and in advanced cases may really be considered a trustworthy diagnostic sign.

The heart sounds have always been found to be clear, in some cases the first sound may be weak, and the second slightly accentuated, and no bruits or murmurs were audible. Pains in the præcordial region and occasionally palpitation may be complained of, but practically the patients had very few complaints about the circulation.

Bacteriological examination was systematically carried out. It was observed that in many undoubted cases of plague, no plague bacilli could be detected or grown from the blood, and it appeared as if in such cases they were confined to the lymphatic system alone. Most of these cases eventually recovered.

Increased frequency of respiration is one of the symptoms that attracts early notice in the plague, and in which, besides the lungs, the larynx also becomes involved. In some instances the tonsils and pharynx become covered with a pseudo-diphtheric membrane, which extends to the larynx and trachea.

Œdema of the lungs is the usual cause of death in the non-bubonic cases, pneumonia in such cases being secondary and responsible for a comparatively small number of deaths.

The digestive system suffers greatly, hiccough is occasionally a very distressing complication, and not unfrequently is found associated with meningitis.

In women menorrhagia and metrorrhagia were usual, and pregnant patients aborted.

The following diagnostic points are given:—

1. The presence of fever, high or low.
2. A quick, easily compressible pulse.
3. A furred tongue.
4. The aspect of the patient by facies pestica.
5. The peculiar hesitating, broken speech.
6. The presence of a bubo.
7. Suffused eyes.
8. The presence of cough, with rusty or hæmorrhagic sputum.

Prognosis in the pulmonic type of plague is the least hopeful, as very few cases recover. Hæmorrhage or hæmorrhagic discharges are also grave.

After five years of age the percentage of deaths increase with each year of life. Of the causes of death the most important is failure of heart's action, and it may be either sudden or gradual.

Convalescence is extremely tardy, and patients go on for a long time, day after day, without making the slightest progress.

Among the sequelæ of plague may be noted aphasia, which is generally temporary, peripheral neuritis, irritability of temper, imbecility and insanity.

No cases of genuine relapse have been observed.

The preventative measures were radical and much to be praised. "All clothing and other belongings to the patients were destroyed by fire, and all the sheets, blankets, pillows, quilts, etc., used for the patients, were similarly treated."

The death of Dr. Davda three weeks after he had been inoculated with 10 c. c. of Dr. Yersin's serum was deemed a sufficient proof of its uselessness as a preventive.

Of the curative treatment the best results were obtained from strychnine and morphia, both of which could be pushed to more than the usual limits of tolerance.

The diet was essentially a milk one. Pyrexia was treated with cold sponging and the application of icebags. No remedy gave such good results in delirium as morphia.

Rum was the principal stimulant.

Infusion of digitalis was freely given in cases of cardiac irregularity.

Vomiting and hiccough, which were at times very persistent, were treated with cocaine.

We have given an unusually large space to the notice of this great Report, which reflects credit on all concerned with the good work of fighting the plague in Bombay.

We are the more pleased with it than we usually are with Reports, for the task of its production was immense in the midst of such surroundings. To produce the volume, inexhaustible patience, untiring industry, and a great love of the art of medicine were necessary.

The completed work now lies before us with its statistics, clinical reports, charts, post mortems, and summaries, a testimony to the intelligent, systematized, well-directed industry of the author, and a rich addition to the medical literature of the plague.

SURGICAL MEDICINE.

Time was when surgery and medicine were separated by a strict line of demarcation, easy to trace and obvious to all; but just as the progress of science has broken down the theoretical barrier between organic and inorganic chemistry, so the advance of knowledge has bridged over the gulf which once divided all cases into two great classes. To such an extent have the limits of surgery retreated, that it is at present very difficult to say what is, and what is not, a fit subject for operative treatment, and there are signs that further advances are contemplated all along the line. In the ingenious, if somewhat paradoxical, paper read by Mr. Treves before the Medical Society, of London, attention is directed to a very curious and interesting series of cases in which abdominal section, performed under a misapprehension, has been followed by relief and even by cure of the patient's symptoms. These accidental successes, in respect of tuberculous peritonitis, have almost raised the procedure to a recognized position in the treatment of a, medically considered, not very promising condition. Speculation is rife as to the probable explanation of the beneficial results of this intervention, but, so far, no very plausible hypothesis is forthcoming of the *modus operandi*. The problem is rendered the more obscure by the fact that the simplest intervention usually gives the best results. In other words, the mere opening of the abdomen is more frequently followed by resolution than elaborate measures of dealing with the diseased condition. Even more remarkable is the fact related by

Dr. Lauder Brunton, that in a case of advanced phthisis complicated by tuberculous invasion of the peritoneum, abdominal section not only cured the latter, but was followed by subsidence of the pulmonary disease, the patient who, at the time of the operation, was expected to die at no distant period from the lung trouble, being at present alive and well. Such observations as these seem to open up a new horizon for surgical activity, and Dr. Brunton even suggests that the time may come when abdominal section will be habitually resorted to for the treatment of pulmonary tuberculosis. Far fetched as this may seem, it is really not more startling than the now recognized operation of opening the abdomen for tuberculous peritonitis. It really looks as if the craze for trepanning, which characterized a certain epoch of primitive surgery, was about to be revived, the abdominal parietes taking the place of the cranium. It may be assumed that our forefathers derived, or thought they derived, some benefit from this proceeding, and its scientific basis was probably as sound, or as unsound, as that of the actual phase of abdominal section. Just as in abdominal surgery, relief of symptoms not unfrequently follows operation, although no lesion has been discovered after the most careful examination, so, in the surgery of the cranium, the gravest phenomena have been found to disappear after a fruitless trephining. This at once suggests that the mere relief of internal pressure must have had some share in the beneficial results of the operation, whether on the cranium or the abdomen. We know very little as to the bearings of internal tension, and such an explanation is, to say the least, much more plausible than the suggestion that the effects are due to letting light into the peritoneal cavity. This explanation may even apply to the influence of the operation on pulmonary disease, seeing that the communications between the thorax and abdomen are numerous and free. We prefer it to Dr. Brunton's suggestion that the opening up of the peritoneal cavity may give rise to the production of a true antitoxin, especially as the therapeutical use of antitoxin in the treatment of phthisis has not so far been attended by any marked success. The occasional and inexplicable relief which sometimes follows these random operations unquestionably creates a danger that recourse may be had to them with too much readiness thereby at the risk of bringing surgery into disrepute. Already, indeed, routine recourse to an exploratory incision tends to take the place of careful clinical diagnosis. It is so much easier to cut down and ascertain *de visu* the actual condition of affairs than laboriously to scrutinize the clinical phenomena with a view of arriving at a correct diagnosis. Surgeons may hint that the physicians' loss may be the patients' gain, but this is an assumption which can hardly be justified in view of the unnecessary risk, small though it be, which such an operation entails to the patient. Moreover, an exploratory incision is not a means of diagnosis which can be resorted to by the ordinary practitioner who runs the risk of being deprived of the ability to make an inferential diagnosis and of finding himself stranded in consequence. As far as possible an exploratory incision should come when all other means of arriving at a diagnosis have failed, or to confirm a diagnosis which, if correct, would justify surgical intervention.—*The Medical Press*, March 6, 1898.

CARBON DIOXIDE.

L. H. Watson (*New York Medical Journal*, Jan. 15, 1898, *Medicine*) advises water charged with this gas and also the introduction of the free gas into the stomach to allay vomiting. He believes it is anesthetic to the mucous membranes, antiseptic, and mildly stimulating. It may be administered by inhalation and swallowing from tanks of compressed gas. A gauge and regulator on the tank regulate the pressure. The regulator should be set at a pressure of from six to eight pounds; a stop-cock with three feet of rubber tubing terminating in a glass mouthpiece is then connected with the tank. The patient while fasting is directed to place the glass tube in his mouth, slightly depressing his tongue at the base. He is then directed to draw in his breath and hold it. The stop-cock is turned and the gas allowed to flow into the esophagus and stomach. The pointer of the gauge falls back to zero, and the pressure is shut off, the patient withdrawing the tube and swallowing. No trouble from choking is experienced. This operation is repeated every minute for four or five minutes, and then a rest is allowed. The sensation is rather pleasant. Most patients express satisfaction. There is a feeling of warmth in the stomach, with a sense of exhilaration, while no unpleasant distention is noticed, although the stomach may be so fully dilated as to allow one to define its outlines. Each séance lasts from fifteen to twenty minutes. No patient has experienced the slightest discomfort from the use of this gas. It can also be easily used for the purpose of dilating the stomach for diagnostic purposes, by connecting the rubber spray tube of Einhorn with the glass mouthpiece.

ENTEROPTOSIS.

LANGERHANS (in *Archives für Verdauungskrankheiten*, Bd. III., Heft 3,) concludes that a moderate degree of enteroptosis, when it is consecutive upon frequent child bearing, is physiological and productive of no symptoms. The most frequent symptoms of this condition are those of aggravated dyspepsia, pain and demonstrable abnormality of secretory and motor functions. The descent of abdominal organs changes the mechanical relations, so that lasting injuries sometimes result, due to pressure upon the unprotected kidney, to increased demand upon the propulsive muscles of the stomach and always to a stretching of the mesentery. By the cumulative effect of these numerous and continuous irritations, even though each in itself maybe slight, the central nervous system becomes exhausted and, according to individual predisposition, neurasthenia or hysteria with especially pronounced abdominal symptoms supervenes. Chronic constipation is generally a marked condition.

Treatment consists—first and most important—in gymnastics of the abdominal muscles and then symptomatic therapeutics.—*Boston Med. and Surg. Jour.*

ORTHOFORM.

In the *Lancet* the new substance orthoform is described as a methylic ether of amidobenzoic acid and as possessing remarkable anesthetic and analgesic properties when locally applied. It is a white crystalline powder without taste or smell and but slowly soluble in water. It is nonpoisonous, rather slow in action, but persistent in effect. It is antiseptic, diminishes secretion and can be used internally and upon broken surfaces in large amounts; as much as 700 grains has been applied to a carcinoma of the face in one week without untoward effects. The hydrochlorate is readily soluble in water, but the solution is too acid for use in the eyes, although it can be used internally; a saturated watery solution is suitable for local use; while a dose of $7\frac{1}{2}$ grains of the hydrochlorate internally several times a day produces no untoward symptoms; it would seem indicated in gastric ulcer and cancer. Orthoform is shown to be superior in its application to cocaine or eucaïne and altogether harmless so far as reported.

TREATMENT OF POLYNEURITIS.

THE treatment (*Med. Standard*) is divided into five groups, according to the prominent groups of symptoms: (1) Combat pain by use of morphine, antipyrin, sodium salicylate, salophen, or methylene blue internally; by external applications of solution carbolic acid, 4 to 5 per cent.; by judicious use of water and by hypodermic injection at painful areas of a mixture of a 2 per cent. solution acid carbolic, with a 1 per cent. solution morphine in quantity of one cubic centimeter or less. (2) Combat insomnia by use of potassium bromide, morphine (contraindicated in vagus involvement), chloralose, sulfonal, trional, paraldehyde and chloral (in alcoholic neuritis with care). (3) Combat paralysis—if craniobulbar, energetic and prompt measures are demanded—by use of hypodermic injections of caffeine, ether and camphor, using faradism if dyspnea and cyanosis be present; use mustard applications, thrashing with cold cloths, faradisation, oxygen and strychnin. (4) Combat deformities due to defective attitudes and tendon retractions by the use of splints and bandages to retain the parts in normal attitudes. (5) Curative: give a diet rich in phosphorus, hot baths, salt baths, strychnin, electricity—galvanic and faradic,—fresh air and sunlight.

SURGERY.

IN CHARGE OF

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EXPERIMENTAL STUDY OF WOUNDS OF THE HEART.

By DR. FREDERICK BODE, (Frankfort).

It has been demonstrated by the outcome of Professor Rehn's case (Twenty-sixth German Surgical Congress) that suture of the heart can be performed with success. Heretofore the views on the subject had been very conflicting, and the knowledge of the heart behavior under such circumstances was very scanty. The author has therefore undertaken an experimental investigation of the reaction of the heart after injury, the resulting symptoms, the influence of suture of a division of the heart on the continuation of regular heart action, and, finally, the several factors which, on the one hand, result in healing of a wound and those, on the other hand, which terminate immediately or later in death.

Whatever chamber of the heart was implicated a hæmorrhage during systole was observed. This occurrence held good for all the smaller wounds; in the larger, and in injuries to the auricles and the efferent vessels, a diastolic bleeding was also either unmistakably noted or else its non-occurrence could not be clearly established. The pressure of the escaping blood was lowest in the auricles and highest in the left ventricle. The amount lost, however, was not in a constant ratio to the pressure, except for extensive wounds of the ventricles. In other injuries a complicated vicarious action of the heart occurred, as during the systole of any given portion diminution in size of the wound by muscular action resulted, being most marked when the muscular wall was thickest. A minute wound of the left ventricle consequently occasioned less loss of blood than a similar one in the other divisions of the heart. Non-penetrating wounds generally excite but little bleeding synchronous with the heart's action.

All the larger wounds of the heart quickly resulted in death from disturbances of circulation and impairment of organic functions, while from the smaller wounds of the ventricles, the hæmorrhage gradually diminished and stopped spontaneously, the time required for wounds of the left ventricle being usually quite short. Wounds of the auricles, right or left, are much more dangerous than those of the ventricles.

In suture of cardiac wounds, the technical difficulties are much lessened after the insertion of the first suture, which can be used to anchor the organ. When the needle pierces the tissues there is a momentary stoppage, succeeded by a period (usually brief) of irregular and increased action. The axis of the line of suture has no special influence on the action.

Full details of the experimental work with cardiograms are appended.—*Beiträge zur klinischen Chirurgie*, Band xix, Heft 1.—*Annals of Surgery*, Dec., 1897.

TUBERCULOSIS OF LYMPH-VESSELS OF THE EXTREMITIES.

By PROFESSOR JORDON, (Heidelberg).

The newer works on surgery fail to mention this affection, and only slight allusion to it is made in the treatises on pathology, and its existence had not been recognized up to 1880. It is the only form of tuberculosis of the lymph-vessels that possesses any surgical importance. The author has recently seen four cases, and from a consideration of their course and a review of the scanty literature he has made the following observations:

The disease is most frequently situated in the upper extremity. The two sexes are affected equally; most of the patients are young adults. Other tubercular processes are almost always absent. In all cases the peripheral focus was the original and only source of tubercular trouble; it was in all cases situated in the skin of the hand or foot. The lack of evidence of a hereditary disposition and absence of other forms of tubercular disease point strongly to the probability of inoculation, and a majority of the cases gave a more or less definite history of such an origin.—*Beiträge zur klinischen Chirurgie*, Band xix, Heft 1.—*Annals of Surgery*, Dec., 1897.

AN OPEN SAFETY PIN SWALLOWED.

Dr. B. F. CURTIS exhibited a safety pin which while open had been swallowed forty-eight hours before by a baby of six months. The infant had been brought to the babies' wards of the Post-Graduate Hospital next morning. An x-ray photograph taken this day showed the pin lying just within the anus. The case was interesting, because a moderately small safety pin had been swallowed while open and had caused only slight reaction. The temperature had not risen above 101° F. The parents gave no purgatives, but fed the child freely on bread. Another point of interest was the very rapid passage of the pin through the alimentary

canal. It was an excellent rule in practice, whenever a child was brought with the statement that it was supposed to have swallowed a pin, to examine the pharynx with the finger, as the foreign body would not infrequently be found within reach of the finger. In the present case it was shown that it was also desirable to examine the rectum even within twenty-four hours.—*Medical Record*, April 23, 1898.

GLOVES FOR ASEPTIC SURGERY.

To the Editor of the Medical Record.

SIR: Gloves for employment in aseptic surgical work have been recently advocated on theoretical grounds by so many prominent surgeons that many of the younger men feel in duty bound to use such gloves in order to be up to date. To all such younger men who have misgivings prompted by natural sense, I wish to state that one surgeon at least can be depended upon to fortify them by his example in refusing to adopt anything that will injure the surgeon's most precious possession—the sense of touch. I have been much interested in everything that seemed to be in the nature of progress in surgery, and have given close attention to the matter of gloves for aseptic surgical work, but have arrived at the conclusion that the practical disadvantages of gloves counterbalance their theoretical advantages. Surgeons who were doing first-class work three years ago seem to me to be doing second or third rate work now on account of the interference made by their gloves. The greatest danger to be feared is that the younger generation of surgeons may fail to develop the sense of touch to the highest degree, and we shall have much second rate work done, particularly in abdominal surgery. If any one employs gloves in peritoneal work—in removing adherent appendices and pus tubes, for instance he is liable to obtain statistics which are believed by his rivals, and he must make long incisions and do slow work that shocks the patient, and he must do much incomplete work when he is forced to depend upon the coarse, commonplace sense of sight.

I have watched various European and American operators at work with gloves, and have asked about their statistics. I will choose Weir's nascent-chlorine skin sterilization and untrammelled fingers that are quick to work deftly in doing neat, accurate work. My statistics will always be at the disposal of men who wish them for comparison with glove statistics. To the younger generation of surgeons, I say, fight with your might against the idea of using a means that will damage your most precious possession—the sense of

touch. Put aside the temptation to be up to date theoretically, at the cost of adopting a destructive agent in your work. As a test of skill palpate a normal appendix instead of trying to secure a pediculus pubis with the aid of a pair of boxing-gloves.—*Medical Record*, April 23, 1898.

ROBERT T. MORRIS, M.D.,

49 West Thirty-Ninth Street.

NEW YORK, April 8, 1898.

OBSTETRICS.

IN CHARGE OF

H. L. REDDY, M.D., L. R. C. P., London,

Professor of Obstetrics, University of Bishop's College; Physician Accoucheur Women's Hospital; Physician to the Western Hospital.

PROF. SCHENCK'S RESEARCHES ON THE PREDETERMINATION OF SEX.

Prof. S. treats the subject under three heads. A summary of the writings of his predecessors, an account of his own researches and deductions, and, thirdly, a description of the method of treatment he has devised with cases

In the first part, he agrees with the conclusions of various writers that, if the sexual power of the male be greater a female offspring is more likely to result and *vice versa*. With regard to environment upon sex, in warm climates females predominate, in cold and unfavourable males. The second part begins with the enunciation of the fact observed in domestic animals and in insects that the better the mother is nourished the more females she produces, the number of males remaining constant. Schenck set out upon a series of observations based on the theory of crossed sexual inheritance. He first investigated the excreta and particularly the carbohydrates of the urine. The presence of a certain amount of sugar, which is commonly recognizable by the phenylhydrazine test in perfectly normal individuals, indicates incompleteness of the oxidation process whereby a certain quantity of heat is lost to the body. Now the quality of sugar normally excreted is equal in men and women, but more significant in the latter owing to the lesser activity of their metabolic processes. For the perfect ripening of the ovum, it is necessary that oxidation shall be perfect. That is, that no sugar shall be left unburnt. Where there is a remainder of unburnt sugar the ovum stands a chance of being less ripe and well nourished. Hence the properties of its protoplasm are less well developed, and by the theory of crossed inheritance it is more likely to produce a female child.

On the other hand, when the urine is free from sugar the ovum can attain perfect development and give rise to male offspring. It is upon this cardinal principle that Schenck's theory is based. He holds that a prolonged course of appropriate nourishment both before and after fertilization will tend to the conception of male children only. The next question is of the means to be adopted. If a male child is desired and the maternal urine contains no sugar but abundance of reducing substances (particularly the levorotatory glycuronic acid) he allows impregnation forthwith. If, on the other hand, sugar is present, it must be removed. Finally, Schenck gives his clinical results. He quotes numerous cases to show that the bearing of female children is associated with glycosuria. In such cases, he recommends a diet comprising plenty of proteid and fat and as little carbohydrate as can be tolerated. This must be taken for 2 or 3 months before and after impregnation. He concludes after giving examples (such as, in one family where six boys had been born; under this theory and treatment a girl immediately followed). In countries where much flesh is consumed there is a marked prepondance of male children. The birth of male children can thus in certain cases be predetermined, but the voluntary production of girls is a problem as yet unsolved.—*Med. Rev.*

RECTAL IRRIGATION IN ECLAMPSIA.

An interesting case is recorded by Sené as showing the remarkable results obtainable by copious rectal irrigation. The case was that of a patient in the seventh month of pregnancy, who developed eclampsia. A copious bleeding caused arrest of the convulsions, but she shortly fell into a condition of complete coma, with total suppression of urine. For half an hour a copious enema of tepid water was administered, about five minutes being given to the injection, the torpid condition of the patient greatly facilitating the operation. At the end of twelve hours, the patient began to recognize when spoken to in a loud voice. Shortly after sensation showed evidence of returning, and a small amount of urine was passed, while occasionally faecal material was returned by the enema. The next day the coma had completely disappeared; the patient replied to questions, but had no recollection of the events of the previous forty-eight hours. Micturition became completely re-established, and delivery was effected on the fourth day, with disappearance of all the symptoms. There is no doubt that a portion of the injected water became absorbed, acting as a diluent to the blood, thereby reducing its toxic effect on the nerve centres.

THE CURETTE AFTER ABORTION AND DELIVERY.

Buttner (*Centralbl. f. Gynak.*) has observed 28 cases where the operator was Glaevecke. He finds that the use of the curette is free from danger if carried out with proper precautions. It permanently stops hæmorrhage after abortion or delivery, and, as a rule, the catamenia return soon, and continue normally, contrary to what is so often seen in mis-managed cases. A skillful use of the curette likewise prevents those morbid changes which are the cause of sterility.

HYSTERECTOMY FOR ACUTE PUERPERAL SEPTIC METRITIS.

Vineberg (*New York Med. Jour.*, April 2nd, 1898) reports a successful case. Symptoms began on the sixth day after confinement; three days later curetting was done, and was followed by improvement for twenty-four hours. On the twelfth day the patient was taken to hospital, apathetic, delirious, with temperature 103° , and pulse 130. Intra-uterine irrigations brought away no *débris*. On the evening of the thirteenth day she seemed sinking, and abdominal total hysterectomy was done. On cutting open the uterus the whole interior above the cervical canal was covered with a dark, tenacious, slimy discharge, emitting a very foul odour. Attached to the left horn was a piece of placenta 2 cm. by 4 cm., and firmly adherent. The patient left hospital in six weeks. The author explains the lateness of the onset in these cases as follows:—A piece of retained placenta disintegrates, and the *débris* are at first carried away with the lochia. After a week the cervical canal becomes moderately closed, and at the same time the heavy fundus sinks forward, so that escape of the discharges is interfered with, resulting in absorption and sepsis. This may occur without foetus of the lochia. The proper treatment is immediate curetting, followed by special precautions to allow of subsequent drainage. If this fail, as shown by rapid weak pulse and loss of ground by the patient, hysterectomy should be done. In a foot note to the paper the author reports a second and later case, where the same treatment was successfully carried out. He gives references to eight other cases reported

PREVENTION OF LARGE MAMMARY ABSCESSSES BY EXPRESSION OF THE MILK.

Wilfred B. Warde (*The Lancet*) has found that expression of milk from the circumference of the breast has produced excellent results, especially in cases of imperfectly

developed breasts or nipples. The induration in these cases is due largely to inflammatory thickening and only secondarily to the retention of milk. In these cases only a small quantity of milk will come away as the result of expression, but the hardness and induration will gradually subside and no abscess form. A case in illustration is that of a primipara, who had weaned the child, and for a month had no trouble with her breasts. She attributed the subsequent trouble to sleeping in a very cold, damp room. When seen by the doctor she was sweating profusely, with a temperature of 101.8° and pulse of 120. The pain in the left breast was so severe that she dared not move. The breast was large, the skin over the outer half red and œdematous, covering a hard tender lump. The axillary glands were swollen and tender. Free manipulation of the breast was at first extremely painful, but eventually gave some relief. A small plug of greenish yellow mucus came from the nipple. The breast was bandaged, and a purge administered. The following day the temperature was 103° . The outer half of the breast was occupied by a doughy, painful mass. To the writer's surprise, manipulation of the breast was followed by the exudation of six large drops of pure pus from the nipple, to the great relief of the patient. Poultices were ordered, and the next day the temperature was only 99.2° . The swelling was less. A few more drops of pus followed the manipulation. From this time on the indurated mass gradually softened and disappeared. It would seem that there was really an abscess in this case, and that the pus was evacuated through the nipple. The course followed is commanded by the writer as advisable in similar cases.

PUERPERAL INFECTION.

St. Joseph B. Graham (*Virginia Med. Semi-Monthly*) says that the causes of puerperal infection may be classified as follows: *Streptococcus pyogenes* (usual cause); *staphylococcus pyogenes aureus* and *albus*; *Klebs-Löffler bacillus* of diphtheria; *bacillus coli communis*; *gonococcus* of Niesser, and perhaps the *bacillus* of malignant œdema. These germs may be introduced, either from the patient or her dressings, or, what is more usual, from the hands, instruments or dressings of physician or nurse. Admission is gained either through a solution of continuity, or through the puerperal endometrium.

The pathological changes depend on the germ producing the infection. The most marked changes are in the blood, which becomes thick and dark, acid in reaction and decom-

poses quickly; leucocytes and red corpuscles are disintegrated. Hæmorrhagic foci are found in the internal organs. With mixed infection pyæmia will occur.

Preventive treatment must first be considered. Any abnormal secretion from the vagina must meet with appropriate treatment. In health the vaginal secretions are antiseptic, hence preliminary antiseptic douches are uncalled for.

As an antiseptic for the hands of the physician and nurse, a two or three per cent. solution of formalin is recommended, to be used after a thorough scrubbing with nail brush and soap. The external genitals of the patient should be well scrubbed. As few vaginal examinations as possible should be made.

After infection has occurred a douche of formalin, one to four per cent., is preferred, as it is non-toxic, and only slightly irritating, yet ranks foremost as a germicide. The uterine cavity should be thoroughly cleansed by the finger or curette. A suggestion, which has not been tested by the writer, is the conveying of formaldehyde gas combined with vapor of alcohol into the uterine cavity. Theoretically, it should prove of value. The constitutional treatment must depend on the kind of infection present. The antistreptococcic serum or the antidiphtheritic serum should be used as indicated. The patient's vitality should be sustained by proper remedial agents, and the writer believes in pushing alcoholic stimulants.

A SPECIFIC FOR PUERPERAL ECLAMPSIA.

F. S. Wright (*Cincinnati Lancet-Clinic*) reports three cases of puerperal eclampsia in which the application of an ice-bag to the head and over the carotids seemed to control the convulsions. In the first case chloral and morphine had been used without avail, but after the application of the ice no more convulsions occurred. In the second case the ice was supplemented by a full dose of veratrum viride. In the third case there was apparently no other remedy than the ice used, yet the convulsions ceased.

COLLES'S LAW.

Hochsinger gives a lengthy discussion on Colles's law as it now stands, and on the questions which are connected with it. His conclusions are as follows: (1) Healthy women who have been impregnated by syphilitic men can give birth to syphilitic children, but remain free from syphilis all their lives.

(2) Women who are pregnant with the foetus of a syphilitic father, but free from contact infection from him, acquire through such a pregnancy a certain but very variable degree of immunity against syphilis, which has been the foundation for the so-called Colles's law. (3) Colles's immunity of the mother is the result of immunising substances derived from the spermatically infected foetus and is not absolute. (4) The exceptions to Colles's law concern women who, for reasons not always easy to discern, have only absorbed an insufficient quantity of the immunising substance during pregnancy, or in whom the requisite tissue activity for the establishment of immunity is absent. (5) A retro-infection of the mother from a spermatically infected foetus, the so-called *choc en retour*, or "syphilis by conception," is clinically not proved, and not provable, although theoretically not difficult to establish. (6) Finger's hypothesis of the toxic nature of tertiary syphilis and of the crypto-genetic tertiary infection of the mother, is incompatible with Colles's immunity, and is at variance with the pathological anatomy and clinical experience of early congenital syphilis. (7) Hereditarily syphilitic children infected by the father should not be suckled by the mother if it is her first child, and she is free from syphilis. If the mother has had several spermatically infected children, and is still free from syphilis she may confidently suckle the child.

PUERPERAL CONVULSIONS.

Dr. Thayer, in *Boston Med. and Surg. Jour.*, says that in the condition of the nervous system that exists in puerperal convulsions, there is a peculiar tolerance of veratrum viride, so that the officinal dose has no effect. But large doses quiet the nervous erethism, producing a decided effect in a short time,—sometimes in fifteen minutes, but almost certainly within an hour,—and keeping the nervous system under control for several hours.

The administration is followed by cooling of the surface, great lowering of the pulse in rate, but not in strength, and along with this complete arrest of the convulsions. The state of the pulse is the guide in treatment. From a high rate, which rules in the disease, it is reduced to the normal standard or below it; and while it is kept below sixty there need be no fear of a recurrence of the paroxysms. When this effect has been once produced, it will continue several hours, and a single dose will do it; if not apparent within an hour or less, the medicine must be repeated in smaller doses; and it can be safely repeated at intervals until the pulse be-

gins to fail. With the pulse for a guide, no untoward symptoms need occur from its use; the pulse may be brought down to fifty, without any general depression; if carried so far as to produce vomiting, we may find great prostration produced by the nausea, which is overcome within thirty or forty minutes by opium, or any diffusible stimulant,—perhaps in less time by a solution of morphine hypodermically.

ALBUMINURIA AND PAST AND FUTURE PREGNANCIES.

Blaudeau publishes information of much importance as to albuminuria in past pregnancies and the prognosis if the patient should again conceive. Altogether albuminuria in pregnancy seems to prevail most in first, second, and third gestations, becoming rarer in multiparæ. Blaudeau has worked in the Baudelocque Clinic for the last two and a half years for the necessary statistics. He came upon 23 cases of pregnant multiparæ who had suffered from albuminuria in earlier gestations. In 13 not a trace of albumen could be found in their urine, which was repeatedly examined; 3 out of the 13 had convulsions in previous pregnancies; 1 of the 3, indeed, had 11 eclampsia attacks in an early labour, yet when again gravid, some eighteen months later, neither albuminuria nor eclampsia occurred. In 8 of the total 23 albuminuria recurred, but in a milder form, whilst the infants were stronger than their elder brothers. In 2 of the 23 only was the albuminuria worse than in earlier pregnancies; 1 had eclampsia and 1 was prematurely delivered of a macerated fœtus.

Dr. Hergott (*Rev. Med. de l'Est*) being dissatisfied with the effect produced by the usual antigalactogogues, including antipyrine, has tried camphor, and finds that nine and one-quarter grains a day divided into three doses, and given for three days, nearly always produce a remarkable diminution of the secretion. He has used it in thirty cases, having been first led to try it by the good results obtained by Kiener in animals, especially milch cows.

Medical Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, March 18th, 1898.

ROBERT CRAIK, M.D., PRESIDENT, IN THE CHAIR.

EXCISION OF THE TONGUE.

Dr. G. E. ARMSTRONG exhibited two patients from whom he had excised the tongue, and reported the results of five cases on which he had operated during the winter. The reports will be published later.

THE STATIC MACHINE IN X RAY WORK.

Dr. ROBERT WILSON showed a small Toepler-Holtz static machine (made by himself), to illustrate the use of the static current to illuminate a medium-sized x-ray tube. The two revolving plates of $\frac{1}{8}$ in. hard rubber, were 18 ins. in diameter, with six German-silver sectors on the front one. The machine was cased in, containing a tray with 2 lbs. calcium chloride, well dried. The necessary speed (500 to 900 revolutions) was easily obtained by a hand-driving gear, or (this being removable) by an electro motor, or small water-wheel. The latter was the method adopted by himself, a speed of 900 revolutions being easily obtained from the office water-tap. The machine was not intended to compete with a large coil, but gave with an Edison "medium" high vacuum focus tube, perfect definition of the bones of the extremities, up to the shoulder and pelvis. Among the radiographs shown were: Ununited fracture of tibia with faulty union of fibula; point of a scalpel (1-32 ins.) broken in finger while amputating terminal phalanx, etc., etc.

In reply to questions, Dr. Wilson said the entire outfit had cost him less than \$25, including 6 by 8 calcium tungstate fluoroscope (home made), and one Edison "medium" focus tube. He thought a similar outfit could be placed on the market for \$50. He had never had any trouble from dampness; in fact, it had been raining slightly when the machine was brought from his home, still it excited immediately. He did not use Leyden jars and spark-interrupters, although convinced these devices would increase the powers of the machine; it worked sufficiently well without them. A machine of this size was absolutely useless for medical diagnostic work, but indispensable to one doing general surgery. One glance at an arm, leg, hand, etc., without disturbing the clothing, being sufficient to satisfy one as to presence of fractures, dislocations, foreign bodies, etc. He preferred the static current, as being less dangerous, less liable to give away at a critical moment, less trouble, less expensive to operate, less liable to puncture the tube, and of immensely higher voltage than the coil, with the further advantage of being able to use the current therapeutically. In Dr.

Monell's office in Brooklyn, he had seen the doctor's heart pulsating perfectly at a distance of seven feet four inches from the tube ; the pelvis, shoulder-girdle, etc., perfectly outlined at 4 feet from the tube. Dr. Monell used an 8-plate 30-inch machine, driven by a one-sixth h. p. electro motor at 250 revolutions ; such a machine was used for medical purposes as well as X ray work. The result obtained far excelled anything done by coils. The advantage of getting a distance away from the tube was the elimination of error due to enlargement of the shadows when too close. The speaker had ordered, and expected delivered by the middle of May, an identical machine. The barium-platino cyanide screens, on stretched vellum, were preferable where one wished to *see* the shadows ; the calcium tungstate screens were the best for skiagraphic work. As to focussing the rays outside the tube, a question of vital interest to scientists, and on which he had, in a small way, been experimenting, he said he thought it would be premature to make any definite statement, but thought he was justified in saying that we were within measurable distance of its achievement, and hoped at some future time to lay the results of his work before them.

THE NEURON AND THE CHROME SILVER METHOD.

Dr. N. D. Gunn showed several photographs of ganglion and neuroglia cells, stained according to the Andriezen method.

The general conformation of the cells was then taken up, and the protoplasmic and axis-cylinder processes described, according to latest researches by Cajal, Forel and others. The independence of each cell was then dwelt upon, showing that there was no anastomosis between the various cells, as was taught by Gerlach. He claims that protoplasmic processes or dendrites possess a well marked nervous function and are not merely aids to cell-metabolism, as seemed proven by the experiments of certain French authorities ; for there are nerve cells which are adendritic and others whose axis-cylinders have not yet been demonstrated. The collateral fibrils of axon were then shown to possess great anatomical interest as being concerned in the grouping of cells into centres and areas. Hill's work upon the chrome silver method was referred to, and many of the theories held as regards the methods were shown to be either erroneous or not proven.

The beautiful pictures produced by this stain have not yet clearly established the anatomical basis as a true index to the physiological significance of the parts of the neuron. However, there can be no doubt that this method has established many facts, not the least being that contact and not continuity is the controlling idea of the cell structure of the brain and cord.

Stated Meeting, April 1st, 1898.

ROBERT CRAIK, M.D., PRESIDENT, IN THE CHAIR.

Drs. A. D. Aubry, E. R. Brown, and Gustave Lewis, of Montreal, were elected ordinary members.

CARDIAC EMBOLISM.

Dr. Wyatt Johnston showed a specimen where degeneration of the heart muscle involving the half wall of the left ventricle due to embolism of the coronary artery was the cause of sudden death. The affected area of the myocardium showed subendocardial ecchymosis and was of a greyish yellow colour. Microscopically, fibres showed granular and fatty degeneration, and the nuclei did not stain well. The source of the embolus proved to be a small thrombosis in the left auricular appendix from which a portion had become detached and lodged in the left coronary artery bifurcation. Suspicions of poisoning had arisen in this case owing to the patient having suffered from vomiting, diarrhoea and weakness for several days before death. The presence of tænia in the ileum was perhaps the explanation of the gastro intestinal symptoms and the congestion and catarrh of the stomach and intestines which was found post-mortem. No analysis was ordered by the jury, as the actual cause of death could not have originated through poisoning.

A CASE OF LARYNGECTOMY.

DR. JAMES BELL presented a patient from whom he had removed the larynx for epithelioma, and gave the following history: G. P., æt. 65, was quite well until September, 1897, when he contracted a "cold," from which he soon recovered, but some soreness of the throat persisted in spite of sprays and other local treatment. In November his voice first became distinctly husky. In January his throat was examined, and a small warty projection removed and examined, and found to be epithelioma. A preliminary low tracheotomy was done on the 7th of February, and on the 16th of February the whole larynx, including the epiglottis and the cricoid cartilage, was removed. A Hahn's tampon canula was employed during the operation, and replaced next day by an ordinary silver tracheotomy tube. The stump of the trachea was drawn well forward and attached to the skin all around and packed with iodoform gauze to protect the air passages from wound and pharyngeal secretions. The transverse incision was sutured, with the exception of an opening at either end, through which the pharyngeal portion of the wound was packed with iodoform gauze, as was also the vertical wound, which was left unsutured. A large, soft rubber catheter was fixed into the œsophagus by suture, and at the end of twenty hours the patient was fed through this tube for the first time. He was fed regularly through this tube for 48 hours, when it was removed, and from that time he was fed regularly and without difficulty by introducing a stomach tube into the œsophagus through the mouth. There was no vomiting and he always enjoyed his food. The wound packing was changed daily and no secretion ever entered the trachea. On the 21st, five days after operation, a mild delirium of a jocular character developed and increased, with considerable restlessness at night, until, on the 23rd, iodoform was completely abandoned and chinosol gauze used in its stead. The delirium immediately began to grow less, and in three days, February 26th, he was quite rational again. In the meantime all the skin union had given way and the flaps were held only by the sutures.

On the 27th he had a very restless night. Complained of itching over the body and arms, and the pulse and temperature, which had throughout been practically normal, rose a little.

On the 2nd of March he began, in the very early morning, to perspire freely and to complain of weakness. The pulse was rapid 120, and he felt miserable. Nothing could be discovered to account for the change in his condition, and he was given a dose of cascara, followed by an enema, which brought away a dark stool with some black fluid, about midnight. He felt better and slept for five or six hours after this. About noon, on the 3rd of March, he began to complain of some discomfort in the lower part of the abdomen, and his midday meal was omitted. Between 3 and 5 o'clock in the afternoon he had three most alarming syncopal attacks, the cause of which was explained during his third attack by an involuntary evacuation of a very large quantity of dark clotted blood. From this time he began to rally, and he has had no further trouble since. This is undoubtedly the history of iodoform toxication,—at least up to the attack of intestinal hæmorrhage, which I see no other explanation for. I could not, at first, believe that the mere packing of a moderate sized wound for a few days with iodoform gauze could produce this result, but the fact remains that the symptoms promptly subsided when the iodoform was abandoned. It must also be borne in mind that probably much of the iodoform was swallowed with the saliva. The subsequent history of the case has been uneventful. On the 19th of March the edges of the skin wound were pared and sutured, and union took place without difficulty. On account of the gaping pharyngeal wound no food was given, except by stomach tube, until the 25th of March, when he took solid food without difficulty, and in a day or two liquids were also swallowed with ease. Before the pharyngeal wound was resutured, the action of the œsophagus in swallowing the saliva could be observed through the wound. He is now practically perfectly well.

The larynx, when removed, was examined by Dr. Bradley, who described it as follows :

The free surface of the epiglottis, near its root, is occupied by a roughened, rather nodular ulcerated surface, with somewhat undermined edges ; the extent of the ulceration is 4 cm. in a vertical direction by 3.5 cm. transversely. There is an absence of induration about the periphery of the affected area. Both false vocal cords are involved by lateral extension, the right being completely ulcerated through at about its centre, exposing both ventricle and saccule ; the left is not so deeply affected, the epithelium alone being eroded. The left true cord is unaffected ; the right shows a loss of epithelium over an extent of 15 mm. transversely by 5 mm. vertically.

The disease had not extended beyond the larynx in any direction, and there was no lymphatic involvement.

Dr. Bell referred briefly to the recent literature of the subject, especially to a paper read by Dr. Graf, of Berlin, before the German Surgical Association in April, 1897. This paper was based upon the experience of Prof. Von. Bergmann, of 20 total extirpations and 28 partial resections of the larynx for malignant disease.

REMOVAL OF A FIBROID TUMOUR AT THE SECOND MONTH OF PREGNANCY.

Dr. LAPHORN SMITH reported a case of removal of a fibroid tumour from the pregnant uterus, by myomectomy, without causing a miscarriage. He also showed the tumour, a nodular one, larger than an orange and very dense. The patient was 25 years of age and had been married six months. Three months after marriage she had a miscarriage, but became pregnant again immediately, for she had no flow since the 10th January, when it stopped. About middle of March she began to suffer severe pain in the right side, and she noticed a lump pressing forward the abdominal wall in right lumbar region. When seen by Dr. Laphorn Smith, in consultation with her family physician, he found her about $2\frac{1}{2}$ months pregnant, with a nodular subperitoneal fibroid attached to right corner of uterus. As it was growing rapidly and was not only painful, but affecting the *morale* of the patient, he advised early operation which was performed on the 1st April. The tumour was larger than the pregnant uterus, so that the abdominal incision which permitted the tumour to be extracted, also permitted the uterus to be lifted out, thus enabling him to remove the tumor and to close up the hole in the uterus very deliberately. Clamps were applied to the uterine wall, and thus the operation was almost a bloodless one, although the hole, two inches long, had to have two rows of Lembert sutures before the clamps could be taken off, and then a third row had to be applied to completely stop the oozing. She made a splendid recovery, hardly requiring any anodyne, and there has not been the slightest attempt at a miscarriage. As far as he was aware this was the only case of the kind ever reported in Canada.

MALIGNANT ENDOCARDITIS.

Dr. H. A. LAFLEUR read the report of this case.

INTESTINAL OBSTRUCTION BY MECKEL'S DIVERTICULUM.

Dr. JAMES BELL read the following report of a case of intestinal obstruction by Meckel's diverticulum, and presented the specimen:

H. P., æt. 16, a well-developed and well-nourished girl, was brought to the Royal Victoria Hospital from the country, at 10 o'clock on the evening of Friday, March 18th, with well-marked symptoms of intestinal obstruction, and operated upon two hours later. She had always enjoyed good health, with the exception of occasional attacks of pain in the abdomen and vomiting, sometimes accompanied by headaches. These were called bilious attacks, and she had suffered from them "all her life." She had had a long walk on the previous Monday, and was quite well Tuesday, but began to have general abdominal pain on Tuesday evening, which kept her awake most of the night. She got up on Wednesday morning and vomited, for the first time, immediately after breakfast, about 7 a.m. The vomiting continued from this time till admission, and about 10 a.m. Friday, it was first noticed to be distinctly fæcal. The bowels

were moved early on Wednesday morning, but neither flatus nor fæces was passed afterwards. On Thursday afternoon the temperature was 99.2° and on Friday morning 101.3° . On admission it was 102° , and the pulse, 112. Distension was first noticed on Friday morning, and on admission it was quite marked, but limited to the central region of the abdomen. These facts pointed very clearly to a complete obstruction, low down in the small intestines, probably of a mechanical nature, and, from the history, probably due to some congenital condition, suggesting a Meckel's diverticulum as the cause. On opening the abdomen, in the middle line a cord-like structure was found attached to the right of the umbilicus, which, on being withdrawn, was found to be a Meckel's diverticulum. The cord-like portion was cut off between ligatures and the point of obstruction was found in the ileum, about an inch above the ileo-cæcal valve. There was a deep furrow in the wall of the intestine, where the constriction had been applied, which was suggestive of long continued presence. The diverticulum was attached close to the mesenteric border of the small intestine, at least three feet from the ileo-cæcal valve. The exact site was not determined, but at least two feet of the ileum was withdrawn and the attachment was still considerably higher up. It was cut off close to its attachments where it was about three-quarters of an inch in diameter, sutured and inverted into the lumen of the bowel by Lembert sutures. There was a free evacuation of the bowels a couple of hours after operation and the patient's progress has been entirely satisfactory.

Meckel's diverticulum is frequently met with and is a very common cause of obstruction, especially in children and young people. In 3,400 post mortem examinations in St. Bartholomew's Hospital it was found 27 times (Sajous). It arises nearly always within two feet of the ileo-cæcal valve and produces obstruction in many different ways, depending upon the point of attachment of its extremity. Its extremity is often free.

INTUSSUSCEPTION.

Dr. F. R. ENGLAND read the report of this case.

EMPYÆMA OF THE MAXILLARY ANTRUM.

Dr. H. D. HAMILTON read a paper on this subject.

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Editorial.

COLLEGE OF PHYSICIANS AND SURGEONS OF THE PROVINCE OF QUEBEC.

The approaching triennial meeting which takes place on the 13th of July next, at Laval University, St. Denis street, Montreal, will undoubtedly be one of the most interesting gatherings of the members of the Medical Profession in this Province which has ever been held, when the second important step will be taken in the movement for the abolishment of the proxy system which has been so lamentably abused during the last decade. The election of a board pledged to carry out this general decision of the profession is the object of the opposition and labour of the English and French Electoral Committees. The progress made in securing supporters and proxies were fully reported at a recent meeting held in the rooms of the Monument National, at which there were present nearly two hundred medical men from the City of Montreal and suburbs. Dr. Leprohon was called to the chair, and Drs. Benoit and Elder acted as secretaries. Dr. Lachapelle was called upon to report the progress made among the French members. He first referred to the state of affairs which led to the present movement, and which necessitated a combined movement to rectify a state of affairs which permitted of an individual commanding

the majority vote of the members. There were three committees, two French, one in Montreal, the other in Quebec, and one English committee in Montreal, representing the entire English vote of the Province.

He stated that there were fourteen hundred and three registered practitioners in the Province. Of this number the committees had already received the proxies of eight hundred and five, so that they had now a large majority even if every member voted, but through indifference and other circumstances there would likely be one to two hundred who would not be heard from at all.

An argument frequently used by those at present in power was that by withdrawing the proxy system three-fourths of the voters would be disfranchised. But if voting by ballot paper was adopted and the ballots could be sent by mail, a larger number would be enabled to vote than by the present system, and it had appeared on looking over the records that at no time were there even three hundred votes recorded at any meeting in the past, and in Ontario where the ballot system is in vogue, often 90 to 100 per cent. of the votes have been cast when exceptional interest was attached to the election. The objects aimed at by the present campaign were chiefly as follows: To elect a board pledged to abolish the proxy and arrange a system of voting by districts; to institute radical reforms in the management of the financial department of the College; to more carefully guard the conferring of the license so that none but those duly qualified by professional attainments may receive it; to carry out a more rigid surveillance in regard to those illegally practising medicine.

Dr. Lachapelle is also of the opinion that the registrar should be non-partizan and not a member of the board, as the advantage of this position towards the party with which the registrar was identified was such that a neutral incumbent would be advisable.

Dr. Armstrong then addressed the English members of the meeting, covering much the same ground as the previous speaker. He urged also a large attendance at the meeting and prompt presence at the opening hour, as matters of the greatest importance will depend on a large personal vote at

the meeting, the proxies being available only for the election of governors. Candidates for the city were then selected by ballot, each nationality choosing its own representative. Montreal was entitled to twelve members on the board, two were elected by each of the three medical colleges in the city, and six by the profession generally. It was thought that as there were two English colleges, five of the six to be elected by a general vote should be of French nationality and one English, thus making the proportion of seven French and five English.

Dr. John A. MacDonald was unanimously elected as the English-speaking candidate, and the following were chosen as the candidates of the French portion of the profession in Montreal, Drs. Cleroux, Marsolais, Desroches, Girard and Baril.

As it seems more than probable that the next board will be almost entirely a new one, we may hope to secure not only the reform chiefly aimed at, but that the entire working of this important body may be in conformity with the most advanced ideas prevailing in regard to what is for the best interests of the profession generally. Each university and those not connected with the teaching bodies should be fairly represented in all the appointments and no undue preponderance allowed to any section. In this way only can true harmony prevail and hearty co-operation be secured for the true interests of the members of our profession as individuals and as a whole.

CANADIAN MEDICAL ASSOCIATION.

The Thirty-first Annual Meeting of the Canadian Medical Association will be held in Laval University, at Quebec, on August 17th, 18th, and 19th next.

There will be the usual *fare and a third* rate on the certificate plan, both by Steamboat and Railway lines. There will also be arrangements made so that members and their families may take side trips at a trifling cost.

The Secretary, Dr. F. N. G. Starr, and the President, Dr. J. M. Beausoleil, are making every effort to make this a successful meeting, and while a number of interesting papers are already promised, members throughout the Dominion are requested to read papers and send the title to the secretary before July

20th next. The many interesting points at and near Quebec which are the delight of the tourist should bring a large number of our *confrères* to this meeting. We are in receipt of the following communication from the Secretary :

SIR:—There is no man so deserving of a holiday as the hard working physician who has had his nose to the grindstone from early morning till late at night. It is not only a privilege but a duty to relax one's energies at least once a year and take an outing. Having made up one's mind to go away for a bit, the next question is where to go, for one likes to gain some mental profit as well as physical vigor. This year the Canadian Medical Association offers peculiar inducements to the busy man by meeting in the historic old city of Quebec on August 17, 18 and 19 next. This will give to the physicians all over the Dominion an opportunity to visit at a trifling expense one of the most picturesque parts of Canada. It, too, will enable the English and the French to become better acquainted, thus helping to bring about a more thorough understanding.

The President, Dr. J. M. Beausoleil of Montreal, is putting forth every effort to make the meeting a success. The local committee of arrangements under the chairmanship of the Vice-President, Dr. C. S. Parke, ably assisted by the Local Secretary, Dr. A. Marois, are doing good work toward making the visit of their medical brethren enjoyable. It has been whispered that a trip to Grosse Isle is a probable part of the entertainment. The officers of the Association are confidently looking forward to a large and enthusiastic gathering. For particulars address

F. N. G. STARR,
471 College St., Toronto.

At the Denver meeting of the American Medical Association Dr. Casey Wood, of Chicago, was elected Chairman and Dr. C. H. Williams, of Boston, Secretary of the ophthalmological section.

The twelfth annual class for instruction in official surgery will assemble in Chicago at 9 a.m., Monday, September 5, 1898, and will continue to meet daily during the week, as usual. For particulars of this clinical course address

E. H. Pratt, M.D.,
100 State St., Chicago.

Book Reviews.

A Compendium of Insanity. By John B. Chapin, M.D., LL.D., Physician in Chief Pennsylvania Hospital for the Insane; late Physician Superintendent of Willard State Hospital, New York; Honorary Member of the Medico-Psychological Society of Great Britain and of the Society of Mental Medicine, Belgium, etc. Illustrated. \$1.25. W. B. Saunders, 925 Walnut St., Philadelphia, Pa. Canadian agents, J. A. Carveth & Co., Toronto, Ont.

The subject of insanity to the ordinary physician who has given it but little attention seems difficult and of the nature of intangible psychological ill-defined conditions, to comprehend which requires a broad and extensive study, and which, owing to its great scope, he is prone to avoid. The compend before us is just such a work as is required to be circulated freely among the general practitioners of the country in order to dispel the proneness to look to specialists for advice when cases have become well defined—rather than to have recognized the true condition in its incipency—as is the lot of most cases of insanity.

The 227 pages give in a concise form all the essential features of the different forms of mental derangement, written by a specialist of renown, who from the vast literature of the subject has given us the clinical features and practical directions for the care of the insane in a style which is easy of comprehension, but still sufficiently brief to give a clear conception of the different varieties of abnormal mental conditions. It is adapted for the use of the general practitioner, the medical student and for the legal profession, and is so devoid of technical language as to be readily comprehended by the lay reader as well. A number of photogravures illustrating the faces of different forms of insanity will be very useful in aiding the non-expert in making a diagnosis. This useful volume is deserving of a wide circulation.

The Surgical Complications and Sequels of Typhoid Fever. By William W. Keen, M.D., LL.D., Professor of the Principles of Surgery and of Clinical Surgery Jefferson Medical College, Philadelphia; Vice-President of the College of Physicians, Philadelphia; etc. Based upon tables of 1,700 cases compiled by the author and by Thompson S. Westcott, M.D., Instructor in Diseases of Children, University of Pennsylvania, with a chapter on the Ocular Complications of Typhoid Fever by George E. De Schweinitz, A.M., M.D., Prof. of Ophthalmology Jefferson Medical College, and an appendix, the Toner Lecture No. V. W. B. Saunders, 925 Walnut St., Philadelphia. Canadian agents, J. A. Carveth & Co., Toronto, Ont.

This interesting monograph is the result of the revision and extension of two lectures given by Dr. White, on the fifth Toner lecture delivered on Feb. 17, 1876, on the surgical complications and sequels of the continued fevers and the Shattuck lecture on June 9, 1896. Dr. Westcott tabulated all the cases between 1876 and 1896, and other cases bringing the subject of the present years have been added. 1,700 cases in all are recorded which represent nearly all on record during the past 50 years. The importance of the subject is evident when we learn that in fatal cases only 24 per cent. are the result of the typhoid infection, 76 per cent. being due to various medical and surgical complications and sequels. The importance of the discovery of the typhoid bacillus by Eberth in 1880 is dwelt upon, and the necessity of making bacteriological examinations in all cases from the usual sites and the complicating lesions. A very interesting chapter is that on the pathology of the surgical complications and sequels, in which points are considered which are not yet incorporated in the ordinary text books on medicine. In this chapter are considered the viability of the typhoid bacilli both in and out of the body, and therefore the possibility of their causing late as well as early sequels of the fever.

Their widespread diffusion in the various organs of the human body, and therefore the possibility if not the probability that all the various surgical results may be caused by them.

Mixed infections of the typhoid bacilli with other bacteria.

The pyogenic faculty of the typhoid bacilli.

Typhoid infection of different organs without typical typhoid lesions in the intestines.

Each of these subjects are fully considered and all the most recent literature on the subject drawn upon. Then follow chapters on typhoid gangrene, typhoid affections of the joints, bones, typhoid abscesses and hæmatomata, cerebral complications of typhoid fever, otitis media and parotitis, typhoid affections of the thyroid gland, larynx, pleura, lungs and heart, œsophagus, stomach, intestinal perforation, affections of the liver, gall bladder, spleen and sexual organs, specific mixed affections in typhoid fever. The chapter on the ocular complications is written by Dr. Geo. E. De Schweinitz, who first refers to post-febrile complications, in general, and thus very fully covers the ground of those due to typhoid fever. The conclusions are given in a special chapter and are exceedingly interesting and instructive. The Toner lecture is given in an appendix.

This is a valuable addition to the literature of typhoid fever, containing most useful information on the latest results of study in regard to this affection which will be invaluable to the teacher, pathologist and general practitioner.

International Clinics. A quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology and Dermatology, and specially prepared articles on treatment, by Professors and Lecturers in the leading Medical Colleges of the United States, Germany, Austria, France, Great Britain and

Canada. Edited by Judson Daland, M.D., Philadelphia; J. Mitchell Bruce, M.D., F.R.C.P., London, England; David W. Finlay, M.D., F.R.C.P., Aberdeen, Scotland. Volume IV., seventh series, 1898, and volume I., eighth series, 1898. J. B. Lippincott Co., Philadelphia. Dominion Agent, Charles Roberts, 593a Cadieux St., Montreal.

The present volume is replete with useful and well written articles in each of the subjects indicated as the scope of this work on the title page. The perusal of one of these quarterly numbers is equivalent to a post-graduate course to the general practitioner. Being mostly clinical lectures given by eminent teachers they are not cumbrous essays, but interesting pointed articles representing the most recent views in regard to the subject under consideration. The articles are not only of extreme interest to physicians, but may, in spare moments, prove useful and suggestive to the final student.

Among the more interesting articles in this volume: A New Departure in Therapeutics, by Robert Bartholous, M.D., LL.D. Poisons and their Treatment, by Herman D. Marcus, M.D.

Volume I. of the eighth series is also to hand with some forty articles from the pens of leading teachers. Among the most interesting are the lectures on Contraindications to the use of the Salicylate of Sodium in the visceral manifestations of Acute Inflammatory Rheumatism, by Professor Jaccoud, of Paris; The Treatment of Whooping Cough by Prof. Marfan; Placenta Praevia, its dangers and treatment, by J. W. Ballantyne, M.D., F.R.C.P.E., F.R.S.E.; The Treatment of Chlorosis, by Prof. Hazen; Myocarditis, by Prof. E. Von Leyden; Aneurism of the Abdominal Aorta, by I. N. Love, M.D.; Spinal Irritations, by T. McCall Anderson, M.D., and articles by H. C. Coe, Paul F. Mundé, M. O. Roberts, E. Fletcher Ingalls, Byron Bramwell, N. S. Davis, jun., etc.

An American Text-book of Genito-urinary Diseases, Syphilis and Diseases of the Skin. Edited by L. Bolton Bangs, M.D., and W. A. Hardaway, A.M., M.D. W. B. Saunders, publisher, Philadelphia. Price cloth \$8.00, sheep or ½ morocco \$9.00, by subscription.

This elegant work of 1,200 pages with 300 engravings and 20 full-page colored plates is a powerful demonstration of the greater practicability of a work compiled by many carefully chosen authorities over a publication by a single author, talented and widely experienced though he may be. The illustrations, printing and binding are most excellent, and the scope of the work is such as to include the essentials of these 3 subjects in the one compact volume instead of 3 irregular volumes. The first chapter deals with urinary analysis and the consideration of urine in surgical diseases of the urinary tract. Under the heading of sediments in the urine the clinical significance of Prostatic, Vesicular and Seminal Secretions appearing in the urine is discussed. The chapter on the diseases of the ureter illustrates the great advance in the surgery of the ureter during the last few years. Some of the best illustrations here are copied from Kelly's magnificent work in this department of surgery. The section on Syphilis is freely illus-

trated with life-like plates showing the various lesions so essential to positively recognise in diagnosis.

The sections on skin diseases are very complete yet terse, and are supplemented by many original engravings and plates.

Of the many works on these subjects it would be hard to select any 3 or 4 books which would cover the subjects as completely as this volume does. For this reason it is to be strongly recommended to the student as well as to the practitioner. As a reference work it is also very complete, containing as it does a copious Bibliography of recent writings on each subject which is inserted after each section.

It is quite evident that the book will recommend itself to the profession, and that a large circulation will repay the editors and publishers, in a measure, for their conscientious work.

Brief Essays on Orthopaedic Surgery. By Newton M. Shaffer, M.D. D. Appleton & Co., publishers.

This small volume of 81 pages consists of a number of essays which the author has from time to time written on the present status and scope of orthopaedic surgery and its relation to general surgery. He points out that the great improvement in mechanico-therapy, during the last few years, is due to those who have selected this department of surgery and have so thoroughly pursued it under the advantages offered in the Orthopaedic Dispensaries in New York and Philadelphia. While these essays illustrate very nicely the various stages of this well-recognised speciality during its evolution, the author has not included any chapter on orthopaedic surgery itself, which is to be much regretted, as the words of a master are ever too few.

PUBLISHERS' DEPARTMENT.

IN HONOR OF THE PRESIDENT.

President McKinley is to be given the unique distinction of having a number of a woman's magazine named for him and prepared in his honor. The July issue of *The Ladies' Home Journal* is to be called "The President's number." It will show the President on horseback on the cover, with the President's new "fighting flag" flying over him; a new march by Victor Herbert is called "The President's March"; the State Department has allowed the magazine to make a direct photograph of the original parchment of the Declaration of Independence, while the President's own friends and intimates have combined to tell some twenty new and unpublished stories and anecdotes about him which will show him in a manner not before done. The cover will be printed in the National colors.

SAMMETTO IN CYSTITIS, PROSTATITIS AND IRRITABLE BLADDER.

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