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DIPHTHERIA, ITS CAUSE AND TREATMENT.*

BY BEVERLEY Z. MILNER, M.D., C.M., TORONTO.

Mr. President and Gentlemen,—A very true definition of diphtheria is that given by Dr. J. C. Cameron, of Montreal, in his article on diphtheria. A local specific disease due to presence and action of bacilli, characterized by a deposit of pseudo-membrane at the site of infection, accompanied by constitutional disturbances and followed by nervous symptoms due to the absorption into the circulation of a virulent chemical agent (tox. albumen), which is produced by the local development of the bacilli.

It is often a very difficult matter to tell how the patient contracted the disease. It cannot always be said to be due to foul water, bad drainage, or defective plumbing. I have found it in the majority of cases to be due to contagion, direct or indirect. When called to see a case of diphtheria and find the premises in excellent condition, the plumbing and drainage standing the tests perfectly, we must look elsewhere for the cause. In one instance where the sanitation was perfect, I traced the cause to the presence of a young girl visiting the family, who had been an inmate of the diphtheria hospital, having been discharged from that institution for over three weeks previous to her visit. The disease spread all through that household, infecting six children and the father and mother. In another instance, after searching in vain for a cause, I learned that the milkman who supplied the family with milk, had just buried one child, a victim of diphtheria, and had another ill with the same disease. This milkman kept his cows on his premises, and I believe the milk was the medium of infection, for I had two other cases at the same time in different localities, where the same man supplied the milk, there being no other apparent cause. It seems quite reasonable to suppose that there are many cases due to the carelessness or ignorance of those who have the disease in their homes, who travel in the street-cars and frequent public places. A physician tells me of a case where a man, whose child died of diphtheria on a Sunday morning, had on that same morning attended church, remained to the after service, and would have gone to the Sunday school and perhaps evening service, had he not been requested to stay away. In many cases, children from infected homes attend school too soon after the patient's recovery. Indeed, a child suffering from the disease may attend school several days before detection, not complaining until he could no longer keep up. I have traced several cases to these sources of infection.

How can these existing evils be remedied? There exists a great deal of doubt as to the length of time a patient should be isolated after entire disappearance of the membrane. One authority says at least eight days, and this seems short enough when we know of cases being contracted from convalescents after that length of time.

Again, I believe the clothing of a patient often to be the means of carrying infection, through not being properly disinfected, on account of fear of destroying the fabric. It is a question whether the closing of schools during an epidemic of diphtheria limits the spread of the disease. It seems to me that a much better method would be to have the children examined carefully every morning by physicians, while the epidemic lasts. Children from infected homes should be prohibited from playing on the streets, and if sent away from home, as is often the case, should be thoroughly disinfected before being allowed to go. It is, comparatively, an easy matter to have the houses of the rich thoroughly disinfected, but not so in the case of the poor, who, in many instances, have large families and are not very cleanly. The houses of this latter class should be vacated while the process of disinfection is being carried on by the authorities. The burning of sulphur has been proved to be very inadequate, especially without the aid of steam. All fomites

* Read before the Ontario Med. Association, June, 1893.

that cannot be boiled in a bichloride solution should be destroyed, and as the poor cannot afford this loss, they should be recompensed by the municipal authorities. Until this is done, we may expect to have this dread disease constantly in our midst.

From the scientific researches of Klebs, Loffler, Welsh and others, we learn that diphtheria is a disease which is local in character before it becomes constitutional. This being the case, the earlier and more vigorously we commence local treatment, the greater the chance of success. In making the diagnosis, it is of great importance that we should distinguish the form of pseudo-membrane. There are two forms : — 1. That which lies upon, but does not to any extent involve the mucous membrane. 2. That which does involve the mucous membrane, causing its destruction. The membrane may spread with equal rapidity in either case, but in the latter the danger of absorption of toxic albumen into the deeper structures, possibly resulting in necrosis, is far greater. Our diagnosis made, we at once isolate the patient, selecting a room at the top of the house, one that is as large and as easily ventilated as possible, devoid of carpet, rugs, curtains, flowers and all ornaments, in fact everything but the bed, a wooden chair and a small table. Over the door, on the outside, hang a sheet which is saturated, and kept so, with a solution of carbolic acid (1 in 40), or bichloride (1 in 1000), the sheet completely covering the doorway. The attendant should, if possible, live in the room with the patient, or better still, in an adjoining room similarly treated, and should see that the excretions are disinfected by a bichloride solution and removed from the room under cover ; that all soiled clothes are burned, and that those utensils used in feeding the patient are not allowed to leave the room and mix with other dishes in the house. Milk or food of any kind should not be left uncovered in the room. Some physicians order saucers containing chloride of lime to be placed about the room, or carbolic acid to be sprinkled about to disinfect the air, but this is now considered of little or no use whatever. The best method, and a very simple one, of disinfecting the air, is by means of a vaporizing solution of carbolic acid and turpentine in water heated over a coal-oil stove. The air in the room should be frequently changed, and finally, the physician in attendance should provide himself with a long linen coat that he may put on when enteriug the sick room, leaving it behind for his next visit.

Local treatment. — It has been my habit to order turpentine to be applied, externally, to the throat, first coating the skin with goose oil in order to prevent blistering, believing it in a measure, if not entirely, prevents inflammatory swelling, and should be repeated as frequently as possible without breaking the skin, in the intervening time applying warm flannels saturated with oil. Turpentine relieves the congestion of underlying structures by driving the blood to the surface. Some authorities recommend the application of ice. This may be well enough with adult patients, but children will not tolerate it. Many solvents of the membrane have been tried and met with varying success, the most noteworthy being lactic acid and lime water, trypsin, pepsin, papayotin, and peroxide of hydrogen, the peroxide at the present time being the most reliable. It should be fresh and kept in a cool place, the bottle being tightly corked. Stale and poorly kept preparations will not froth up when used and are useless. The atomizer should have a long, stout, hard rubber stem with a flat or rounded tip, such as the Barclay Atomizer No. 21, or Ellis and Golterman's No. 102. Those with slender stems are liable to break, which happened once in a case of mine, the patient's tongue being injured ; while a short stem does not reach back far enough in the throat, and in children who resist treatment, the point presses on the tongue rendering the atomizer useless. The throat should be sprayed with peroxide every hour the first forty-eight hours, and then every two or three hours, according to the severity of the case, until the membrane has ceased to form ; also with a solution of tincture of irom and bichloride of mercury (1 in 2000), in equal parts, three or four times a day, the iron by its astringency causing hardening of the tissues by coagulating their albumen, thereby lessening the danger of absorption of toxic albumen.

When the patient is under three years of age, I dilute the peroxide. If the membrane, by its rapid growth, causes dyspnœa by filling up the throat, it should be removed. This should be accomplished, if possible, by a soft roll of absorb-

ent cotton around the end of a long pair of dressing forceps, gently wiping off the membrane. If this method does not succeed, it must be done with the forceps, the denuded surface being sprayed with the tincture of iron and bichloride mixture. The removal of membrane should be practised only in those cases where, by its rapid growth, it seriously interferes with respiration, or where a portion of membrane is detached, causing a flapping with inspiration or expiration, the greatest of care being necessary in order to avoid small portions of the membrane getting into the larynx, infecting that part also.

In Germany, Reunert claims to have had great success from the early removal of the membrane, and the application of the following solution :—

℞—Hydrarg. bichlor., . . . 1 part.
Acid tartaric, ... 5 parts.
Water, ... 1000 parts.

He repeats the operation every six hours, in stubborn cases, less frequently in milder ones. This may be comparatively an easy matter if the patient be an adult, but if a child, the opposite is the case, and is attended with some danger, as healthy parts of the pharynx and possibly the larynx, may be affected by transplanting the bacilli to these parts.

At the International Congress of Hygiene in London, in August, 1891, Mr. Turner reported success from the use of paraffin. He removes the membrane and applies paraffin to the denuded surface every hour. He says the throat gets well, usually, in one or two days.

By our constitutional treatment, the great aim is to counteract the poisonous and debilitating influences which the disease exerts. To accomplish this we resort to the free administration of tincture of iron, which has been rightly called our sheet anchor in the treatment of diphtheria. It should be given in moderately large and frequently administered doses, and largely diluted with water to prevent irritation of the stomach, and combined with chlorate of potash and bichloride of mercury. Iron has a decided influence over the nervous system through its tonic action to the muscular structures of the heart. Its action in increasing the red blood corpuscles is too well known for any comment. The chlorate of potash should be discontinued after forty-eight hours, on account of its injurious action on the kidneys if pushed too far. For a child five years of age, I prescribe as follows :—

℞—Tr. ferri mur., ... ʒ iv.
Pot. chlor., ... ʒ j.
Hydrarg. bichlor., ... gr. ¼.
Glycerine, ... ʒ vj.
Aqua dest. ad., ... ʒ iij.—M.

Sig.—ʒ j. in plenty of water every two hours. When this mixture is taken I give the same, minus the potash. If the temperature is high, phenacetine or salol may be given, quinine having a tendency to cause vomiting. The patient's physical condition should be very closely watched, unfavorable symptoms being treated as they ap pear and the occasion requires. Stimulants should be administered from the very beginning, owing to the great liability to heart failure, the quantity given being governed by the action of the pulse. The nourishment should be of the most nutritious kind, solid food being avoided, except in mild cases, until the disappearance of the membrane. Milk is the chief article of diet and should be iced. It may be given alone, or with eggs beaten up in it. Beef tea and chicken broth may be given to relieve the monotony of the milk diet. Other useful adjuncts are: rice (well boiled, custards, sago and tapioca puddings, and plain ice-cream. It is absolutely essential that the patient be well nourished, consequently it is of great importance that the physician should see that the prescribed quantity is being taken, and that the stomach is doing its work. If the stomach becomes irritable, rejecting the food, we must peptonize the food, and if the stomach still refuses to do its work, feeding by enemata must be resorted to.

In laryngeal diphtheria our local treatment is limited to inhalation of steam, plain or medicated, turpentine and oil of eucalyptus being the best agents. There are many ways of accomplishing this, but the best, in the case of children, is to make a tent-like covering for the bed by extending the bedposts upwards and covering with sheets, leaving an opening about two feet wide at the head of the bed, the steam being introduced at the foot by means of a long tube from the generator (which any tinsmith can make), by fitting a pipe to the lid of a kettle or pail.

Much has been said about tracheotomy and intubation, as to which is preferable in some

cases, and when it should be resorted to. Stern is authority for the following rules by which we may be guided :—

1. It is better to intubate when the patient is under three and a-half years of age.

2. Between the ages of three and a-half and five years, tracheotomy has the preference, being of course guided by individual circumstances.

3. Over five years of age, always tracheotomy.

4. In adults, never tracheotomize, but try intubation.

5. When the trachea is crowded with membrane, intubation should never be performed.

Statistics show very little to choose from, intubation giving $26\frac{2}{5}$ per cent. of recoveries, tracheotomy giving $26\frac{1}{2}$ per cent.

Of the many remedies that have been recommended as solvents of the membrane, I believe the peroxide of hydrogen to be the most serviceable. I have every reason to have confidence in it, having since November, 1891, when I used it for the first time, treated 53 cases of diphtheria, with the loss of only one patient.

Before concluding, I would like to quote two or three rather interesting cases.

CASE I.—Lizzie W., æt. 16. When I first saw her she was suffering greatly from dyspnœa, owing to the great extent of the membrane, which literally filled the throat and mouth and nose, extending forward to the teeth, and giving the roof of the mouth the appearance of being coated with a thick layer of gelatin, the mucous membrane, tonsils and uvula being entirely hidden from view. Throat very much swollen. Pulse 120 and weak. Temperature 101. I immediately removed the membrane by means of a teaspoon, the forceps with absorbent cotton being of no use whatever, so thick was the membrane. This done, I sprayed with a solution of bichloride of mercury and iron. The patient was now able to breathe freely, showing the larynx to be free from membrane. This was done at noon time, and when I again visited her at 6 p.m., I was astonished to find the condition almost as bad as at first. I again removed the membrane, giving the same relief to the patient, and on inquiry I found they were late in getting the peroxide and had only used it once on account of the froth nearly choking the patient. I instructed them in the use of the atomizer and left, returning again about midnight, finding marked improvement, it being necessary to remove the membrane only twice more, the throat and nose being entirely clean in eight days. General paralysis now followed, the part affected first being the first to get well, lasting in all about ten days. I now thought the patient free from further trouble, when she suddenly became deaf, which lasted about three days, being closely followed by dimness of vision, resulting in total blindness, from which she recovered in about forty-eight hours.

CASE II.—Was almost identical with the one just mentioned ; the membrane had to be removed in the same manner. The patient, a girl of 18, was menstruating at the time, causing her great pain and a high temperature. The after effects were the same as in the other case, but her recovery was not nearly as satisfactory, the patient suffering for months afterwards from dysmenorrhœa.

CASE III.—The interesting feature in this case was œdema of the uvula, resulting in entire sloughing.

CASE IV.—C. M., a boy æt. 8, had a bad attack of diphtheria in November, 1891. In March, 1892, the mother brought the boy to my office, saying that he had been vomiting in the mornings after eating his breakfast, for some time past. First noticed this about three or four weeks after his recovery from diphtheria, but had not thought it serious until the time of consultation, as it had only occurred occasionally. I prescribed a stimulating tonic and the patient appeared to improve for a few days, when he again commenced vomiting his breakfast, but during the remainder of the day was as well as in perfect health. This condition continued, though not so marked at times, until May 31st, when, while at play with other boys, he was suddenly seized with paralysis. I was sent for and found the patient in a comatose state, suffering from hemiplegia affectiug the left side of the face and the right arm and leg. The usual treatment was adopted, and the patient recovered consciousness in a few hours, when I discovered that he had aphasia. I now shaved the head over the region of Broca's convolution and applied ice. Three or four days after he was able to flex the leg, and in a day or two more was able to say "Yes," "No," and two or three other words. I now tried faradism and he seemed

to improve rapidly, though the arm remained partially helpless. In July he was removed to a summer resort on the upper lakes and improved nicely until the 23rd of that month, when he complained of feeling ill and was immediately brought home. I saw him that same evening and found him, as I thought from his appearance, much better than when he went away, but he complained of feeling sick when sitting up and wanted to lie down, also complaining of feeling tired and sleepy all the time. This condition grew gradually worse until August 8th, on which day he died, convulsions setting in a few hours before death. Dr. Atherton twice saw the case in consultation and suspected a cerebral tumor, but as we were not permitted to hold an autopsy, our diagnosis must remain in doubt.

CEREBELLAR HEREDO-ATAXIA.

BY DOCTOR PIERRE MARIE.

Translated from the French by D. Campbell Meyers, M.D., Toronto.

You know the name of hereditary ataxia is that under which Friedreich described for the first time the disease which, very justly, now bears his name. Although the first observations of this author date from 1861, the affection to which they refer has been really considered a morbid entity only during the past ten years. Since then the name of Friedreich's disease has been generally adopted and the term hereditary ataxia has been as a consequence but little used. It may at least serve as a generic denomination, applicable to a collection of clinical facts constituting a separate group, which will differ more or less from those which belong to Friedreich's disease, which have with these latter in regard to the symptoms, two common characters —identical disturbances of motion, and hereditary origin. It is on this account alone and without any intention of uniting them actually more than is necessary with Friedreich's disease, that I will designate by the name hereditary ataxia or heredo-ataxia, facts which I will discuss in the course of this lecture. When we treat of the anatomico-pathological study of this affection, you will understand why I add to this name the epithet "cerebellar."

But before going further I must, in order to have you better understand the difference which exists between the cases of typical Friedreich's disease and those which belong to heredo-ataxia, recall to you in a few words the principal characters which are generally accepted as belonging to the first of these affections. The motor disturbances of typical Friedreich's disease consist in very marked disorders of the gait and of standing, presenting much rather the appearance of titubation than ataxia so-called; Romberg's sign does not exist, or at least rarely. One frequently observes on movement, oscillations of the limbs, or even of the head on the trunk, quite analogous to the intention tremor of disseminated sclerosis; the movements present as well a choreic character. Sensory disturbances are very common in this affection; lightning pains are very rare; anæsthesia or analgesia are not seen, or are but little marked. As for the reflexes, one notices the preservation of those of the skin, at least in general; and the absence of patellar reflexes. In regard to the eye, the most frequent and the most important phenomenon is nystagmus, especially marked on fixation or on lateral deviation. In the greater number of cases, the absence of diplopia or of any ocular paralysis is noted. The visual functions of the optic nerve are thought to be unaffected. The reactions of the pupil, both for light and accomodation, are normal. There is nothing to note in regard to the special senses of taste, hearing or smell. Vertigo exists quite frequently; sometimes even a permanently vertiginous condition exists. The intelligence is not altered, although at times it may be only indifferently developed. The speech is, in cases of medium intensity, notably modified. It is slow and at the same time uncertain, scanning and explosive. There is no trouble in the genito-urinary functions, except a certain delay in the advent of puberty. Trophic cutaneous troubles do not exist, but one often notices some special osseous deformities, consisting on the one hand in a sort of talipes equinus, with thickening in the antero-posterior axis of the foot, and flexor contraction of the toes, especially marked in the great toe; on the other hand, of scoliosis of the vertebral column, sometimes quite marked. Sometimes an atrophy of certain muscle groups is seen. The course of the disease is progressive. One of the first phenomena is constituted by the retraction of the great toe or by the disappearance

of the patellar reflexes. Friedreich's disease is a family malady, that is to say, attacking several members of the same family, especially of the same generation. In a great number of cases, the date of the appearance of the disease is before the age of fourteen.

Such is the clinical aspect, considered as classical, in typical Friedreich's disease. Certainly there exists at times some variations, but they are unimportant and do not alter appreciably its ordinary physiognomy. On the contrary, in another category of cases, one notices alongside of the common symptoms (hereditary origin, troubles of speech, of movements, etc.) a whole series of abnormal phenomena, of which some are very important, and which oppose their classification with typical Friedreich's disease. It is of these abnormal cases that I wish to speak to you to-day. Let us first enumerate some of these cases :—

The first in date is that of Fraser ; then come those of Nonne, Sanger. Brown, Klippel and Durante. I will have in the course of this lecture an opportunity of mentioning to you several other cases more or less analogous to these ; but one cannot, without some reserve, place them in the same series.

We will now examine together the common characters which permit of a separate arrangement in the same group of these different cases. In continuing, I will point out at the proper time, in what the character of these cases differ from those which properly belong to typical Friedreich's disease.

In regard to etiology one finds in all the cases clearly marked the familial character of this disease; thus in the family observed by Sanger Brown, there were not less than twenty-three persons attacked. Relative to the familial character, it is necessary to remark that here one easily follows in certain cases (Sanger Brown, Klippel, Monne and Durante), the hereditary influence in the ascending line. For example, in the case of Sanger Brown, the great grandfather presented the symptoms of the malady which we are studying. His daughter, his grand-daughter, and the children of this latter were also attacked. In typical Friedreich's disease, on the contrary, it is rare to find this disease among the antecedents. It is met with most frequently in several children of the same generation. There is in this nothing absolute, and besides, perhaps, it is necessary to seek the reason of this slight difference in the fact, as we shall presently see that typical Friedreich's disease begins generally in infancy or at puberty. The subjects attacked marry rarely, and consequently have few descendants. Individuals attacked by cerebellar hereditary ataxia on the contrary usually present the first symptoms only between twenty and thirty-three years of age ; hence their greater aptitude to marriage and procreation.

After the facts related by Sanger Brown, it would seem that women are more frequently attacked than men ; in fact, of thirty-three boys composing a family, twelve were sufferers, whilst of the nineteen girls eleven were attacked.

It is not very rare to see hereditary cerebellar hereditary ataxia skip one or even two generations; and in this manner a grandfather may have a healthy son, having himself a healthy daughter, several of whose children may be attacked whilst the others of her family may remain healthy.

The affection seems to have a tendency to be propagated especially by females ; in the family of Sanger Brown the disease was transmitted through the father three times, whilst the mother transmitted it nine times.

It seems that in the families attacked by this affection, the tendencies to nervous diseases is especially pronounced. Notably in the family observed by Nonne, these (nervous diseases) were numerous and diverse among the members who were free from hereditary ataxia.

As to the age at which this affection supervenes, a noteworthy fact is, that if some individuals are attacked by it in infancy, the greater number develop it only at a later period ; after the twentieth year very often, even (Sanger Brown, Klippel and Durante), after the thirtieth year, and in two cases (Sanger Brown) at a still more advanced age—forty-five years of age.

In typical Friedreich's disease it begins generally at a much earlier age, showing itself most frequently in childhood—very rarely after seventeen. The following shows, speaking generally, how in the majority of cases cerebeller heredo-ataxia begins with the symptoms accompanying it according to the course which it develops :

The primary symptoms appear slowly and progressively as a more or less marked uncertainty

of the legs on standing or walking; sometimes one notices, however, as the first phenomenon, some lightning pains in the legs or in the loins. After a variable time which is ordinarily from one to three years, the uncertainty of movement attacks the hands also (uncertainty of movements of the upper extremities has been observed in the beginning by Sanger Brown, but it is quite exceptional). Almost at the same time arise troubles of speech, and of the sight. Another phenomenon to notice is that which consists in the preservation and also in the exaggeration of the patellar reflexes; sometimes there also exists other spasmodic phenomena. In some cases only disturbance of the cutaneous sensibility has been observed. Sometimes one notices a certain mental weakness. In regard to the troubles of deglutition or of the genito-urinary sphincters, if they are seen in certain cases they are exceptional. The disease is essentially progressive but may present remissions; it does not cause death. This supervenes through some intercurrent disease, even in advanced age; this terminal intercurrent disease attacks the lungs especially.

Such are, as a whole, the aspect and course of this affection; it now remains for us to separately consider each symptom which I have just enumerated and to study the principal variations in them.

In regard to the troubles of motion of the lower extremities, it is not necessary to enlarge upon them, for they are entirely analogous to those observed in typical Friedreich's disease. We find the same uncertain gait arising from a lack of knowledge of equilibrium rather than from muscular inco-ordination. The legs are separated, the step irregular, the feet fall heavily on the floor without contradictory and useless excursion of movement which gives to the walk of ataxics its special characteristic. The body is thrown backward, the loins are arched, and the patient "walks from the pelvis." In the beginning they are able to move without great difficulty, but little by little the difficulties increase and they are obliged to claim the assistance of a cane. A little later this suffices no longer, it is necessary to support them under the arms, or, when by themselves, they are obliged, in order to make a few steps, to lean against the wall or on the furniture in the room in which they happen to be. The erect posture is in certain cases very difficult; one then sees the patient leaning against the wall, the body inclined forward, balancing itself lightly from one side to the other, the head carried backward, oscillating as if being too heavy for the neck, the patient had some difficulty in maintaining it in equilibrium. It is in order to counterbalance the inclination of the trunk forwards that the head is carried backwards in this manner.

We must remark that in this description it is a question only of the cases in which the symptoms are very marked; in the beginning it is not the same. These troubles in the motion of the lower extremity are seen but little except after great fatigue, or after a long walk. Sometimes in the early stage the uncertainty of walk does not attract the attention of the patient himself whilst it is remarked by those about him, and the cases are not very rare in which this initial titubation has been taken for inebriety. If one seeks in these cases what is the influence on equilibrium, of closure of the eyes one notices that in general it is but little changed. In a word there is not or scarcely any Romberg's sign contrary to what is seen in tabes. This absence of Romberg's sign is besides, usual in Friedreich's disease. In some cases patients complain of giddy sensations which contribute to exaggerate the difficulty of the walk and of the erect posture. As to the upper extremities their motion is infinitely less disturbed than that of the lower exremities, and only at a late stage. In this the former motor trouble consists especially, as in typical Friedreich's disease, in somewhat of a pseudo-tremor, occurring especially on intentional movements. At first only the most delicate acts are altered, such as, for example, that of writing, or picking up a pen, or buttoning a coat; when the disease is further advanced, other movements may be much disordered and the patients are able to feed themselves or carry a full glass of water to their mouth only with difficulty. This motor trouble exists rarely except in the accomplishment of voluntar movements, and ceases when the end is attained. It is thus, that the disordered movements which are seen while the patient attempts to pick up a pencil, cease as soon as he has succeeded in doing so. He then holds the pencil in his hand firmly and without trembling. Closing the eyes exerts here also a very feeble influence. During these different acts the head and body and

the trunk may participate in the oscillation of the limbs but regain the fixed position as soon as the movements, are accomplished and the subject has sufficiently regained his equilibrium. No noticeable diminution of muscular force is observed either in the upper or lower extremities.

Independently of the motor troubles that I have just indicated, I will draw your attention to certain muscular twitchings that some authors call fibrillary tremor, although in reality this phenomnon is not in any way analogous to the fine, almost incessant fibrillary contractions which are observed in different amyotrophies. These twitchings are seen in many of the muscles of the trunk and the limbs (back, thigh, fingers—Klippel, Durante). One frequently notices also the existence of *exaggerated contractions of the muscles of the face*, in the movement of mimicry, in those of the speech, or associated phenomena, during the execution of different movements of the limbs. Sometimes also subsultus of the tendons of the extremities is seen. Generally speaking these diverse manifestations on the part of the muscles may be observed equally in Friederich's disease. The study of the spasmodic phenomena, more or less developed in these patients, is particularly interesting, since it is in part owing to their existence that is based the constitution of this new clinical group.

In the first place the patellar reflexes are exaggerated, not always very markedly so, but all authors are agreed in describing them as presenting an intensity above the normal. In one of the cases of Klippel and Durante, and Francois H., they are noted as diminished in intensity. In any case this forms a very marked difference with the manner in which the reflexes are met with in typical Friedreich's disease, since in this latter they are, speaking generally, abolished; it is only, however, exceptionally that one finds them preserved, and then but rarely, except during the initial period of this disease. In cerebellar heredo-ataxia on the contrary the patellar reflexes exist in greater intensity than normal, even when the affection has lasted ten or fifteen years or more. Besides, according to Sanger Brown, the exaggeration of the patellar reflexes should be considered as an initial phenomenon preceding even the other morbid symptoms and serving as the first indication to foretell that such and such a member of the family will be attacked at a later period. A foot clonus has also been noted, but much more rarely (three cases of Sanger Brown). Finally, the greater number of authors speak of a spasmodic condition of the limbs more or less marked, especially of the lower limbs. Thus in one of the cases of Sanger Brown the "thighs are flexed nearly at a right angle; this contracture may be overcome partly by drawing with force on the limb in a slow and continuous manner." Klippel and Durante say "that in the case of Mlle. X. the condition of the reflexes is difficult to demonstrate, because of the rigidity produced when one wants to examine them." Nonne notes that in his three cases there was a difficulty in relaxation of the muscles in passive movement when the patient was ordered to do so. In the case of Botkine contractures arose from time to time in active and passive movements.

In regard to the sensibility, we have already seen, that sometimes, especially in the early stages, some pains of more or less intensity are experienced in the leg or in the loins. Sometimes, also, although rarely, objective troubles exist. Klippel and Durante note them in three cases; with Mlle. H—there existed complete anæthesia for all forms of sensibility on the internal surface of the leg and upon the crest of the tibia; there was besides a marked delay in the perception of sensation. With Louis H. tactile sensibility was abolished on the legs and feet; somewhat diminished on the fore-arms and hands; diminished on the face; preserved on the thighs on the arms, on the trunk; loss of sensibility to pain in the same region, except on the face. These disturbances of sensibility comprised sharply-limited zones at the knees and at the elbows. Heat was recognized everywhere; cold was not recognized in any part. Two points in order to be perceived on the limbs had to be separated 8 cm. These objective troubles do not belong to typical Friedriech's disease and would then form a new differential character in support of cerebellar heredo-ataxia.

(*To be concluded in the next issue.*)

SODUM PHOSPHATE IN LOCOMOTOR ATAXIA.—Mr. Corder writes to the *Lancet* that he has had good results from the hypodermic injection of ten centigrammes of phosphate of soda in one gramme of vehicle every other day. Other observers have found much benefit from this form of treatment.

NEW METHOD OF DIAGNOSIS OF DISEASES OF THE ACCESSORY SINUSES OF THE NOSE.

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The first and most essential step in the treatment of any disease is a correct diagnosis of existing conditions, in order that the primary or exciting cause may be removed, if possible; and it is in the field of scientific diagnosis that medicine and surgery are making their most rapid advances. This is nowhere more apparent than in the special branches of surgery, due, undoubtedly, to the more localized attention given to the disorders of the part specially studied. It is not very long since that chronic rhinitis, or post-nasal catarrh, was considered a sufficiently accurate diagnosis of a certain existing nasal condition, and the treatment upon the line of diagnosis proved so unsuccessful that the very word catarrh had an ominous sound in medical ears. Next, it became obvious that certain mechanical conditions, such as various obstructions and hypertrophies, existed, and their removal was followed, in a large percentage of cases, by marked amelioration of the symptoms, yet these exist in many cases presenting annoying symptoms, which are unaccompanied by any obvious respiratory difficulties, and not due to mechanical obstruction pressing upon the sensitive septal nerve areas. So that when we have more scientific methods for exploring the accessory cavities of the nose, new symptoms, often dignified in the text books by such names as suppurative rhinitis, ozena, post-nasal catarrh, and some varieties of atrophic rhinitis, will disappear as diseases *per se* from current literature.

The sinus most liable to disease is the maxillary antrum, due, as many observers think, to disease of the teeth. Among those holding this view are such men as Christopher Heath, Semon, McBride, and others; on the other hand, Greville Macdonald, Zuckerkandl, Krause, and other eminent specialists, have shown that the majority of their cases have arisen from nasal diseases, or were due to suppuration of the frontal sinus or anterior and posterior ethmoidal cells, the overflow of pus from these cavities having a tendency to flow into the antrum, this being assisted by the anatomical situation of the valve-like flat of mucous membrane over the ostium maxillæ, as G. Caldwell, of New York, has demonstrated. From the peculiar situation of the sinuses, it often becomes a difficult matter to be definitely certain as to whether pus is present or not, and the purpose of this paper is to point out an easy and sufficiently correct method of diagnosis, and one which any general practitioner can make use of.

Such means are to be found in the transillumination of the sinuses by means of a miniature incandescent electric lamp, of about four or five candle power, placed in the mouth, the lips being closed, and the room made perfectly dark. The current is then turned on, when at once a rosy glow suffuses the face, the lips and cheeks being most brightly illuminated, the intensity of the light decreasing as the orbits are approached. The light is equal in intensity on both sides of the face if the antra be normal. In blondes and the anæmic the light is brighter than in brunettes, but there exists in health a bilateral equality of brightness, and a normal relation between the light and shade.

Variations of intensity in the two sides is significant, and, as a usual thing, indicates disease of the darker side; although Greville Macdonald operated on a case of atrophic rhinitis where the darkness of one side made him suspect pus in the antrum, only to find himself mistaken; in this case, however, no other signs of antral mischief were present.

Pus, solid tumors, or polypoid degeneration of the antral mucosa, causes a shading of the entire affected side, while cancerous syphilitic or tuberculous growths cause a corresponding darkness from their interference with the transmission of light.

It should, however, be noted that on the other hand, a large mucous polypus, by its translucence and higher refractive power, will cause an intensity of light on the diseased side, so that to confirm the diagnosis, the light should be viewed by means of a nasal speculum. The floor of the nose, unless diseased, clearly transmits the light, while, if the outer wall be darkened, disease of the antrum is almost certainly present.

It is usual to consider the ethmoid cells as out of reach of transillumination, yet in one case I

was enabled to diagnose the presence of disease in this locality by using a small protected lamp pressed between the lid and the inner orbital wall, and observing the illumination of the cells and superior meatus through the nose.

The examination of the frontal sinus is conducted in the same way, the lamp being placed against the under side of the supra-orbital ridge, and observing the illumination, after testing both sides. But disease of this sinuse is very rare, owing to the excellent drainage afforded in acute diseases of the part, by the infundibulum leading from its lower part to the nose.

The simple nature of these tests, the ease with which they may be applied, and the comparatively correct result obtained, should bring transillumination into general use.

Correspondence.

Editor CANADA LANCET:

DEAR SIR,—The following details of a case may prove interesting to your readers:

Mrs. M———, aged 44 years, married 21 years, tall, stout, and of nervous temperament. She was *never* pregnant until some 9½ months ago. Pregnancy proceeded normally to term. Labor was protracted about 15 hours. Delivery was with very great difficulty accomplished by the forceps, under chloroform. The child, which weighed *12* pounds, had a double turn of the cord about its neck, and was still-born. The mother has done well.

T. P. MCCULLOUGH.

Everett, Ont., Dec. 12, 1893.

Selected Articles.

HEART DISEASE IN CHILDREN.

INTRODUCTION.

I think it will be of more practical utility if I can lead this discussion in a direction tending to throw light upon conditions which are yet imperfectly understood, though common, rather than to refer to cases chiefly interesting on account of their rarity. Partly on this account and partly because of the little scope which such cases offer for practical therapeutics, I do not intend to make any reference to congenital heart disease.

In considering the subject of heart disease in children, the first broad fact that strikes us is the extreme frequency with which evidence of cardiac lesions is found, especially of regurgitation through the mitral valve. Mitral regurgitation causing overt, and even urgent, symptoms, is by no means rare in children, that is, before the age of 12 or 13. But the cases in which, without obvious heart symptoms, *bruits* are found indicating mitral incompetence, are incalculably more common. I have not actual statistics before me, but I believe I am justified in stating that nearly, if not quite, half of the cases treated in the medical wards of the Newcastle Children's Hospital present *bruits* indicating some degree of imperfect closure of the mitral valve. I need scarcely add that the proportion of cases which are admitted on account of obvious heart symptoms is nothing like so large. For fear of misconception, I will remark at once that when I speak of *bruits* indicating imperfect closure of the mitral valve, I do not wish it to be understood that I regard every systolic *bruit* audible at the apex of the heart as proof of deformity of the mitral valve. As I shall have to insist further on, there is no fact in connection with this subject which more needs to be emphasized than this—that there may be, and often is, mitral incompetence without any deformity of the valve curtains themselves.

We start, then, from this point, that mitral regurgitation is extremely common in children, much more common, I am sure, than would be supposed by any who are not accustomed to observe and record physical signs with more than ordinary minuteness, and very much more common than is found to be the case in adults, at least, if we leave out of calculation cases occurring in young women and due to chlorosis. We have, then, two problems to consider; first, the etiology of heart disease, and especially mitral regurgitation, in children; and secondly, the later history.

ETIOLOGY.

Without doubt many cases of heart disease in children are really rheumatic in origin, even where no history can be obtained of an attack of rheumatism of the joints. It is a clinical commonplace that rheumatism in children affects the heart more frequently than in adults, and that the joint affection is usually milder in children. But this is only a small part of the truth. Cases certainly do occur in which acute endocarditis or pericarditis may be the only local manifestation of an attack of acute rheumatism, there being no joint affection at all. It is admitted that this may occur in adults; but it happens much more frequently in children. I may mention, as a typical instance of this form of disease, a little girl who was admitted into hospital under my care for chorea. The chorea followed a fright, and was of the ordinary type, moderate in severity. A systolic *bruit* at

the apex was audible when the child was admitted. When the child was almost entirely recovered from the chorea, she suddenly developed a high degree of pyrexia, with severe cardiac distress. There was no joint affection. After a time the acute disease subsided, but it was evident that the heart was left in a worse condition than before. Here was a case of severe acute endocarditis, which, by its occurrence during convalescence from chorea, is stamped as almost certainly rheumatic. But suppose a milder case to occur, without the coincidence of chorea as a guide, it is very likely that the nature of the disease will be misunderstood, or even that it may be entirely overlooked, though quite severe enough to leave behind permanent injury in the valves of the heart. Children often appear tolerant of a considerable degree of pyrexia, so that in hospitals, where the temperature is regularly taken as a matter of routine, it is not at all uncommon to find that the thermometer reveals a feverish state of which the appearance and demeanor of the patient gave no hint. Even when *malaise* is sufficient to lead to the discovery of pyrexia, there may be little to draw attention to the heart as the seat of the disease, and no examination may be made; and even if it is otherwise and some *bruit* is discovered, unless the practitioner has happenad to have examined the heart shortly before the appearance of the acute disease, any morbid signs which are observed may not be recognised as recent; they may be taken to be the result of some older mischief. In all probability many cases of rheumatic endocarditis without joint affection do not produce sufficient obvious disturbance to bring them under medical treatment at all, although they may be quite sufficient to leave permanent injury to the valves.

Pericarditis is not quite so likely to escape notice, because it is more likely to be accompanied by local pain. I believe that these considerations give the key to the origin of many *bruits* in children where no history of rheumatism can be elicited by the closest inquiry. While I am on the subject of acute heart disease, I may mention that the so-called "malignant" or septic endocarditis sometimes occurs in children, and that even very severe examples of this grave disease may recover. A case which apparently belonged to this class was recently under my care in the Children's Hospital. A little girl, aged 12, who had suffered from the symptoms and presented the physical signs of phthisis for more than a year, showed also the evidence of mitral stenosis. This combination of conditions, so very rarely found associated, is in itself sufficient to make the case one of unusual interest. But its after-history was still more remarkable. While the child was in the hospital under treatment for the phthisis her temperature rose rapidly and took on a septic type, with very wide excursions. At the same time there was very severe cardiac dyspnœa and distress, and *bruits* which varied greatly in character from time to time were heard. The spleen became enlarged and tender to pressure, and a hæmorrhage took place from the bowel which was very nearly fatal. After about five weeks the acute febrile disturbance gradually subsided. The child left the hospital with her heart apparently in no worse condition than before the acute attack. She has since presented herself occasionally amongst my out-patients, complaining more of her phthisis than of symptoms referable to the heart.

Although rheumatic endocarditis occurring without any accompanying affection of the joints may serve to explain many cases of heart disease arising in children which might otherwise be obscure, we must not conclude that this key will fit every lock. One of my recent cases has appeared to me to present unusual interest, just because it furnished a puzzle the solution of which seems well nigh impossible. A boy, about ten years of age, was under treatment in the hospital for severe bronchitis. He had recovered from this, and was for some time allowed to get up. I was about to discharge him one day, but just for routine's sake I examined him before doing so. To my astonishment I found a loud systolic *bruit*, audible over the whole precordial region and at the angle of the scapula. To suppose that this *bruit* had existed before, but had been overlooked both by the resident medical officer and myself, would only be admissible on the understanding that we had both been stone deaf. Under no other circumstances could we have failed to detect in our numerous examinations a *bruit* so widely diffused and so loud. Any attack of acute endocarditis, such as I have described above, was entirely excluded by the ascertained absence of pyrexia; for it is the custom in our hospital to have the temperatures of all patients recorded every night and morning. I sent the child back to bed, and kept him at rest under treatment with digitalis and iron for several weeks. But the *bruit* did not alter, except that it was sometimes audible at the angle of the scapula, and sometimes not so. It would, of course, be more satisfactory if a clear account could be given of the etiology of the heart lesion in this patient. But the case is worth recording if only to show that a mitral regurgitation (promising to be permanent) may arise under circumstances apparently excluding the ordinarily recognised causes of heart disease.

After-History.

The extreme frequency of signs of mitral regurgitation in children, so greatly in excess of what is observed in adults, suggests the necessity of an explanation of the discrepancy. No doubt the

severer cases die early; but these are quite the exception, and the number of deaths from heart disease in children is quite insufficient to furnish the solution of the problem. Although we may admit that children having valvular defects (even though not presenting obvious heart symptoms) are likely to resist the attacks of other diseases less successfully than children who are not handicapped in the same way, yet even this would give a very insufficient account of the matter. I think the only explanation at all adequate is that in a very large proportion of cases the mitral incompetence observed in children disappears in later life. I wish it were possible to furnish statistics in support of this proposition. But that is obviously impossible. In the nature of things these mild and favorable cases are just the ones that disappear from our observation the soonest. Physicians to children's hospitals necessarily lose the opportunity of seeing them again in later life. Hence the difficulty of bringing to statistical proof the fact of which I am nevertheless strongly convinced, namely, that mitral regurgitation in children is a condition which is very frequently recovered from.

Now, it is probable that structural alteration of a valve, following endocarditis, may be more readily recovered from in childhood than in later life. But there is another condition equally capable of producing the phenomena observed, and much more readily recoverable—I mean regurgitation through the mitral valve produced by dilatation of the left ventricle. I believe that far less prominence has been given to this condition than it deserves in ordinary clinical teaching. Regurgitation through the tricuspid, arising in a similar manner, is a clinical commonplace. But when distinct evidence of mitral regurgitation is discovered, valvular lesion from old (or recent) endocarditis is usually assumed as the almost necessary corollary. Many authorities certainly speak of mitral incompetence following dilatation, but in ordinary clinical teaching the fact of its frequent occurrence is left in the background. I have shown elsewhere that it takes place in chlorosis much more commonly than is generally supposed. In 400 cases of chlorosis under my own care I found complete evidence of mitral regurgitation (a systolic *bruit* audible at the angle of the scapula, as well as at the apex) in 123. In many of these the graver physical signs were known to have appeared during the time that the chlorosis was getting worse from neglect of treatment; and in a still larger number they entirely disappeared when the anæmia was removed by the administration of iron. It was therefore evident that the mitral incompetence was due to dilatation, and not to any structural change in the valve itself. I cannot doubt that dilatation of the left ventricle plays a very important part in the production of these common mitral *bruits* in children. I am convinced that the small vegetations commonly observed on the edges of the valves in chorea do not explain the bruit which is so frequently heard in the course of that disease, and which is comparatively seldom permanent. For although such vegetations are rarely absent when a *post-mortem* examination is made after chorea, we must recollect that it is only in cases of altogether exceptional severity that death occurs. So that it is rather an unwarrantable assumption that endocarditis is a frequent accompaniment of the ordinary mild type of the disease which recovers. But there is a much stronger reason for doubting the causal relation of these tiny vegetations to the *bruits* in question. It is not at all likely that such vegetations would interfere with the closure of the valve. And, therefore, they would not produce a systolic *bruit*; if they produced any *bruit* at all it would be pre-systolic. But the bruit in chorea is usually, if not always, systolic. Probably these minute vegetations, when they do develop, have nothing to do with the ordinary transient *bruit* of chorea. I think that ventricular dilatation is a more satisfactory explanation than irregular—choreic—action of the musculi papillares. I once observed, in a girl, aged 11, who had suffered from chorea, a *bruit* audible at the pulmonary area only, the first sound at the apex being normal. The *bruit* disappeared under treatment. In another patient, whose age was 24 when I examined her, and who had suffered from chorea following a fright when she was about 10 years old, I found a *bruit* presystolic and systolic at the apex and systolic at the angle of the scapula. Here I should be disposed to attribute the damaged condition of the mitral valve to an attack of endocarditis such as I have above described, although I obtained no history pointing in that direction. This seems rather more probable than to lay the blame of such extensive damage to the chorea directly.

It should never be forgotten that, when signs of mitral regurgitation occur in the course of acute rheumatism, this is not necessarily due to endocarditis and its consequences. In a large number of instances a temporary dilatation of the left ventricle offers the more reasonable explanation. This suggests that all such cases should be treated by prolonged rest, with heart tonics, including iron. Even where actual valvular deformity exists, prolonged rest gives perhaps some chance of complete recovery, and certainly affords the best opportunity for the establishment of satisfactory compensation.

Dr. Townsend said that cardiac disease in children was due in most cases to a rheumatic cause, either hereditary or acquired, and was generally very insidious and not indicated by symptoms. To be found it must be looked for.

The localization of a *bruit* in the mitral area, particularly if heard in the posterior scapular region, was the only symptom that pointed out regurgitation through the mitral valve. As an explanation of the occasional disappearance of the *bruit*, Dr. Townsend suggested that the *bruit* might be due to dilatation of the ventricle, and that the restoration of the ventricle to its normal condition might explain the cessation of the *bruit* rather than that an organic lesion was absorbed. The principal dangers to life in these cases were sudden over-exertion, fresh attacks of rheumatism, or degeneration of the arteries in middle age.

Dr. Byers (Belfast) spoke of the frequency of mitral disease in female children, and pointed out the infrequency of the signs of sclerosis in young children as compared with those of regurgitation. He referred to the frequent occurrence of acute heart disease in children and of severe dilatation. He thought the great proportion of the cases of heart disease in chorea was organic, and he could corroborate Dr. Barlow's observations that when rheumatic nodules appeared in children the prognosis was bad.

Dr. Dawson Williams observed that the difficulty of prognosis in heart disease in children was often very great, and suggested that this difficulty was in large part due to incomplete knowledge of the etiology. There was no difficulty in accepting the rheumatic theory when a distinct history of rheumatic joint affections could be obtained, but he questioned whether it was allowable to accept a vague history of pains in the limbs as a history of rheumatism. Was the cardiac disease following scarlet fever truly rheumatic? The so-called malignant endocarditis, that is to say infection of he valves by pyogenic organisms, was, probably, not fatal in all cases, and might be responsible for a certain proportion of the cases of heart disease occurring in association with chorea as well as scarlet fever. The onset of cardiac disease in chorea was sometimes exceedingly insidious and unaccompanied by any obvious signs of rheumatism.

Dr. Colquhoun followed Dr. Dawson Williams in thinking that it was not safe to assume that all heart lesions in children were expressions of the rheumatic diathesis. It was safer to assume that we had not definite information on the subject, and wait until we knew more definitely what the poison of rheumatism was. The subject of heredity was very important, as children might no doubt be born with weak hearts, which were easily affected by causes which would not affect the normal heart.

The President (Dr. Barlow), while recognizing that other possible factors ought to be borne in mind, thought that it was only safe to exclude rheumatism after the history of the child had been thoroughly ascertained. When first seen there might be no evidence of rheumatism beyond a heart murmur, but later in the case affection of joints, muscular rheumatism, or erythema might be observed, and confirm the diagnosis of rheumatism. He agreed that cases of septic or malignant endocarditis might recover, at any rate from the acute attack. Dilatation was an important factor in the production of cardiac disorders in childhood, and might sometimes be observed in renal disease after scarlet fever. The difficulty of prognosis was often great in heart disease in childhood. He believed that, as a general rule, the louder the murmur the greater the implication of valves.—Dr. Coley, in *Br. Med. Jour.*

EFFECT OF CASTRATION ON WOMAN, AND OTHER PROBLEMS IN GYNÆCOLOGY.

There are problems in gynæcology not yet fully solved, on which I propose in this paper to give my own individual opinion—an opinion that I do not claim to be infallible, but which is based upon a large experience.

One question not yet satisfactorily answered is this: What effect upon a woman has the removal of her ovaries? Unquestionably there usually follow the annoyances of the change of life. These, in my experience, are long spun out, because, when menstruation has been abruptly and artificially stopped, the change of life, especially in young women, takes more time to become fully established than when the menopause has been naturally induced. Consequently years may elapse before the victim of the operation escapes from the perspirations, the flashes of heat, the skin-tinglings, the numbness of the extremities, the nerve-storms, and all other vaso motor disturbances, the name of which is legion. My experience, therefore, coincides with that of Hegar, who says that "the artificial menopause induced by the operation is often attended with more serious complications than those which are not rarely observed in the natural change of life."

Then again, the unwelcome fact cannot be shirked, that mental disturbances may be traced directly to the removal of the ovaries as a cause. These are manifested by brooding, by low spirits, by melancholy and even by insanity. Every ovariotomist has met with such painful episodes in his practice. Glavaecke, who has made a study of this subject, goes so far as to declare that "in almost all cases the mind becomes more or less affected, and not infrequently melancholia results." Keith has stated that ten per cent. of his patients who recover from hysterectomy subsequently suffer from melancholia or from other forms of mental disease. Yet this result must come, not so much

from the extirpation of the womb, which is merely a muscular bag, as from the associated ablation of the ovaries, of which the womb, physiologically, is only the appendage.

Whether the deplorable event is due directly to the nerve-shock of the operation itself, together with its emotional environment; whether to the abrupt arrest of an habitual flow; or whether to the absolute need of the ovaries for mental equilibrium—is yet an open question. We know, however, that sexuality is a potent factor in woman as well as in man, and that even certain sexual functions—such as coition, menstruation, gestation, parturition, and lactation— of themselves tend not infrequently to disturb the mental poise. I am disposed, however, in a measure to attribute the attacks of insanity in those women who have lost their ovaries to their brooding over the thought that they are unsexed; and if brooding may be deemed in itself a mental aberration, Glavaecke's sweeping statement is not an extravagant one.

But, after all, the burning question is: Does the removal of the uterine appendages affect the sexual sense of the woman, or in any way unsex her? Here we have an embarrassing diversity of opinion. Some operators contend that in these respects castration does not affect her at all; others that it does so, and often very decidedly. The truth in such cases usually lies in the mean, as I shall try to show.

In my *Lessons in Gynæcology* and in my early teachings I maintained that the removal after puberty of the ovaries and the tubes does not unsex the woman—at least not to a greater extent than castration after puberty unsexes the man. In the one the ability to inseminate is lost; in the other the capability of being inseminated; but in both the sexual feelings remain pretty much the same. Males who have lost their testes after the age of puberty are said to retain the power of erection, and even of ejaculation, the fluid being of course merely a lubricating one. The amorous proclivities of the ox or of the steer are the scandal of our highways. Alive to these facts, Oriental jealousy demands in a eunuch the complete ablation of the genital organs. Not only are the testes, therefore, removed, but also the scrotum and the penis flush with the tubes. Hence, to avoid the soiling of his clothes, every eunuch carries in his pocket a short silver tube, which he inserts merely in the pubic meatus whenever he passes his water. I contended, further, that, apart from cessation of menstruation and from inevitable sterility, the woman after castration remains unchanged, having the same natural instincts and affections; that the sexual organs continue excitable, and that she is just as womanly and womanish as ever. I held that the seat of sexuality in woman had long been sought for, but in vain. The clitoris had been amputated, the nymphæ had been excised, and the ovaries and tubes extirpated; yet the sexual desire had survived these mutilations. The seat had not been found, because sexuality is not a member or an organ, but a sense—a sense dependent on the sexual apparatus, not for its being, but merely for its fruition. My inference was that the physical and psychic influence of the ovaries upon woman had been greatly overrated. In the popular mind a woman without ovaries is not a woman. Even Virchow contends that "on these two organs (the ovaries) depend all the specific properties of her body and her mind, all her nutrition and her nervous sensibility, the delicacy and roundness of her figure, and, in fact, all other womanly characteristics." This statement I held to be true only in so far as the ovaries are needful for the primary or rudimental development of woman, but not true when once she is developed; for then they are not essential to her perpetuation as woman.

In time, however, I slowly found out that the removal of the ovaries does blunt and often does extinguish ultimately the sexual feeling in woman; although the removal of the testes after puberty is said not to impair the virile sense of the male. This random opinion, however, I very much doubt, despite the maudlin sentiment expressed even about eunuchs by De Amicis and by other travellers in the Orient. For the secretion of the seminal fluid is in itself the great aphrodisiac, and how otherwise can we explain the changed behavior of Abelard toward Heloise after his forcible castration? Giving up this analogy, therefore, in my more recent teachings I adopted that of the menopause as suggested by Kœberle. I accepted his analogy, although I could not wholly accept his inference that a woman is not affected sexually by the natural cessation of her menses. Kœberle sums up his opinion in the following words: "In my own experience the extirpation of both ovaries causes no marked change in the general condition of those who have been operated on. They are women who may be considered as having abruptly reached the climacteric. Their instincts and affections remain the same, their sexual organs continue excitable, and their breasts do not wither up."

A riper experience, of which time was the main element, has led me still further to modify my views on this subject. Unquestionably the natural change of life when fully established, but not until it is fully established, does not sensibly dull and deaden the sexual sense of woman, which ultimately disappears in her long before virtility is effaced in man, nor is the survival of this sense after the menopause so essential to woman, because after the cessation of menstruation she loses the power of procreation, which is retained to an advanced age by man. This is a wise provision of Nature, for did the sexual sense of the wife oulast that of the the husband, it could not be gratified. Sensible of

these changes, a gifted French authoress makes one of her heroines say, with italicized emphasis: "*Men* may forget the course of years; they may love and become parents at a more advanced period than we can, for Nature prescribes a term after which there seems to be something monstrous and impious in the idea of (our) seeking to awaken love. . . . . Yes; age close our mission *as women* and deprives us of our sex." Now what happens in the natural menopause holds good in that artificially and abruptly produced, with this important difference, that in the latter the sexual feeling is sooner lost. I am willing to concede that in some women, by no means in all, whose health had been so crippled by diseased appendages as to extinguish all sexual feelings, there is, after castration, a partial recovery of the lost sense whenever health has been regained. Yet even in these cases, as far as I can ascertain—for women are loath to talk about these matters—the flame merely flares up, flickers, and soon goes out.

My own experience would lead me to the conclusion that in the majority of women who have been castrated the sexual impulse soon abates in intensity, much sooner than after a natural menopause, and that in many cases it wholly dissappears. This tallies with Glavaecke's conclusion that "in most of the cases the sexual desire is notably diminished and in many cases is extinguished." In corroboration of this statement let me cite, out of my many cases in point, a few of the more salient ones. The wife, aged thirty-four, of a farmer, so exhausted him by her sexual exactions that his health suffered very seriously. The appendages were diseased and fixed by adhesions. After their removal menstruation and the sexual impulse continued unabated for a little over a year, when the former wholly ceased, and the latter not long after disappeared. Another case was the very ardent wife, aged thirty, of a man who was not so well-mated to her. She was sterile and had excessive menorrhagia from a uterine fibroid, for which her ovaries were removed. Menstruation did not reappear, and in less than two years all sexual feeling was lost. In a third case, a young lady of high intelligence was reduced to a pitiable condition of ill-health by menorrhagia and by frequent acts of self-abuse. She was not insane, yet incredible as it may seem, she sometimes masturbated no fewer than eight times in the four and twenty hours. For several months after the removal of the ovaries, which were apparently healthy in every respect, she kept up her bad habits, although the monthly flow never returned. Then the sexual feeling gradually vanished, and she gave up her solitary vice. In a fourth case I removed the healthy ovaries of an unmarried lady of a middle age who was queer, but not insane enough to be confined. Toward her monthly periods she was goaded by so irresistible a desire for sexual intercourse that she herself feared her going astray. Not long after castration, which was done more to save her from reproach than to cure her insanity, she lost the desire wholly and absolutely. She did not, however regain her reason, and ultimately had to be placed in an insane asylum.

Imlach's case is a celebrated one in medico-legal jurisprudence. This skilful surgeon, after removing the appendages of a woman, was prosecuted by her for unsexing her, and by her husband for spoiling thereby his marital pleasures. The special committee appointed to investigate Imlach's numerous cases of castration at the Woman's Hospital, in Liverpool, reported that they found "a distinct loss of sexual feeling to such an extent as to cause serious domestic unhappiness in not a few instances." The correctness of this report is corroborated from cases in my own practice, of engagements broken off, of conjugal estrangements, and of marital infidelity.

Let me here remark that I was once consulted by the late Dr. Kerlin about the propriety of removing the ovaries from a feeble minded inmate of his institution, whose shameless intercourse with the other sex was the only bar to her being at large. Being very sanguine that the operation would succeed in its object I urged its performance. He, however, could not get the official sanction which we both wished for our own legal protection, and nothing further was done than to keep the girl under lock and key.

In other sexual characteristics I have not found in these women any marked changes, either physical or psychic. Their affections seem to remain the same; their breasts do not flatten or wither up; they do not become obese; abnormal growths of hair do not appear on the face or on the body, and the tone of their voice and its quality are not changed. In one word there has not been in a single one of my cases a tendency toward any characteristic of the male type. If any change has taken place, it has been in the direction of old-maidhood.

In close relation with this subject four questions come to the fore, and grave ones they are:

a. Do chronic diseases of the appendages often lead to fatal issue?

b. To restore health to the woman suffering from such diseases of the appendages, it is needful invariably to invoke the aid of surgery?

c. After an abdominal section has been made, and after adhesions have been broken, must the now free appendages always be removed?

d. Is castration of the female a warrantable operation for the cure of insanity or of epilepsy?

To the first question I answer that the death-rate from chronic diseases of the appendages is greatly overrated, so much so that, in my opinion, more deaths result from the operation of removing the tubes and ovaries, in the hands of even the most successful gynæcologist, than from the disease itself.

Knowsley Thornton states that "his own experience pyosalpinx is not necessarily a fatal disease." In my experience, after the patient has safely passed through the acute stage of the inflammtory attack, her life is in very little danger. Chronic diseases of the appendages usually affect the well-being of the woman but they ordinarily do not threaten her life in any other way than by the wear and tear of prolonged discomfort.. This may shorten her days, but fatal attacks of peritonitis, even in so-called leaky pus tubes—if such ever exist—are the exception. Paradoxic as it may seem, the life of a woman with but one ailing appendage is in greater danger than the life of a woman with both her appendages diseased. The explanation is a simple one: Parturition very generally relights a chronic inflammation of the pelvic organs, but when both appendages are diseased pregnancy rarely takes place.

To cure the ill-health of a woman whose appendages are diseased, or to relieve her from her sufferings, a surgical operation is by no means always necessary. Many women with adherent tubes and ovaries, and, for the matter of that, some even with pus in these organs, suffer either no inconvenience whatever, or very little indeed from that condition *per se*. There are, again, others who have pains or aches only at their monthly periods. But let their health break down, say from influenza, from malaria, from overwork, or from nerve-strain, then symptoms may arise from hitherto latent pelvic lesions. Yet, in most of these cases, if the woman be restored to her former condition of health—that is to say, that which she enjoyed before the final breakdown—she will lose her local symptoms and become symptomatically well. On this matter I can speak positively, for many a patient has been sent to my own private hospital in order to have her distinctly diseased tubes and ovaries removed, who has been restored to health without the use of the knife. Now, by the term "*restored to health*," I do not mean that the treatment has released the adherent appendages, but that it has freed the woman from every pain and restored her fully to all her social and domestic duties and pleasures. She has been cured so well as to be able to row, to swim, to dance, to take long walks, to ride on horseback and to exercise in the gymnasium—and what better vouchers of good health than these can be given.

I will go yet further and assert that even cases with all the subjective and all the objective symptoms of ovarian or of tubal abscess have been cured by me without any operation whatever—the pus having disappeared either through absorption or through inspissation. What is still more strange, in a few cases of abscess of each uterine appendage—very few, I will acknowledge—the treatment by massage, electricity, local applications, and by a general building up of the system was followed by conception, pregnancy, and parturition. These were cases in which I did not advocate castration until other means had been tried first but all had been sent to me by their physicians for the purpose of having their ovaries removed.

I come now to two cases on which I urged castration. Perhaps I have had more, but I cannot recall them. Each one had the fixed, sausage-like, tubal tumor on either side. Yet each patient, to my very great surprise, conceived and bore children. The one, a patient of my friend Dr. D. Murray Cheston, first consulted me and afterward a gynæcologist of world-wide renown, who corroborated my diagnosis of double pus-tubes, and doomed her, as I had, to hopeless sterility. The puerperal convalescence was stormy and at one time threatening; but she ultimately got well. The other case is a standing joke of my friend Professor Parvin, who knew the circumstances. The woman presented similar characteristics to those of the preceding case, and I urged an operation. This she luckily refused to undergo, and a year or more afterward gave birth to twins. Of course, the rejoinder will be made, that my diagnosis, although shared by other specialists besides myself, was a faulty one. But I can as unhesitatingly reply that had the objector made the examination he inevitably would have removed both appendages, as I certainly should have done had I opened the abdomen.

Now, in these cases, the pus was either confined to the ovaries, or, as I supposed from the sausage-like form of the tumors, it lay sealed up in the tubes, and the closed-up lumen of one of them was, by returning health, restored to full patency. The possibility of a closed-up tube regaining its bore is I know strongly disputed, even ridiculed, and *a priori* reasoning would certainly justify the doubt. If, however, solid uterine fibroids of stony hardness and of several pounds weight will through absorption wholly disappear, as every gynæcologist has seen them disappear, why may not the tubal barriers and septa also break down and become absorbed. I have read somewhere, but the reference I cannot now find, that in order to prevent conception in a case of narrow pelvis, both tubes were ligated, without establishing sterility. On the other hand, great disorganization of the ovaries is not incompatible with pregnancy, for it appears that a very small amount of ovarian stroma goes a great way. Menstruation often continues, however diseased the ovaries may be, and Atlee reports two cases in which one ovary having been removed, the other became so cystic as to need *repeated tappings*. Yet each woman not only menstruated, but conceived and gave birth to a child. In one of these cases, a cyst of the sole ovary, the other having been removed many years previously, was tapped twice before delivery, seven times afterwards and then was

extirpated. Robertson mentions a remarkable case in point, which occurred in his practice. He removed both the ovaries, which were diseased, of one of his patients, yet she afterward conceived and gave birth to a child. His explanation is that he must have left, unwittingly a scrap of healthy ovarian tissue in one of the stumps. But on the other hand, the ovum could not have decended into the womb, unless the lumen of one tube had re-opened at the point where it had been sealed up by the adhesive inflammation set up by the ligature.

With regard to the third problem: Supposing simply therapeutic measures fail, and the physician is driven to surgical interference, must he, after breaking up the adhesions, always extirpate the now free uterine appendages? Most surgeons contend not only that the diseased appendage should be removed, but also that both appendages should be extirpated, even if one alone is diseased. This advice is given on the ground that the healthy one is liable in its turn to become affected. My own course, under such circumstances, would be never to remove the healthy appendage unless the menopause had been established already, or unless there obtained a good reason for hastening it on. On the other hand, should both ovaries be intrinsically diseased and their tubes contain pus, I would always remove both uterine appendages in their totality, no matter what the age of the patient might be. Generally, however, the pus is limited to the tubes, and in that case sometimes one ovary, barring its adhesions, which, of course, must be broken, is healthy enough to be left behind. In such a case the tube alone, if possible, should be removed, and not the healthy ovary or the healthy ovaries—if both happen to be sound. Further, rather than wholly remove all ovarian stroma, I should try in such cases to leave behind even a small fragment; for, in several of my cases in which a piece of an ovary, not larger than a bean, was left behind, not any menstrual or sexual changes whatever took place in the woman. Should the uterine appendages be merely adherent and not intrinsically diseased to any extent, I would as a rule, during active menstrual life, release them, and perhaps extirpate the worse of the two, but not both of them.

My reasons for this conservative treatment are, that the complete extirpation of these organs, as I have shown before, tends to destroy the sexual feeling, to disturb the mental equilibrium, and to produce prolonged nervous perturbations, all of which come from the abrupt and untimely suspension of menstruation. There is yet another very excellent reason for this advice: The majority of physicians, and all laymen, look upon women deprived of their ovaries as unsexed. Just as castration is in the male, so the analogous operation is in the female deemed a sexual mutilation to which common consent attaches a stigma. No woman would marry a eunuch, and few men would wed a woman deprived of her ovaries. In my own practice I have known of several very sad cases of marriage engagements broken off, of martial infidelities, and of bitter estrangement between husband and wife, all of which would have been avoided had one ovary been spared, or indeed, had a mere fragment of one been left behind.

Upon the question of the removal of the uterine appendages for the cure of insanity and of epilepsy, I have very few words to say, but they are all based upon cases occurring in my own practice. If the insanity is limited to periodic outbreaks, strictly ovarian in their character and with the menstrual flux as a storm-cutter; if the epileptic fits are preceded by an ovarian aura—that is to say, if they pivot around the monthly period and appear at no other time—the removal of the appendages, by suppressing a pernicious menstruation, usually will bring about a cure in either disease. But when these organs are extirpated merely as a panacea *per se* for these mental and neural disorders, irrespective of an ovarian origin, the operation affords no relief. At the same time I am free to confess that, in order to stamp out insanity, I am strongly inclined to advocate the legal castration of every man and of every woman who is the unfortunate victim of this hereditary curse—William Goodell, in *Med. News*.

JAPANESE NURSERY NOTES.

It has often been said that the Japanese are the most interesting, the strangest, even the quaintest, people we know. In no regard is this truer than in the care they take of their babies. Such a strong foundation is more necessary than elsewhere to a nation where man is born to remain a baby his whole life. We, destined to exercise stronger and more serious minds, would be, at the very beginning of our existence, deteriorated by snch ingenious untiring care.

I have spoken, in another article, of the long continued lactation of Japanese women in benefiting both mother and the child; also of the care taken of pregnant woman, in which a solicitude displays itself at the same time clever and loving. These tender and intelligent attentions paid to the born baby is the second part of that unique Japanese system of rearing healthy and happy men, which makes European and American ladies forget that so many other Japanese conceits are a severe shock to their feelings.

During the dentition period the children have an extra diet, consisting of fish and small crustaceæ. Japanese not being a carnivorous people, this is natural enough. If they ate meat they

would give their children beef very likely. But it is certainly to the advantage of the bony structure of the child to be, on first entering the adult course of eating, fed in the Japanese manner.

The abominable diaper is unknown to the Japanese. They use only a breech clout, which is removed at the moment of defecation. The child is then put in such a position that its legs straddle the arms, its body and head resting against the abdomen of the parent who, gently rocking it in a certain rhythmical, tentative fashion, and accompanying this action with a kind of low whistling, reminding you of a lullaby, gives her offspring its first lesson in personal cleanliness, which to the Japanese mind is exceedingly next to godliness. It will be seen how by this method unnatural positions are avoided, a thing the more important that Japan is the country of worms, distomata, etc.

It is known probably to every reading person that Japan, like all oriential lands, is for obvious reasons, furnitureless. It does not even know the cradle. As Diogenes made a cup of his hollow hand, thus the Japanese mother makes a cradle of the back of an older child, an ambulating, delightful cradle, where it stays from morning to night, and is unrhythmically rocked according to the chances and sports which the day offers to its patient and loving victim. Her back, of course, is its first cradle; when it wants the breast it reaches over or under her arm for it.

The cause of the absence of furniture is the presence of tropical vermin. This awful presence is probably, also, the cause of the carpetless state of the nursery.

The floor is covered with stuffed straw mats, thick and elastic; it is the usual floor of a Japanese house. The floor is mopped every day with salt water; it is in fact a chlorine wash. It must be remembered that in Japan the dirt of the street is not carried into the room, sandals and shoes being left at the front door. The necessity of keeping the floor in a sanitary condition is more important in Japan than anywhere else, because of the national habit not only of sitting but sleeping on the floor.

There is a singular difference between the carriage of Japanese children and the way in which our children walk and move about. The Japanese urchin, whose feet never knew the unkind pressure of tight shoes, and, in fact, no pressure at all, walks more erect, is more sure-footed. In fair weather he wears flat shoe sandals; in these sandals the big toe is widely separated from the others, which gives the child a surer foundation. In wet weather he must maintain his equilibrim on his stilt-like wooden clogs, which keep his feet dry, at the same time compelling him to acquire an extraordinary power over his own motions.

There is in Japan no kissing, not even in the nursery. All the dangers which have been so eloquently described in newspapers some time ago, arising from the touch of lips, in human love directly, and at the communion table indirectly, are avoided by the national aversion for labial contact.

The sexes are separated at an early age, and the separation is maintained until marriage. After marriage the husband has the right to annex to his household as many concubines as his means will allow. If is wife is delicate, he will perhaps suggest some friend of hers, who will prove rather an ally than a rival; at any rate, there will be no diminution of the friendship between the two women. When pregnancy occurs, a second concubine may be suggested, and no such addition ever troubles the quiet waters of a Japanese household. It is incredible what amount of peace, and consequently happiness, the absence of the green-eyed monster alone may be the cause.

When she loses a child the Japanese mother does not wring her hands and look up to heaven; she sits, with folded hands, sunken head, her eyes looking into her lap. Japanese grief has been very eloquently described by my colleague in Japan, Professor Wernick, and I think it will be a good winding up of this little article if I quote a passage of his remarkable book, "Geographico-Medical Studies:"

"However often I have witnessed the death of dear relations—children for instance, or husbands—I never had occasion to observe the wringing of hands to which European women of the lower classes are much addicted. A bitter sorrow was expressed through deep sinking of the head, grasping of the hands together, shedding of tears. That strong mental agony which digs into the soul, so to speak, and takes hold of it like a bodily pain, seems to be unknown to them. They never turn to heaven, their faces bathed in tears, an action which to us seems not only natural and in perfect accord with the essence of grief, but it is considered as beautiful and as a worthy subject of artistic representation. In prayer, the Japanese mother does not lift her eyes to heaven; with bent head, the body somewhat shrunk together, with hands put together by the palms and slightly raised to the level of the chin, she sends her humble prayer for quiet concrete things, you may be sure, to Buddha."—Albert S. Ashmead, M.D., in *Univ. Med. Mag.*

PRACTICAL POST-MORTEM NOTES

Get all the anatomical knowledge possible out of every autopsy; it is therefore advisable, especially in females, to perform a preliminary laparotomy. Many surgical operations can be practiced upon the body without disfigurement, such as

Alexander's operation, oöphorectomy, removal of the ear ossicles and the vermiform appendix, stretching of the sciatic nerve, symphysiotomy, etc.

Dictate the post-mortem notes while the autopsy is in progress.

Respect the feelings of the friends in every possible manner, and in a private house always return everything to its proper place; be sure to leave no blood marks behind.

Be sure of a legal right to make the post-mortem before beginning. The nearest relative, or the one that pays the expenses of the funeral, should give the consent *in writing!*

Do not take away more tissue than can be thoroughly worked up.

Encourage a demand among the laity for the performances of autopsies.

In making an autopsy have a regular method, to be modified only by exceptional circumstances. Finish the examination of each organ in as thorough a manner as possible before the examination of another is undertaken.

Label all specimens at once with name of subject, character of the specimen, relations in the body, date, and preservative fluid employed.

If unfortunate enough to inflict a dissecting-wound, wash the same with running water for four or five minutes, then dress antiseptically—do not out of bravado go on with the post-mortem if there be anyone else present who can complete it

If not making the autopsy personally, do not be too forward in suggestions; but always remain ready to do anything in connection therewith that may be asked.

Tact will secure many autopsies; curiosity of relatives and friends can often be worked upon to secure permission.

As the object of an autopsy is, usually, to discover the cause of death, either for legal or scientific purposes, it should therefore be conducted in as thorough and accurate a manner as possible.

In legal cases be sure to protect yourself in every way. The jars (which should never have been used) containing the specimens, should be sealed in the presence of witnesses. In important cases in Philadelphia, the coronor has both of his physicians present at the autopsy, so that the testimony is stronger; in case of absence of one of the physicians the other can go on the witness stand and the case not be posponed.

If you value peace of mind, do not put yourself forward as an expert witness in medico-legal matters. Knowledge which you already have should be freely given to the court in criminal cases, but the court cannot compel you to obtain expert knowledge without your consent.

In Germany the legal evidence of a post-mortem held by gaslight has been judged by the court, except under certain peculiar circumstances, to be void.

If two persons are lifting the body, the lightest weight is at the feet.

Chloroform, when placed on a towel and the head enveloped in the towel, will quickly dispose of pediculi capitis.

Many signs of inflammation, especially of the mucous membrane, disappear after death. Remember that red flannel often colors the skin red.

Make of the undertaker a friend.

It is a good knife that will keep its edge in more than one post-mortem.

Do not jump at conclusions too quickly; tentative diagnosis alone should be made until the post-mortem is complete.

Always weigh the important organs, and have some method by which you can tell the right from the left in case of double organs; one nick in the left-sided organs and two in the right will readily distinguish them.

Wash hands frequently during autopsy, so as not to allow the blood to dry on the skin.

In opening a cystic kidney be careful the contents do not injure the eyes or soil the linen, as when opened the liquid is under pressure and may squirt several feet.

A duct can often be easily followed by making a nick in it, and then introducing a piece of broom-straw or a groove-director in the direction desired to dissect; this is especially useful in the ureters and the ductus choledochus communis.

In writing the account, describe what you see; do not use names of diseased conditions—these should be put in under the head of pathological diagnosis.

Urine or aromatic spirits of ammonia will best take off odor from the hands; this odor is usually gotten from opening the intestines.

Ammonia spirit, or aromatic spirit, will remove iodine stains; a weak solution of hypo-bromite solution will remove carbo-fuchsin and other anilin stains.

Any organ desired to be saved should be placed in a safe place so that it will not be returned to the body and sewed up.

The dissecting room is a poor place to study pathology, on account of the chloride of zinc forming with albumen an insoluble albuminate.

Nervous tissue for miscroscopic study should not be placed in zinc chloride or in alcohol.

Remember the post-mortem, with the exception of the brain and cord, can be made with a pen-knife.

Also that the thoracic and abdominal organs can be removed by the rectum or vagina.

Before removing the calvarium, have a basin so placed that it will receive the blood and cerebro-spinal fluid.

Drawings, photographs, casts, cultures of micro-organisms and microscopic slides are valuable additions to a well written account of an autopsy.

A lesion in one part of the body will often suggest a careful search for another in some other part.

Do not mistake the normal for the abnormal.

Squeezing the gall-bladder after the duodenum has been laid open, will often cause bile to pass out, and the papilla, the ending of the common bile-duct, can thus be demonstrated.

Remember frozeu sections of fresh tissue can be cut and mounted in a half-hour to an hour.

Three hours is none too long in which to make a complete autopsy.

Be careful that the first rib does not scratch your hands when removing the tissues in that region; therefore cover over the cut ends of clavicle and ribs with the skin flaps.

Blood makes a good glue for affixing labels, and the blood of a person dying from hydrocyanic poisoning makes an excellent red ink which will keep for years without the addition of any preservative fluid.

Remember that after the brain has been sequestered the fundus of the eye can be removed by a circular incision posteriorly, without disfigurement. The inside should then be stuffed with dark colored wool or cloth.

In private cases you will be frequently judged of your skill as a pathologist by the neatness with which you sew up the body.

If you discover suspicious lesions always stop the post-mortem and report the case at once to the coroner.

Remember in warm weather the intestines are especially liable to undergo rapid decomposition when exposed to the air.

Remember a railway train or cart can pass over the body and leave no abrasion on the skin more than a brush burn.

Remember the color of organs is frequently changed when exposed to the air by the oxydation of the hæmoglobin. Also that the sulphide of iron frequently discolors organs after death, due to the sulphuretted hydrogen during decomposition precipitating the *Fe* of the hæmoglobin.

The clavicle can be grasped and moved, and the claviculo-sternal articulation thus readily discovered.

In removing the cord the following method may be used without disfigurement to the skin of the back part of the neck: Make a circular incision from the middle of trapezius muscle on one side, to the middle of the same muscle of the other side, using as the centre of the circle the external occipital protuberance—this will take in the median line to about the second dorsal vertebra; then dissect away the skin with the muscles attached, and elevate this flap with a tenaculum, and draw the shoulders backward. A sufficient amount of space will be given to then remove the cord in the usual manner.

If the rectus muscle on each side be cut near its origin, in the direction of Pouprat's ligament, the abdominal cavity will be much more thoroughly exposed to view than in the ordinary manner. First, however, examine with the finger for hernia.

Lastly, be honest. Everyone diagnosis lesions during life which are not found during post-mortem. After a most careful autopsy it is often impossible to tell the cause of the patient's death.—Henry W. Cattell, A.M., M.D. in *Medical Age.*

UTERINE CURETTE.

Dr. Robert Bell, of Glasgow, writes, *Br. Med. Jour.*, that as endometritis always results in a hypertrophied condition of the lining membrane of the uterine canal, this sometimes, and not unfrequently developing into a fungoid or villous condition. It is therefore of the greatest importance to adopt measures which shall enable one to reach the comparatively healthy structure of the lining membrane. Doubtless, this could be accomplished by a systematic use of caustic agents, but a much more expeditious and safer procedure is to employ the curette, but as the uterine walls are frequently in a very softened condition, in consequence of the disease which has been present for such a lengthened period, the spoon curette, which has been so long in use, and which has on many occasions produced most disastrous effects, has in his practice during the past ten years been completely superseded by what some of his London friends have designated "the dredge curette," an idea of which will be obtained by referring to the accompanying woodcut. It is made in six different sizes, commencing with that of a No. 12 catheter, so that it is applicable to the various conditions which are met with in gynæcological practice. The curette is practically composed of four rods of steel, each of which has an edge which acts as a rime, this edge being on the right side of the rod, so that when it is turned from right to left it scrapes off the unhealthy tissue, which falls into the cage-like structure, and thus is withdrawn. By means of this curette the whole surface of the uterine canal can be attacked by one revolution. The mode of employing the curette is to commence with the small size, and introduce successively the larger sizes, until the operator is satisfied that all the redundant tissue has been removed; afterwards an application of iodized phenol is made to the whole extent of the

canal, and this may be repeated once or twice a week, as the case may require.

This method of treating endometritis requires to be continued for a shorter period than otherwise would be necessary were the curette not employed in the first instance.

Dr Bell has frequently been requested by his medical friends, both in this country and in America, to publish an account of this instrument, and this is his excuse for bringing it before the profession at large.

THE TREATMENT OF SCIATICA.—Dr. E. Valentine Gibson has published an analysis of one thousand cases of sciatica, with special reference to one hundred cases treated by acupuncture. The results on discharge from the hospital of one hundred consecutive cases of sciatica treated by acupuncture are as follows: 56 per cent. were cured, 32 per cent. were much improved, 10 per cent. were improved, and in 2 per cent. there was no improvement. The results are satisfactory, considering the chronic nature and the severity of the majority of the cases. All these were treated by acupuncture, and they all used the Buxton thermal water, which has such a great reputation for the absorption of inflammatory products. Acupuncture the author considers very valuable. Dr. Gowers states: "Simple acupuncture along the course of the nerve has been recommended; it gives temporary relief, as does any superficial pain, but the cases are very few in which it has a permanent effect." The writer believes that Dr. Gowers refers to cutaneous acupuncture of the nerve itself, which was the method employed in these cases. The patient can always tell when the nerve has been pierced by pain shooting down the leg. The needles ought not to be left in situ for any length of time, but withdrawn immediately, as unless this is done severe pain is often caused on their withdrawal, and no better results seem to follow this line of treatment. A single spear-pointed needle, two and a half inches long, is all that is required, as the depth of tissue to be pierced can be regulated according to the situation and the development of the patient. If the nerve is not pierced on the first introduction of the needle, it can be partially withdrawn and entered again at a somewhat different angle, and in this way the nerve may be pierced in several different places with but one cutaneous puncture. The nerve should be pierced about five times over the part where there is pain on pressure. The external popliteal nerve to the inner side of the biceps tendon may also be pierced if it is painful, and as it is not covered by muscle this can easily be done. There is often pains situated on the outer side of the leg, which in all cases is probably due to "referred pain." The musculo-cutaneous nerve may be punctured along the whole of its course, but being of small size and lying deeply it is naturally more difficult to pierce; but, even if the nerve is missed, the needle, passing in close proximity, must exert counter-irritation. These cases, without exception, he considers, were due to an inflammation of the nerve-sheath, this affecting primarily the adventitious tissue, and in more severe cases spreading into the interstitial tissues —a perineuritis and an interstitial neuritis respectively. This condition would account for the various symptoms, sensory and trophic, such as pain, tingling sensations, and the wasting of muscle supplied by the affected nerve, and also those supplied by the small sciatic, when the disease affects the lower portion of the sacral plexus. The author, in view of his lack of opportunities for *post mortem* examination, quotes from Dr. Gowers: "In most cases that have been examined, distinct evidence of neuritis has been found, chiefly involving the nerve-sheath, but extending, in some cases, into the interstitial tissue. In recent cases, there are small hæmorrhages, and in seven cases similar but slighter alterations in the interstitial tissue with secondary damage to the nerve-fibres. The signs of inflammation are most intense at the sciatic notch and opposite the middle of the thigh. They may be limited to one or both of these places, or they may be greatest there and extend in slighter degree over a considerable tract of nerve. Considering this to be the true pathology of sciatica, the treatment by acupuncture is a rational one, more especially in the earlier stages of the disease; but even in later stages puncturing the thickened nerve-sheath may promote absorption. If the nerve is pierced in a number of places over the inflamed area, where there is congestion of vessels and, consequently, exudation of serum and small-celled infiltration, it must be given an outlet, however small, to more or less of the exudation; also dilated blood-vessels must be pierced, thus relieving tension in two ways, and favoring the process of absorption. Rest is necessarily most essential, as it is in other inflammatory conditions. A rheumatic or gouty diathesis should be treated by appropriate remedies, as they are often a predisposing cause. The more chronic the sciatica the more difficult is the cure, as organization of the effused material must be a source of irritation and a nidus for subsequent relapses. In cases of secondary sciatica, due to rheumatoid arthritis of the hip-joint, a slight temporary relief only is obtained by acupuncture, as the source of irritation cannot be eliminated. Whether this irritation is due to pressure of the enlarged capsule of the joint on the nerve, or to the changes in the joints, giving rise to a neuritis of the nerve-fibres supplying the joint, and spreading from there to the trunk of the sciatic nerve, is a point requiring investigation."

In conclusion, if every case of sciatica, beginning acutely or subacutely, were to be treated by absolute rest, together with acupuncture, repeated, if necessary, at intervals of a few days, and at the same time any rheumatic or gouty tendency were treated by suitable remedies, the author does not think there would be the number of chronic and relapsing cases that one so often sees.—*Ther. Gaz.*

THYROID FEEDING IN SKIN DISEASES.—In view of the important results obtained by some observers by thyroid feeding in psoriasis and other dermatoses, the following brief notes of cases carefully observed as in-patients are of interest. The only case benefited was that of xeroderma; the results in three cases of psoriasis, and in one of eczema were quite negative.

CASE I.—B. B., aged 13. Infiltrated eczema of face and backs of hands, dating from infancy. On August 24th, 5 minims of brandy and Martin's thyroid extract was ordered to be taken daily, without any topical remedy, and was taken for nine days. The result was that the eczema was not so well. The fluid was continued for a time, and later changed to Burroughs and Wellcome's tabloids, two or three a day. The thyroid treatment was continued for two months, and pushed until symptoms of thyroidism were produced, but without any beneficial effect upon the disease.

CASE II.—M. L., aged 35. General acute psoriasis guttata. She had suffered from out breaks of the disease once or twice a year since the age of 16. On August 11th brandy and Martin's extract was ordered, 10 minims daily, afterwards increased to 15 minims; later, six tabloids a day were given. The rash was rapidly fading when treatment was begun, and this involution continued while under thyroid treatment; nothing approaching exfoliation, however, was seen. The case remained stationary for a time, and then a manifest increase of the spots took place on the chest. The thyroid treatment was continued till September 30th, when it was stopped, and the skin easily cleared of the disease by means of the usual remedies.

CASE III.—M. G., aged 12. Widely distributed chronic guttata psoriasis. Thyroid treatment was given for a month, but no difference in the disease was noticeable.

CASE IV.—T. W., aged 44. Xeroderma, with dry, silvery, fine desquamation. August 19th, thyroid extract (Brady and Martin), 10 minims daily. No other remedy. In twelve days the skin was softer and more scaly. On September 19th he left the hospital, showing very marked improvement. The skin was much less dry, and the scaliness was gone. Moreover, he asserts that he has perceptible perspiration while in bed.

The same treatment was adopted in three cases of psoriasis in out-patients (two chronic cases with indurated scales and one subacute), but in neither case did it lead to improvement. In one, T. R., the disease was in the erupting stage, and the thyroid treatment appeared to determine a large increase in the number of guttate lesions, which rapidly increased in size, became confluent and more scaly. The disorder under this treatment became much worse than before its adoption, when the patient was being treated with salicylic acid ointment.—Leslie Phillips, M.D. Brux., in *Br. Med. Jour.*

A TREATMENT GIVING A LOW DEATH-RATE IN CASES OF DIPHTHERIA IN HOSPITAL AND PRIVATE PRACTICE.—Dr. William A. Galloway, of Xenia, Ohio, read this paper. The paper embraced reports from private practice of physicians who had given the treatment faithful trial during the past three years, who had unhesitatingly commended its value and had all been able to show a death-rate below ten per cent. Immediately the nature of the disease was suspected, the writer gave a grain of calomel for each year of the patient's age up to eighteen, repeated the dose in from four to six hours, and met the action of the mercurial with copious hot water injections. This treatment was persisted in until the full action of the calomel on the liver and kidneys was obtained, relieving these two important excretory organs of the paretic condition caused by the absorption of the toxalbumin product of the Klebs Loeffler bacillus. Improvement in the patient's appearance was immediate when the mercurials acted freely. The quantity of foul-smelling, grass-green dejecta resulting was astounding. There was no fear of salivation, as under the most heroic use of mercurials no symptom of salivation had been observed by the writer or his friends. Internally, corrosive sublimate was given up to one eightieth of a grain, with full doses of tincture of chloride of iron and alcohol hourly at night and during the day. The topical treatment consisted of the use of peroxide of hydrogen for cleansing the throat, while as an escharotic, a solution of twelve grains of salicylic acid in a drachm of alcohol might be used twice a day by the physician only. It had proved of great value in the writer's hands. This escharotic was very powerful, and should be used carefully.—*Med. Rev.*

THE INDUCTION OF PREMATURE LABOR.—The Krause method is given by Dr. Boisliniere as follows: After the patient's bowels and bladder have been well evacuated, and the vagina thoroughly washed with warm water rendered antiseptic by a two-per-cent. solution of creolin or a five-per-cent. solution of carbolic acid, using no bichloride of mercury, which is always so dangerous, a No. 12 English bougie, not a catheter, as

this may carry germs, is smeared with carbolized oil. The woman is placed in Sims' semi-lateral position, a Sims' speculum being introduced, the anterior lip of the cervix is secured by a strong vulsellum, and the bougie is gently introduced through the cervix into the uterus, following the axis of the superior strait. The bougie is guided between the uterus and membranes to the depth of about eight inches. The vaginal end is then tied into a knot and left there. The vagina is stuffed very carefully with iodoform gauze, which acts also as a tampon, soliciting uterine contractions. In packing the vagina, avoid the course of the urethra, in order to prevent the necessity of catheterization. Then you can leave your patient, to be called, probably, within six or twenty-four hours. The uterine contractions will then have begun and the cervix found softened. Then the bougie should be withdrawn, the os dilated forcibly with the fingers, and, if still remaining contracted, and the case be very urgent, multiple incisions around the os, with a probe-pointed bistoury or scissors, should be made; the Barnes' bags, modified by McLean, are then to be used, and when sufficient dilatation is obtained, rupture the membranes and terminate rapidly the labor with the forceps on the head, or on the child's pelvis if it present by the breech. These operations should be performed quickly but prudently, as it is the child's life which is to be saved, the mother being in very little danger. Reliable statistics show that nine out of ten children, and twenty out of twenty-five women, are saved by this operation.—*Inter. Med. Mag.*

Conception During the Puerperal Period.—Dr. Brasseur relates the case of a woman twenty-two years of age, who was delivered on July 4th, 1892, of her first child. July 8th she practiced coitus, and was again delivered March 10th, 1893, of a healthy child. Calculating from the date of coitus, the second pregnancy lasted two hundred and forty-three days, that is, twenty-seven days less than the normal. This case has caused considerable discussion. Ovulation must have existed in the woman on the fourth day after the delivery, and it was necessarily quite independent of menstruation. Dr. Koenig, who actually observed the case, draws from it the following deductions: 1. A gestation period of two hundred and forty-three days after a fecundating coitus may produce a viable child. 2. The spermatozoa can live in the lochial secretions. 3. The functional activity of the ovaries is not completely suspended during pregnancy. The Graafian follicles so open that they may burst a very short time after delivery. 4. Ovulation and menstruation may occur independent of each other. 5. Among vigorous women, during the period immediately following confinement the uterine mucous membrane may undergo a rapid regeneration which renders possible the implantation of a fecundated ovule immediately after delivery.—*Gazette Médicale de Liége.*

Treatment of Erysipelas.—Dr. H. Koestor, *Wiener Medzziniche Presse*, describes a method of treating erysipelas which he has used in fifty cases during the last year, in the hospital of Gothenburg, Sweden. It consists in covering the affected portions and the surrounding skin with a thick layer of white vaseline, by means of a brush. A piece of linen is applied over the whole, in case of the face holes being cut for the mouth and eyes, and this fixed by means of a guaze bandage, with slight pressure. Twice a day new vaseline is painted on and the soaked piece of linen reapplied. The results were extremely good and from comparison with treatment of iodine, ichthyol, sublimate and lanoline, it gave fully as good results. The fever fell, in most cases, within two or three days; the sensation of pain and tension in the affected parts soon became less and recurrences were not observed more frequently than with other methods. In some cases the results were astonishing. Patients that one evening came under treatment with a fever of 40° C. were, the next morning, free from fever and the disease had ceased to extend. Though the result was not so striking in all cases the disease was generally limited to the areas first affected. This method is not only indicated in erysipelatous processes upon the skin but it may also be used in case the scalp is attacked. Here it can be employed without cutting the hair. The advantages are its simplicity, its lack of danger, and, for the patient, it is more agreeable than pencilling with iodine, ichthyol or sublimate-collodion, which often cause burning pains and quite severe symptoms of irritation.—*Med. and Surg. Rep.*

Hereditary Ataxia.—Dr. Sanger-Brown, of Chicago, minutely decribes twenty-one cases of hereditary ataxia, all belonging to a single family, and comprising four generations. The author is inclined—with a certain reserve—to consider these cases as hereditary ataxia, but also recognizes the fact that they differ in some important features from the type usually presented by this disease. These important deviations, which Ormerod and Bernhard also call attention to, are the following:—

1. In true hereditary ataxia (Friedreich's form), the disease usually presents itself between the ages of 12 and 18, while in the cases quoted by Brown it frequently manifests itself much later (for example at 45 years).

2. The majority of his patients were not of the female sex; it would appear that the disease is simply transmitted through their agency.

3. Brown frequently, though not invariably, observed ptosis, which is generally absent in Friedreich's form.

4. Amblyopia and amaurosis, which are never observed in Friedreich's disease, were constant and early symptoms in Brown's cases.

5. In the latter, the knee-jerk, which is absent in the former, was increased, foot-clonus being also present.

6. Brown did not observe club foot nor scoliosis.

7. Pupil-reaction was deficient in Brown's patients—a fact not to be wondered at, since in the majority of cases there was optic atrophy; a symptom which does not occur in Friedriech's disease.

As Brown did not have occasion to make a post-mortem examination in a single case, nothing positive could be determined concerning the nature of this disease. Undoubtedly, however, it closely resembles the hereditary ataxia of Friedreich.—*Brain.*

ON THE TREATMENT OF MALARIA AND DIPHTHERIA BY METHYLENE BLUE.—In thirty cases of malaria with intolerance for quinine, the author has obtained good results by the internal employment of methylene blue. The conditions of the cases are that there were no counter indications against its use, such as nausea, vomiting or polyuria.

It need not be given in very large doses; for example, 30 grams two or three times per day. It should be associated with pv. myristica to prevent the appearance of hematuria. The dose of 50 grams per day for adults and 25 to 40 grams for children of four to eight years of age, suffices to obtain an action against the attack of malaria. Methylene blue does not prevent new attacks, but renders them less intense, the same as other anti-malarial remedies.

In fourteen cases of diphtheria, the author has obtained notable amelioration, from painting with methylene blue of 10 per cent. solution in water. This substance, he states, is preferred to chromic acid, carbolic acid water, chloride of zinc or sublimate, because it is not irritating to healthy tissues.

In saturating the false membranes, it probably prevents the secretion of toxic substances, and opposes itself to the propagation of the bacilli.

Ferreira, in *Bulletin General de Therapeutique*, gives twenty-one observations of infantile malaria treated with methylene blue. He concludes that methylene blue merits large employment in infantile malaria.—A. N. Kazem-Bek, in *Revue des Sciences Médicales.*—From *Vratch.*—*Jour. Am. Med. Assoc.*

TREATMENT OF CHOREA.—In a recent lecture, delivered at Charing Cross Hospital, Dr. John Abercrombie makes the following suggestions concerning the treatment of chorea in children: Unless the attack is very mild, absolute rest of mind and body is essential. Lessons must be given up and the child kept at home, lying down. Most severe attacks demand complete rest in a bed with padded sides. In very severe cases the child should be slung as in a hammock. Only in the lightest attacks should the patient feed himself. When mastication is difficult, minced meat, milk puddings, milk, beef-tea and cocoa should form the cheif articles of diet. Sleep is of great importance. If necessary, chloral, morphine, bromides, may be administered. Iron and arsenic are the best drugs, though drug treatment is of less importance than general management. Rheumatic manifestations or heart complications should be treated on general principles. In chronic cases douches to the spine, shampooing, massage, and gymnastics, are of value.—*Med. Rec.*

QUENCHING THE THIRST AFTER ABDOMINAL OPERATIONS.—Chas. W. Cathart, F. R. C. S., says: *Edinburg Med. Jour.*, It is a well known physiological fact that fluid is absorbed most rapidly from the rectum, and this has induced the writer to try rectal injections of water for those cases of intense thirst where the adminstration of water by the mouth is contra-indicated. Repeated injections were fouud to relieve thirst, while causing no unpleasant symptoms. This method of giving water is particularly recommended after abdominal operations.

BUT HE CAN'T ADVERTISE.

A physician sits in his office chair,
And there broods on his face a look of care,
While he groans and wails and tears at his hair.

"Alas! and alas! and alack!" he cries,
"Surely fortune and fame would both arise
If Old Ethics would let me advertise."

At last a bright thought comes into his brain;
Says he: "I must try that old racket, 'tis plain;
It worked O. K. once and I'll work it again."

He wrote half a page on "The Evils of Pork,"
And the case of a man who swallowed a cork
And a spoon and a knife, but got stuck on a fork;

Told how he cured an imprudent fellow
Who swallowed entire a gingham umbrella,
And brought it intact from the patient's patella.

The newspapers all extended their thanks;
He opened accounts at the various banks;
He baited with Ethics and caught all the cranks.

—*Printer's Ink.*

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TREATMENT OF ENLARGED CERVICAL GLANDS.

The cervical glands are prone to nndergo enlargement from a great variety of causes. The enlarged glands are bubonic in their nature, and the process varies from a simple increased functional activity, to the formation of enormous hyperplastic masses, and necrosis. The process is similar to what goes on in adenoid glands in all parts of the body, under irritation; witness, the mediastinal and mesenteric glands under tubercular infection, the glands of the groin under absorption of irritants from the penis, the solitary and agminated glands of the intestine from the invasion of the bacillus of enteric fever.

It may be said that any irritant, peripheral or central, usually the former, is efficient to set up the adenitis, and that the process of the inflammation is conservative in intention, the glands acting as sentinels to stay the progress of the poison, and prevent its general dissemination through the body.

The most important *infective* enlargements of the neck are either actinomycotic, glanderous, syphilitic, leprous, or tubercular. Of these, the leprous may be disregarded in this country, and the actinomycotic and glanderous forms are also happily so rare as to make it necessary only to mention that the actinomycotic, previous to secondary infection, is not attended by glandular enlargement at all.

So that the two, syphilitic and tuberculous infection, are left for consideration. The former, usually easily diagnosed by a reference to symptoms in other parts of the body, history, etc., are rarely suitable cases for other than internal, antisyphilitic treatment. Operation should be postponed until free pus is present, then a simple incision of the abscess should be made, and the walls scraped or cauterized.

This leaves only the tuberculous swellings so commonly seen in the cervical region, especially in children. Under the name *scrofula*, this tuberculous adenitis has long been recognized, but in the light of modern pathology these swellings should be, and now are usually, spoken of as tubercular. For in these cases we have to deal with a true tubercular infection, either primary or, as is more common, secondary. It should be remembered, that while this is especially a disease of early life, a distinct senile form is known. Sometimes the avenue of approach by which infection has taken place is not to be made out, but usually we can find the "port of entry" in some diseased tooth, ulcer of the mouth, nose, or pharynx, or through a diseased tonsil.

Other roads by which infection may take place are, suppurative disease of the middle ear, an eczema of the skin or scalp, or a purulent conjunctivitis.

Their course often tends to complete recovery, but, unfortunately, sometimes ulceration of the skin takes place, leaving unsightly scars, which are permanent. At other times the progress of the disease is of long duration, and active interference becomes a necessity, both on account of the condition present and of the danger of a tuberculous pleurisy, or pulmonary tuberculosis supervening.

In the matter of treatment, centuries of observation have shown that outside of what may be done by general constitutional measures, and by local applications in the way of promoting absorption of the *peri*-tubercular infiltration, thorough extirpation by the knife and spoon offers the best hope of being effectual. The guiding principle enunciated by Professor Allbutt comes in here with force, viz., "that whenever septic material is contained in the system we rest not until it is expelled, and its burrows laid open and disinfected."

Mr. Teale, in a recent address, has so clearly laid down the principle of the surgical treatment

of the disease that we append them. He looks upon the case from, first, the aesthetic aspect, as follows:

1. Whenever fluid—that is, pus—can be detected in connection with a diseased lymphatic gland, the operation should be done before the skin becomes red and thin—that is, before the skin has been spoiled by advancing suppuration. 2. When the diseased gland is subcutaneous—that is, not beneath the deep fascia or muscle, and has been completely removed, the least scar will result if neither stitches nor drainage tube be used, especially if it be possible to leave the wound uncovered by dressing and exposed to the air so that the edges may be drawn and glued together by drying lymph. 3. If the diseased gland be beneath the muscle or muscular fascia, then a drainage tube must be used, and the edges of the wound must be united by suture. For this purpose, probably horsehair or silkworm gut, well soaked in carbolic lotion, are the best sutures. The best drainage tube is the gilt spiral wire, especially as it may have to remain from two to eight or ten weeks, according to the depth of the wound, or the completeness of the removal of the gland. 4. Where many glands have to be removed, it is better, so far as may be, to remove them through a series of small incisions, and thereby to avoid very extensive ones.

Then from the pathological aspect he says:

1. That all sinuses and suppurating cavities should be thoroughly cleansed by means of scraper and lint, so as to leave a fresh surface free from granulation or decayed or decaying tissue, and that a drainage exit should be maintained until all the deep parts are healed.

2. It is essential to know, and to bear in mind, that the visible abscess, which has often been called and treated as a suppurating gland, is frequently but a subcutaneous reservoir of pus, the source of which (a degenerate gland) is not subcutaneous but subfascial, that is, under the deep cervical fascia, and often submuscular, under the sterno-mastoid, the communication between the two being a small opening in the deep fascia just large enough to admit a probe or director. This opening may easily be overlooked, and is not always easily found even when searched for, but it must be found, or the operation will be a failure.

3. It is mere trifling, and bad surgery simply to incise an abscess in the neck without searching for, and thoroughly eradicating the gland that is the starting point of the abscess. Therefore, no such abscess should be opened without putting the patient under ether, and being prepared with all necessary means for eradicating the diseased gland.

4. It sometimes happens that after the extirpation or evisceration of a gland, the finger detects in the wall of the capsular cavity the slight convex bulging of a contiguous gland. This should be pricked through the wall of the cavity, and so reached and extirpated or eviscerated. In this way in several instances I have emptied from one external opening a group of three or four glands, massed together and suppurating, or otherwise broken down.

5. What has been said hitherto concerns glands which are suppurating or obviously breaking down. As to caseous glands, the conclusions I have arrived at are as follows: When we have dealt with a broken down gland which has proved to be undergoing caseous degeneration, we may infer that any other enlarged glands then present or subsequently appearing, are becoming caseous also; therefore, it is my belief that it tends to promote better health of the patient if, in the absence of reason to the contrary, such glands are removed as soon as the surgeon is convinced that the enlargement is persistent and not merely transitory, without waiting for evidence of fluctuation or pus.

6. What shall be done with enlarged glands which are neither caseous nor suppurating, glands included in the terms lymphadenoma, hypertrophy, etc.? I am not clear as to what answer should be given, nor whether their removal is an advantage or otherwise. Probably this will have to remain an open question for some time yet.

7. In a very large number, indeed, in a majority of the instances of scrofulous neck which have come under my care, there was no evidence of any constitutional taint or weakness. The origin of the ailment was often clear and defined, bad drains in many instances, scarlet fever, mumps, etc. The cases were frequently isolated instances in families free from any tendency to constitutional disease, and health and perfect vigor were restored after the destruction of all degenerate or septic material.

TEST FOR SUGAR.

Every physician has frequently to make examination for sugar in the urine. The qualitative test is the only one that the physician ordinarily undertakes, leaving the quantitative for specialists or analytical chemists. Professor Walter Haines, of Chicago, has brought before the profession a very simple means of making this qualitative test. 30 grains of sulphate of copper are dissolved in half an ounce of distilled water, to which half an ounce of glycerine is added, and the whole is then mixed with 5 ounces of liquor potassæ. In testing with this solution, a drachm is gently boiled, and the urine added drop by drop until 6 or 8 drops are added, *but no more.* If sugar be present, a copious yellow or yellowish red precipitate is thrown down, consisting of the usual anhydrous suboxide of copper.

The solution is said to be perfectly stable, a great advantage over the old Fehling's fluid, which, however, we opine is still used by a great many medical men. Its simplicity, and the readiness with which the necessary ingredients may be obtained, are attractive. It is sufficiently delicate, and so small a quantity of urine being needed, one is not apt to be misled, through reducing substances in the urine other than sugar.

There is a permanent Fehling's solution which we have used for years with much satisfaction and with the utmost confidence. Two solutions, A and B are necessary, and they are made as follows :

SOLUTION A.

℞—Cupri Sulph. (cryst.) . . . gr. 181.
Aq. dest. . . . . ℥ vj.—M.

SOLUTION B.

℞—Sal. Rochelle . . . . . gr. 728.
Sod. Causticæ . . . . gr. 400.
Aq. dest. . . . . āā ℥ vj.—M.

By mixing equal parts of solutions A and B, Fehling's solution is obtained. It may not be amiss to remind our readers that the mixture of urine and any copper test should not be boiled too long, 20 seconds being sufficient, otherwise slight precipitates may take place when no sugar is present.

DANGER OF TRIVIAL WOUNDS.

It is obvious that many lives are lost each year in consequence of the lack of common sense respecting simple cuts or wounds of the hands or other parts. Cases are often seen recorded in the press, of inquests relating to persons who have died from blood poisoning arising from slight wounds or injuries of the hands.

The history of all these cases is practically the same. A man working at his trade receives a small cut on the hand. The trivial nature of the injury is such that it scarcely calls for notice; the small wound is left, so to speak, to take care of itself, during which time, in the majority of cases, it is exposed to all kinds of filth, and sources of infection. If nothing happens under such circumstances, and the wound heals, the result is due to good luck rather than to good management.

But we should do well to remember that the most trivial wound of the skin is liable to be followed by acute septciæmia, and may result fatally. It is in such cases as these that "prevention is better than cure." By thorough cleanliness the tendency of wounds to become infected can be effectually prevented; on the other hand, once let the septic process become inaugurated, and the surgeon is, as a rule, unable to do anything to stem its virulence.

Carelessness, perhaps, more than ignorance, is the cause of most people neglecting these trivial skin wounds, and it becomes the duty of the surgeon to educate those whom his words may influence in this respect, and teach them that as long as a wound, however insignificant, remains unhealed, there is a risk of blood poisoning setting in with its train of attendant miseries. "Cleanliness is next to godliness," and nowhere is this more apparent than in surgical practice; and nowhere else is the truth of the adage better exemplified.

RECURRING GRIPPE.

The history of epidemics is almost uniform in the direction of their extending over several years, *I. N. Love, M.D.* Frequently the disease is endemic, becoming a definite part of every-day life, as witness diphtheria in many sections of the

country. La grippe is no exception. Appearing among us several years ago, it returned the second year in a form more virulent than the first, producing efforts far-reaching and uniformly demoralizing. The possibilities are that the coming winter and spring will develop enormous numbers of these cases; cases effected *do novo* by the germ —if there be any—and cases that have never recovered from previous attacks, with re-aroused disturbances due to the sudden and frequent changes of the weather. Feeling the importance of keeping open the excretory system of glands, and at the same time considering thoughtfully the rheumatic feature that accompanies these cases, no remedy would more promptly suggest itself to my mind than that of tongaline; a combination which naturally suggests antagonism to a locked-up condition of the glands, opposition to rheumatism, neuralgia, nervous headache and gout.

I commend it earnestly and emphatically to the practitioners of the country at large, to meet the conditions to which we have referred.

THE MALIGNANT TENDENCY OF CHRONIC MAMMARY TUMORS.—Dr. W. Henry Bennett, of St. George's Hospital, has written in the *Lancet; N. Y. Med. Jour.*, concerning the tendency of of apparently innocent tumors of the breast to take on a malignant character. He recites his experience in three cases and emphasizes the teaching of many generations of surgeous that the path of safety lies alone in an early removal. There are probably few families in the land that have not had an experience of the dangers of delay in the acceptance of the surgeon's reccommendation to free a patient from the perils of a chronic and so-called benign growth of the mammary gland.

One of Dr. Bennett's patients had a lump in the breast that was quiescent seven years. She discovered the hardness by accident, and, as is the custom with very many patients, kept the knowledge of it to herself for a long while. There was no increase of size, and there was no discomfort, but she was advised by her physician, to who she ultimately went for advice that the proper treatment was removal at once, or at least as soon as any inclination toward increase was observed. After about three years the woman was confined. The swelling than became sensitive, but no marked increase took place until three years later. All this time she continued reluctant to have any surgical interference. Finally Dr. Bennett was consulted, and the urgency of the situation was found to require immediate operation.

Upon removal, the tumor was found to be with a well-defined capsule, and only attached to the gland at a single point. The external parts of the tumor were clearly an adeno-fibroma, but in its centre lay a rounded mass of semi-gelatinous material, to with the tendency of the once innocent lump to grow was due. This softish central mass was found to be of the nature of a spindle-celled sarcoma, and it was at all points surrounded by a layer of tissue identical in structure with the chronic and quiescent adeno-fibroma. At one point, however, the sarcoma approached very close to the surface, so that the benign overlying tissue could hardly be discerned. The entire mamma was removed.

The author is decidedly of the opinion that the growth was originally wholly an adeno-fibroma, and that the sarcomatous element had only recently been superadded. The chronic tumor was a weak point in the breast, and it probably suffered an injury or irritation during the time of suckling, and from that time began to grow heterelogously, a conversion to malignancy being the result. If the patient had not been subject to this point of weakness, it may very well be doubted if she would have had the sarcoma; and also if the tumor had been early removed, there would have been no sarcoma. Dr. Bennett opposes the teaching of some of the text-books that chronic mammary tumors have a tendency to shrink and disappear. His observation is that these chronic adenomata or adeno-fibromato do not shrink, to say nothing of their complete disappearance. Chronic indurations sometimes disappear during lactations, especially after a first parturition, but these are, in his opinion not the true chronic tumor of the breast. In the latter, the tendency after parturition is invariably in the direction of growing rather than shrinkage, and toward malignancy rather than remain *in statu quo*. The pathological probability is in favor of the less desirable result, in the case of these chronic and "benign" mammary growths. Their "benign" element is almost invariably compassed in a mere chronicity, longer or shorter, where danger is never absent.

MERCURIAL TREATMENT OF TABES DORSALIS.—"Dinkler." Reviewed by V. Noorden, Munich. This interesting report details seventy-one cases of tabes collected from Erb's clinic and from private practice, all of which received mercurial treatment. *Centralb. f. Chir.; Jour. Med. Assoc.* In fifty-eight cases there was improvement of one or more of the symptoms, while eleven seemed to be aggravated rather than benefited thereby, especially two cases in which the symptoms became decidedly worse. In these last two, there were indications of brain lesions, involving the arteries and meninges.

The results emphasize the importance of the Fournier-Erb's anti-syphilitic, mercurialtrea tment in tabes dorsalis; at all events it disproves the objections made, as to its bad results.

In the fifty-eight improved cases mentioned above, the following favorable changes were noted, viz.: the sensory disturbances were improved, as manifested by the entire disappearance of the feeling of constriction or girdling pains, sense of cold, and of the tingling and creeping sensations, etc., or by lessening of their intensity or lengthening of the intervals. The lancinating pains became milder or entirely disappeared.

Improvement was often noticeable in many of the other sensory disturbances. Zones of hyperesthesia and of diminished sensibility, became smaller or disappeared entirely. Improvement of sensibility was quite rapid. As regards co-ordination and motor disturbances, there was apparent diminution and complete disappearance of the ataxy, which seemed to run a course quite independent of the sensory symptoms.

More favorable still were the effects on the motor disturbances, from that of slight fatigue to a high grade of paresis.

In regard to the tendon reflexes, the symptoms were either temporary, or permanent improvement followed.

The atrophy of the optic nerves was favorably affected, as were also the functions of bowels, bladder and sexual organs.

Finally, it should be emphasized that the mercurial treatment of tabes, as well as in cases of secondary syphilis, seems to lessen the destructive metabolism and benefits and increases nutrition.

SALOPHEN IN ACUTE RHEUMATISM.—Hardenberg, *Boston Med. and Surg. Jour.*, reports ten cases of acute rheumatism treated with salophen, and sums up his observations as follows: "A fifteen-grain dose every three or four hours for twenty-four hours is frequently sufficient. In no case was there observed any toxic affect or gastric or aural irritation. The average febrile period was but six days, and the average total stay in the hospital but ten days. The pain was quickly relieved and no cardiac complications followed." These conclusions are in all respects in accord with the observations of Caminer and Froehlich and the latter reports of Oswald and Koch, all of whom found in the pleasanter taste of the drug an advantage over the salicylates. In cephalalgia, pleurodynia, and some cases of trigeminal neuralgia marked relief was obtained from small doses. In the severer cases of acute rheumatism, however, the German observers looked upon salicylate of sodium as still the best remedy. Drasche and Hoischmann both report cases of the elimination of the drug by the skin in a crystailine form exactly like the crystals of the original powder. If this is true, it throws doubt upon the supposed splitting up of salophen into a salicylate and a phenol in the system. The remedy is best given in powder.

THE USE OF CHLOROBROM IN INSOMNIA.—Dr. Lothian writes to the *Lancet*: In a case of delirium tremens which I came across recently I found the usual great difficulty in inducing sleep. I tried, firstly, bromide of potassium in 40 grain doses, combined with 5-grain doses of chloral, without the slightest appreciable effect. I increased the dose of both drugs, and again without effect. Sulphonal in 60-grain doses was tried; then I gave hypodermic injections of morphia (six minims). This certainly soothed the patient, but was of no use as far as the sleeplessness was concerned. The case was now assuming a serious aspect, and in my difficulty I tried chlorobrom. I gave the patient an ounce and a half, and in half an hour he had fallen asleep. He slept soundly for two hours, and when he awoke I was again sent for and administered one tablespoonful more. In the course of a very short time he again fell asleep, and slept soundly for five hours. When he awoke the delirium had almost entirely passed away. The next day chlorobrom was again administered, not as a hypnotic, but simply to soothe the nervous system, with most satisfactory

results. I think this solution is not widely enough know in the profession; but I feel certain that in cases of insomnia and delirium tremens, as a hypnotic agent, it stands pre-eminent.

TREATMENT OF CANCER OF THE STOMACH.—Dr. Brissaud says, *All. Med. Zeit.*, that it has been known for a long time that solutions of chloride of sodium possess curative properties in epitheliomata of the mouth, and certain cancroids of the nose. On the ground of these observations, the author has employed this treatment in cases of cancer of the stomach. Owing to the limited solubility of the chloride of potassium and its comparative poisonous character the sodium salt was selected, which is less toxic and can be injected without risk in quite large doses. The chloride of sodium dissolves in three parts of water, while the potassium requires twenty parts of water for solution. As regards the dosage, 8–16 grammes were given daily. As the results of this treatment the pains were relieved, and some of the gastric symptoms disspeared, sometimes so permanently, that it seemed almost as if a cure had been effected.

SUDDEN DEATH TO FLIES. — "Come inside a minute," said a Fourth Avenue dealer in pianos yesterday afternoon. "I have discovered the greatest fly-trap on earth and I want to show it to you." *Scientific Am.* He led the way to an instrument at the rear of the store, on which was a newspaper. On the paper had been placed a bunch of sweet peas. At least a thousand dead flies were lying on the paper in the immediate vicinity of the bunch of flowers. "I threw these here by chance," he continued, "and in about ten minutes I happened to notice that every fly that alighted on the flowers died in a very short time." Even as he spoke a number of the insects which had stopped to suck the deadly sweet had toppled over dead. They alighted with their usual buzz, stopped momentarily, quivered in their legs, flapped their wings weakly several times, and then gave up the ghost.

TREATMENT OF HYDROCELE.—Neumann, *Fort. der Med.; Br. Med. Jour.*, advocates a method of treating hydrocele which in his hands has been most successful. Under strict antiseptic precautions, a trocar and cannula are inserted; the latter is pushed home, and the fluid having been allowed to escape, the cannula is allowed to remain for two days, the whole being wrapped in cotton wool. After removing the cannula, a cooling lotion is applied, and adhesions of the walls is completed in seven to nine days, without inflammation or suppuration. Neumann believes that, owing to the presence of the cannula and the altered conditions of pressure produced, a slight exudation of leucocytes takes place, leading to the formation of a fibrinogenous ferment and the occlusion of the sac. The advantages lie in the small amount of time required, the little inconvenience caused, and the certainty of cure.—Theodor, *Archiv f. Kinderheilkunde*, 17, 1-2, 1893, records 36 successive cases of infantile hydrocele which he treated by emptying the sac with a Pravaz syringe, exerting slight pressure on the scrotum and allowing the fluid to escape through the needle. The author then injects two syringefuls of a 1 in 5,000 solution of perchloride of mercury, withdraws the needle, and closes the aperture with plaster. On the next day a slight swelling will be found, but without redness or pain. No recurrence took place in these cases, though in a control series of 36 children previously treated by the older methods, the usual percentages of reappearance were observed. The treatment has the advantage of being painless, always applicable, and apparently the effect of the operation is permanent. The ages of the children varied from two weeks to eight years.

A MECHANICAL TREATMENT OF ERYSIPELAS.—Dietz, *Therap. Monatsh., Br Med. Jour.*, has tried the medical treatment of erysipelas advocated by Kroell. He surrounded the arm (which was the seat of the affection) with a narrow strip of adhesive plaster at a distance of one-half centimetre from the reddened area. On the following day after the removal of the plaster, the œdema was seen to cease abruptly at its lower border, excepting on the inner surface of the arm, where at the situation of the vessels, etc., the plaster had purposely not been applied so tightly, and where the erysipelas had crept up the breadth of two fingers towards the axilla. A fresh band was therefore fixed more tightly immediately above the point, supplemented on the following day by a second one immediately above the former, the possibility of some loosening being taken into con-

sideration. Three days later the plaster was removed, the disease having presumably been kept in bounds thereby, and recovery having taken place. The author confidently recommends this procedure in similar suitable cases.

THE ERECT POSTURE FOR GYNÆCOLOGICAL EXAMINATION.—In a paper contributed by Dr. William B. Dewees, of Salina, Kan., *Med. Rec.* the author says: Digital examination per vaginam, with the patient in the erect posture, affords one of the most positive means for diagnosis in gynæcology. It is a well-established fact that respiration, the various movements and attitudes of the body, as well as pathological conditions, change the condition and environments of the viscera. Thus the importance of posturing the patient in making physical examinations in gynecic practice becomes evident, as most of the symptoms of diseases of the intra-pelvic organs are more marked, and very many only manifested, when the patient is standing; while certain conditions of descent, prolapse, or displacement may entirely disappear or change, when the pressure or the superincumbent weight of the abdominal viscera is removed by the patient being placed in the dorsal, semi-prone, genu-pectoral, or high pelvic positions; therefore the erect posture is of paramount importance as an aid in diagnosis in this field of labor. The author emphasized the advantage and necessity of digital examination in the erect posture, more particularly in examinations undertaken for a cure in women of, 1st, displacement of the uterus; 2nd, vesical and rectal disorders; 3rd, lack of perineal and vaginal support; 4th, ovarian and tubal disorders; 5th, abdominal and pelvic tumors; and 6th, differentiation between abdominal tumors and pregnancy.

[Common sense, we have practised it for years. —ED.]

LONG-CONTINUED RECTAL ALIMENTATION.—A case of successful, long-continued rectal alimentation is reported in the care of Dr. Maragliano, which certainly meets the objection so often raised, that no real nourishment is obtained from rectal feeding. The patient, a woman, had circumscribed peritonitis from perforated gastric ulcer. For ninety-four days she was kept continuously upon exclusively rectal feeding. In this time the patient lost but 2,700 grammes in weight. The diet consisted of the following enemata:

℞—Lean beef, ... 300 grammes.
Pancreas, ... 150 grammes.

Mix well, rub up in a mortar, and strain; then add:

Water, q. s.,
Carbonate of soda, . . 5 grammes.
Fresh ox-gall, ... 25 grammes.

This suffices for four enemata a day when diluted with a sufficient amount of tepid water.

AN EARLY SIGN OF PNEUMONIA.—Morison, *Lancet*, in several cases presenting the general symptoms of pneumonia in the absence of the ordinary physical signs, has observed a jerky expiration over a limited area, in which he subsequently found developed the usual signs of pneumonia. This jerky expiration is believed to be the first physical sign developed, and can be heard soon, if not immediately, after the rigor, before dulness or crepitation appears. The sign is more distinct in children, but has also been observed in adults. It is suggested that the phenomenon may be due either to the primary congestion interfering with the elasticity of the lung or to the better propagation of the heart-beats through a more readily conducting medium than the healthy lung.

SANTONIN AS AN EMMENAGOGUE.—Dr. Bergey writes in the *Therapist*: I was called to see Mrs. A. B., aged thirty-six years, and found her in great agony from uterine colic. The pains had lasted for several days, and gradually assumed a graver form, notwithstanding the various domestic remedies which she had employed. Hot water bags were applied and frequently changed. Hot drinks were freely administered and frequently repeated, but without affording any relief. The pain was so severe that it was necessary to resort to large doses of morphine to get it under control. In the meantime, a ten-grain dose of santonin was administered. The menstrual flow became fully established by the second day after administering the santonin, and the patient rapidly recovered. To avoid such crises at future periods, I prescribed several ten-grain powders of santonin, one to be taken at night, at the first approach of the menstrual molimen. In this manner the suffering

has been warded off at each subsequent period, and menstruation established each time without any disturbance.

WHY GENERAL PRACTITIONERS HESITATE TO TAKE PATIENTS TO SPECIALISTS.—Dr. Burke says in *Kansas Med. Index:* I took a little patient to a specialist on skin disease, who examined the child, meantime addressing all his remarks to the mother, and when he was through handed her the two prescriptions he wrote. I was wholly ignored. No man should be recognized as a member of our profession who is not first of all a *gentleman;* but some cannot be that because in spite of their medical training they have not been able to eradicate the boorish element of their nature.

MIXTURE FOR FREQUENT EPISTAXIS. — Dr. A. Harkin, *La Semaine Médicale*, recommends the following mixture in epistaxis recurring frequently :—

℞—Chlorate of potash,	. . .	gms. 18.
Perchloride of iron,	. . .	gms. 3.
Water,	. . . . .	gms. 300.

Two tablespoonfuls of this solution three times a day.

ONE of the attending physicians at the World's Fair Hospital, *Coll. and Clin. Rec.*, who has a large private practice, reports that he uses chloralamid largely in sedative doses (3 to 5 grains) for nervously exhausted patients, and he claims that it gives magical relief in sick (nervous) headaches, physical exhaustion, and kindred conditions brought about by excitement, optical strain, heat, and unusual exercise.

GOLDEN SEAL IN VOMITING OF PREGNANCY. — Fedorow insists, *Therap. Monats*, that fluid extract ministered four times daily, is an excellent and *Hydrastis Canadensis* in 20-minim doses, admost effective remedy for control of the obstinate vomiting of pregnancy.

FOR UNDUE SWEATING. — Olszewski, *Centrabl. f. d. ges. Ther.*, recommends fluid extract of hydrastis canadensis. In mild cases a single dose of from 20 to 30 drops at night suffices; in more aggravated, from 25 to 30 drops, three times a day, for several successive days will be required.

LOCAL ANÆSTHESIA.—A local anæsthetie recommended by Dobisch, *Prag. Med. Woch.* :—

℞—Chloroform,	. . . . .	parts 10.
Ætheris,	. . . . .	" 15.
Menthol,	. . . . .	" 1.

This mixture is applied by means of Richardson's spray, and, within a minute, an anæsthesia is obtained which lasts from four to six minutes.

Books and Pamphlets.

FUNK & WAGNALLS' NEW STANDARD DICTIONARY : Volume I. of the two-volume edition of the Funk & Wagnalls Standard Dictionary of the English language was issued on December 16th. This volume has been four years in making; two hundred and thirty-eight editors and specialists have been employed upon it; and the cash outlay has been about a half million dollars. The advance orders for the work mount up into the tens of thousands.

The vocabulary of the "Standard" is extraordinarily rich and full, that of no other dictionary nearly equalling it, although great care was taken to throw out all useless words. The full number of words and terms in these dictionaries for the entire alphabet is as follows: *Stormonth*, 50,000; *Worcester*, 105,000; *Webster* (International), 125,000; *Century* (six volumes, complete), 225,000; "Standard," 300,000.

DUANE'S STUDENTS' DICTIONARY OF MEDICINE. The Students' Dictionary of Medicine and the Allied Sciences. Comprising the Pronounciation, Derivation and Full Explanation of Medical Terms, together with much collateral descriptive matter, numerous tables. etc. By Alexander Duane, M.D,, Assistant Surgeon to the New York Ophthalmic and Aural Institute; Reviser of Medical Terms for Webster's International Dictionary. In one square octavo volume of 658 pages. Cloth $4.25; half leather, $4.50; full sheep, $5.00. Philadelphia: Lea Brothers & Co. 1893. Toronto: Carveth & Co.

The author has attempted, and we think succeeded, in giving students sufficient information, concerning every word they will meet with in acquiring their professional education. The work is the best Student's Dictionary we have seen. It is strong on pronounciation and on derivation, two very important points.