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Original Communications.

FOOD IN HEALTH AND DISEASE.*

By ADAM H. WRIGHT, B.A., M.D.

Professor of Obstetrics, University of Toronto.

I have frequently endeavored to give prominence to the importance of diet in the prevention and treatment of disease. If you ask me how much we knew about proper methods of feeding in my student days I shall have to confess that our ideas on the subject were somewhat vague. We supposed, in a general way, that a milk diet was a proper thing in all cases of fever. We sometimes went a little further and varied our diet to some extent. We thought that beef tea might occasionally be added to our diet list. We did not believe in going into details to any great extent. A simple direction for the patient to take beef tea and milk, alternately, every two or three hours, was often deemed sufficient. On the other hand, we sometimes thought it well to limit special articles of food under certain circumstances. In accordance with this last idea we reduced the amount of meat, starch and sugar, in connection with such diseases as nephritis, rheumatism, diabetes, etc.

You have advanced to some extent in these modern days. You have studied physiology, under favorable circumstances, and have learned much about the phenomena of metabolism and the nutritive value of foods, but whether you will retain enough of this knowledge to apply it practically in the treatment of your patients in active practice, I know not. I fear that a large number of physicians in this and other countries have very crude, if not incorrect, ideas as to dietary. It is

* Portion of lecture to the student class of 1902-3.

not a part of my duty to teach dietetics excepting in so far as the subject is incidentally connected with many of the diseases of pregnancy and the puerperium. As a correct dietary is so vastly important in general toxemia of pregnancy I desire to make a few remarks on this subject in this connection.

There appears to be some charm for the laity in certain of the modern systems of diet; such, for instance, as the milk, the Salisbury, the koumiss, the whey, the proteid, and the vegetarian cures. I must admit that these, in certain cases, are to some extent successful. Many people are suffering simply because of eating more food than the digestive organs can assimilate. They may have used articles of food, which are simple enough in themselves, in combinations made indigestible by a certain mixing of physiological incompatibilities in the stomach. For these, a certain restriction of food, such as is necessitated by these so-called cures, may do good for a time. No one, however, can grow and continue vigorous and strong on a greatly restricted food régime.

Pritchard correctly observes that we should avoid such general observations as that meat is bad in kidney disease or that sugar is bad for rheumatism, as a moment's thought will demonstrate that such observations are nonsense. Meat we must have, and sugar we must have in some form or other. They are not bad for any condition, they are only injurious when taken in excess. Let us devote our energies to the limitation and definition of quantity. The further we limit the better, as everybody overeats and will overeat.

The same author, in referring to some fads connected with certain cures, speaks of diet in nephritis. Although I have already spoken on this subject in a former lecture I desire now to repeat, to a certain extent, and will quote from Pritchard. He asks us to take, for example, the case of a man suffering from some form of nephritis in which it is desirable and necessary to shield the kidneys from undue work. It is recognized, and rightly so, that nitrogenous elements of food should be cut down to a minimum, and, with this end in view, in nine cases out of ten, he is put upon a milk diet. Pritchard thinks, however, that in such a case this diet falls very far short of perfection, not only as regards the relative proportion of the essential constituents but also from the point of view of digestibility. "Nevertheless, from time immemorial, it has served, and served more or less effectively, as an exclusive food for such and similar complaints, and with all its shortcomings I have not a word to say against the use of milk. But why, I ask, should a man be condemned to a milk diet which contains a high percentage (4 per cent.) of nitrogenous elements and be refused the chop, or beef steak, in which his soul delights?"

Seeing that a quarter of a pound of lean meat represents the nitrogenous equivalent of one pint of milk, why should we be allowed the one and refused the other?"

Let us consider some of the evils arising from injudicious eating. Purdy gave us many valuable lessons in this connection. He told us the greatest dietetic sin of the average American (and Canadian, I may add) is his meat-eating propensity. He eats meat generally twice, frequently three times a day, thus laying up on his secretory organs a tax in the disposal of waste products that is physiologically prodigious. The following are certain conditions which may result from excessive meat eating:

Premature hardening of the arteries, entailing those dangers from arterial hemorrhage of which apoplexy is the type; impaired nutrition with premature old age; enlargement of the heart with degeneration of its muscle, leading to the so-called heart failure; Bright's disease; rheumatism; gout.

The next most serious dietetic error is the excessive use of sweet and starchy foods, that is, the carbohydrates. Such excesses cause stomach indigestion with, especially, flatulent dyspepsia, habitual overtaxation of the liver leading to impairment of that organ with bilious attacks, the development of gall stones and the induction of diabetes.

The third great dietetic error is the consumption of excessive quantities of food. The dietary may be perfect as to quality, but, if the quantity exceeds the physiological requirements harm will result. Although the remarks of Pritchard and Purdy may refer especially to men they are equally applicable to women. No one can lay down absolute rules as to dietary which are suitable to all women. Women during pregnancy often appear to eat larger quantities of food and assimilate it quite as well as, if not better than, before pregnancy. On the other hand, they may suffer much from vomiting, especially during the first half. Under such circumstances, some women think that they retain almost nothing, or certainly only a small proportion of the food ingested, and yet thrive and gain in weight apart from the increased size of the uterus and its contents. My desire is to impress upon you the importance of studying this subject carefully. There is something sublimely simple about certain of the foods recommended, particularly the absolute milk diet. I desire to warn you against accepting extreme views in any direction. Learn what you can respecting the virtues, or otherwise, of any or all of the so-called cures, but do not get so narrow as to be carried too far in your enthusiasm in connection with any one plan. Aim at correct ideas both as to quality and quantity, remembering, in connection with the former, that a mixed diet within certain

limitations is the best in all respects, and, on the other hand, that excess in quantity produces greater evils than insufficiency.

Before referring particularly to milk diet, as I shall do later on, especially from a clinical standpoint, I desire to say a few words as to the elementary principles which should govern our ideas as to diet whether in sickness or in health.

In all cases the system demands the following classes of food: Proteids, carbohydrates, hydrocarbons, salts, water.

Every diet, in order to be physiologically adequate, must contain articles from each of these groups. It is a very simple matter to make such an elementary statement, but it frequently becomes a very difficult task to decide as to the relative proportions of these different foods which are required. As to quantity, considering the matter from a physiological standpoint, the non-nitrogenous elements should be in the ratio of one to four, and the absolute amount of each required for twenty-four hours is:

Proteids (nitrogenous foods)	4½ oz (140 gm.)
Carbohydrates (sweet and starchy foods)	14 oz (435 gm.)
Hydrocarbons (fatty foods)	3 oz (93 gm.)
Water	1 to 2 qts. (1 to 2 litres.)

These quantities are supposed to be suited for the healthy adult of average weight. We have to consider in connection therewith the deviation from health, habits (whether sedentary or otherwise) and existing conditions, such as climate, environment, etc. I may say, in a general way, that these figures furnish a fairly reliable basis, and an intelligent remembrance of them will prevent us from falling into gross errors.

Beverages.—In considering the liquid portion of a dietary we always think of water as the best beverage. We find, however, in almost all our beverages, other than plain water, a certain amount, often a large amount, of sugar. Many of our druggists and grocers sell, during the hot months of summer, large quantities of vile compounds under the name of soda water, which contains various flavoring extracts, lots of cheap sugar, all sorts and conditions of water, but no soda. These mixtures are sometimes made still more atrocious by the addition of highly flavored ice creams. We have sugar in our wines in varying amounts, from one-eighth of a pound in a quart of average champagne, to one-half a pound in one quart of certain kinds of domestic wine. You can easily understand how much harm the sugar in beverages can do to those who indulge in them to any extent, especially if they also eat large amounts of sweet and starchy foods. The headache and indigestion following the ingestion of sweet wines is often chiefly, and always partly, due to the sugar and not the alcohol.

Although we may understand thoroughly these simple and

elementary facts, and may have a clear idea that the ordinary diet for a pregnant woman should consist of $4\frac{1}{2}$ ounces of nitrogenous foods, 3 ounces of fatty foods, 14 ounces of sweet and starchy foods, 2 quarts of liquid food, including water, per day, yet we may not be able to draw up a practical dietary representing such foods in their proper proportions. In order to do this we should also have a knowledge of the elementary analysis of our common food stuffs.

I am now speaking to a class of intelligent students who expect to graduate in a few weeks. How many of you can tell me what percentage of albuminates or proteids you will find in a pound of fat pork or lean beef? What percentage of starch in a pound of bread? What percentage of fat in a pint of cream? If you cannot furnish me this information with reference to our most simple and common foods I might be excused for asking you what use you are going to make of your knowledge as to the required daily amounts of the nitrogenous, the sweet and starchy, the fatty and the liquid foods for a healthy adult. If, however, you bear in mind the fact that only a small proportion of proteids is required in a mixed diet, and if you go a little further and remember that only four or five ounces of butchers' meat per day is sufficient to renew the ordinary waste of muscular tissue; also that twenty to thirty ounces of butter, bread, potatoes, sugar, etc., will be sufficient for the various operations of the economy, as represented by heat and force, you are not likely to go far wrong. With such knowledge you are not likely to forget that a pregnant woman, especially one who has toxemia, should not eat bacon and eggs for breakfast; milk, cheese and cold ham for luncheon; and roast mutton, game and sweet domestic wine for dinner. You could easily understand the great dietetic blunder (as Sir Henry Thompson terms it) made by the woman who washes down ample slices of roast beef with draughts of new milk, (as Sir Henry Thompson goes on to say) an unwisely devised combination, even for those of active habits, but for men and women whose lives are little occupied by exercise one of the greatest dietetic blunders which can be perpetrated.

My desire in these rather discursive remarks about foods, is to impress upon you simple, practical facts in connection with diet for pregnant women in health and disease; to show that errors of diet are followed by serious results; to stimulate you to take an active and intelligent interest in your patients in such regards under all circumstances.

THE INDIAN AND THE INDIAN MEDICINE MAN.

By J. F. W. ROSS, M.D., TORONTO.

(Opening lecture of the Faculty of Medicine, University of Toronto, October, 1901.)

The Indian Chief, Tecumseth, it has been said, received the stamp of greatness from the hand of nature. Had his lot been cast in a different sphere he would have shone as one of the most distinguished of men. He was a powerful man, with the soul of a hero. There was an uncommon dignity in his countenance and manners. After death, though he wore no insignia of office, he was easily discovered from among the rest of the slain. Though six feet high, he was perfectly proportioned. Such a type of man is but one among many, and there were many other Indians like him. After the red man came into contact with the white he degenerated. To peaceful communities came the fur trade, and a hell was soon established. The introduction of alcohol, and its attendant evils, made the Indian what he is to-day, but, nevertheless, we are able to look back and admire what existed before the fall.

The vindictive blood of the savage runs in the veins of many of the people of this continent who do not know it. It is difficult to estimate the effect that this mixture has had on the progress of American and Canadian affairs.

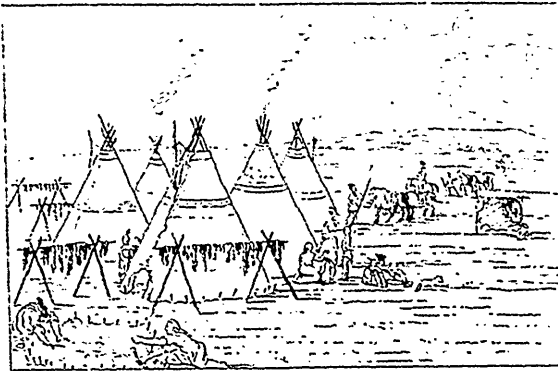
The skin of the Indian was dark, of a reddish hue, and thinner than that of the white man. The surface was very smooth and lines and indentations regular. It has been stated that the poison oak and the poison ivy did not affect the skin of the Indian; in fact, they are said to have used the stem of the poison oak for making baskets. The eyes are black and deep set, the nose large and aquiline. The hair of many was black, but there were many of both sexes, ranging from infancy to old age, with hair of a bright silvery grey. Sometimes the hair was almost white. The beard, as a rule, was deficient.

The blanket was the chief article of dress. Red blankets were used by the young and green ones by the aged. Leggings were worn by both men and women, and, as a consequence, were differently shaped. The blankets and the mantelettes used by the women generally lasted about a year.

Many of the whites assumed the garb of the Indian. We read that when Henry was rescued from death at the taking of Fort Michilimackinac, he was forced to adopt the garb of an Indian. His foster father, who had taken him under his protection, cut off his hair and shaved his head, with the exception

of a spot on the crown, painted his face with three or four different colors, and provided a shirt for him ornamented with vermilion mixed with grease; a collar of wampum was placed upon his neck and a chain of wampum was suspended on his breast. Both arms were decorated with bands of silver above the elbow, and others were placed upon his wrists. His legs were covered with footgear corresponding to what we call "artics," made of scarlet cloth. Over all he wore a scarlet blanket or mantle, and on his head a large bunch of feathers. He says that the ladies of the village thought he was very much improved, and they even condescended to call him handsome.

Moccasins were used on the feet, and travellers who have walked long distances in moccasins without a stiff sole have found it necessary to turn the toes in to rest the feet. This appears to be the reason why the Indians turned the toes in.



No. 1.

SMOKING AND DRYING SKINS AND MEAT.

Foods such as meats and fish were preserved by smoking and hanging in the air (plate 1). The meat of the buffalo was oftentimes cured in the sun without either smoke or salt. Jerked buffalo meat was prepared by being cut into thin slices and hung over the fire to dry. In this way it was cured indefinitely. The Indians seldom ate raw meat. When the meat was cooked it was well done, and most frequently roasted. Other foods, such as Indian corn, maize, and wild rice, were used to a very great extent. The preparation of the corn is described by Henry in his journals. It was boiled in a strong lye to facilitate the removal of the husks. It was then mashed and dried, when it became soft and friable like rice. Another author says that the corn was placed in a mixture of water and wood ashes, the

weak lye thus produced would loosen the hard tough skin covering each grain in from ten to fifteen minutes. It was then taken from the pot and thoroughly washed in a basket by dipping it into a stream or pouring water over it. After it was dried for a short time it was pounded in the cornmill. The mill consisted of a log of hardwood, two feet long, the upper end of which had been burned out to form a half-egg shaped hole nine or ten inches deep. A pounder, or beetle, was used to crush the corn and the meal was then passed through a fine sieve, and the coarser portion was again returned to the mill and treated as before.

The allowance of corn for each man on a voyage was a quart a day. A bushel, with two pounds of prepared fat, was reckoned to be sufficient food for a month's subsistence. No other allowance of any kind was made, not even of salt, and bread was never



No. 2.

WELL FORMED WOMEN, SHOWING LONG HAIR AND DRESS.

thought of. The men were healthy and capable of performing heavy labor.

Sugar was used by the Indians and was produced by boiling down the sap of the maple tree. I find a notice in an English magazine of 1765 stating that the Americans had discovered the method of making sugar from a liquid obtained by boring the maple tree. Indians no doubt used this method before the arrival of the white man.

Many berries were gathered and used as food. Among these were whortleberries, blackberries, raspberries, strawberries and cranberries. Wild honey was occasionally obtained. As vegetables, wild potatoes, artichokes, and various roots were used. Very little salt was used, and milk was not relished. The food was boiled until it was well done.

At first the cooking was done in wooden vessels, the water being boiled by hot stones immersed in them. This vessel was called an Assinaboine or stone boiler. Brass, iron and tin utensils came into use later on. The meals were eaten at no regular hour. The Indian ate, as a rule, when he was hungry. It is believed that they were enormous eaters, but many observers say that this was not the case. The women and the children did gormandize, but the men ate but two meals a day, and practiced great prudence and self-denial in this respect. They were forced to live carefully in order that they might be equal to the fatigues of war and of the chase. Like the Jews, they would not eat pork.

Marriages took place, as a rule, early. The bride was purchased with a few robes or a few horses, and then the expense ended. After this she was more than self-supporting. The women were well formed (plate 2.) They preferred female to male



No. 3.

TORTURING CEREMONIES IN THE MEDICINE LODGE.

attire. There were more women than men among the Indians, notwithstanding the fact that more males were born. Even when no wars existed more males died than females. The women cooked, brought wood and water, dried the meat, dressed the robes, made clothing, collected the lodge poles, packed the horses, cultivated the ground, and performed tasks, generally performed by men or servants. The women were not servants, however. They indulged in athletics and played games. Sometimes they were admitted to the councils of the men and even to the ranks of the medicine man.

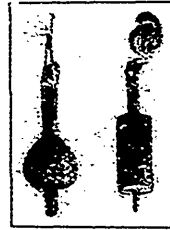
Owing to the amalgamation of the white and the red race the red man is rapidly losing his identity. In this respect he differs greatly from the negro.

The Indians were a people of aches and pains. Some of them would lie in bed for months with trivial ailments. They were apt to pay considerable attention to minor troubles. It has been said that the Indian would ride 100 miles for salve for a chapped lip, but that he would die of pneumonia without calling in the assistance of a medicine man. They were undoubtedly able to undergo considerable fatigue.

When aged and infirm they received an annuity from the tribe, or help from friends and neighbors. The chiefs generally interested themselves in the aged and infirm.

The Indians believed in the immortality of the soul, and had glimpses of the beauties and the happiness of the life to come.

It is said to have been characteristic of the Indian to suffer in silence (plate 3), and die composedly. Graves were dug facing the east and the west, the head of the corpse was placed in the eastern portion of the grave so that he or she might be able to look to the west towards the happy hunting ground).



No. 4.

DRUMS AND RATTLES.

Abodes.—The lodges were constructed by placing poles in a circle on the ground. These poles were joined together on the top, and over all buffalo robes or skins were placed. A spacious opening was left above to let out the smoke and for purposes of ventilation. The fire was built in the centre of the lodge to warm the air, and as this air ascended through the opening the tepee was ventilated.

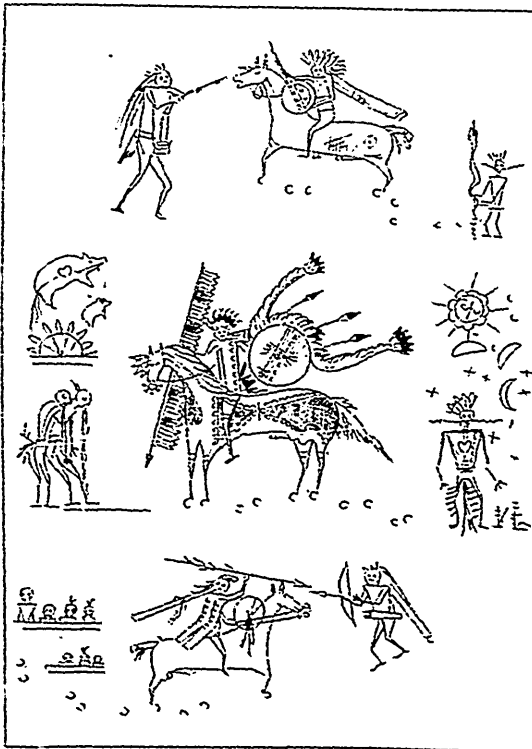
Music.—The Indians used various musical instruments, among which were drums (plate 4), rattles, whistles and lutes. The drums and the rattles were used when medical degrees were granted.

Literature or Writing.—The picture writing was very curious. The robe of a distinguished doctor or medicine man is worth studying (plate 5). In the one shown the medicine man has represented himself in full dress on his favorite horse. From the drawing at the top and the bottom of the robe it would seem that he has set up his claims as a warrior, having killed seven men in battle. On either side of the robe are to be found

numerous figures denoting his profession. One represents him vomiting a patient with herbs. In another place he has represented his medicine, or totem, the bear, with the rising sun and the different phases of the moon, to which these magicians looked for the operation of their charms and mysteries in effecting the cure of the afflicted.

INDIAN MEDICAL EDUCATION.

England has been called the Paradise of quacks. Every nation is infested with them, and they are patronized not only



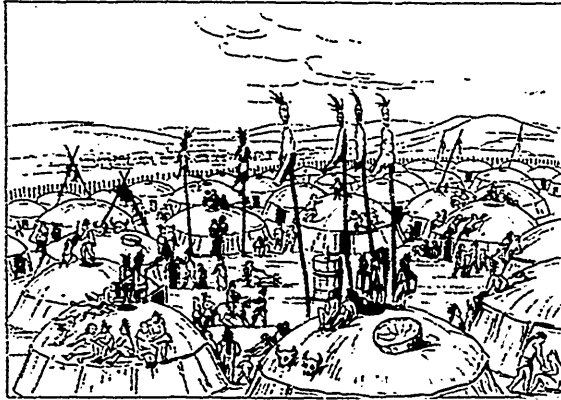
No. 5.

ROBE OF AN EMINENT MEDICINE MAN.

by the poor and uneducated but by the rich and influential. The unbounded credulity of the white man is akin to that of the savages. We find him placing his trust in the tar water of Bishop Parkman, in the metallic tractors of Perkin, in the animal magnetism of Prescott, in the granules of Hahneman, and in the Christian Science and faith cure of Mrs. Eddy.

We must not forget that we civilized people have our medical relics, for it is not very long since curious remedies were in use by the members of the medical profession. We find that the ashes of human hair mixed with hog's lard were used to anoint dislocated joints, that ashes were used to stop bleeding, that an oil distilled from the ashes of human hair and mixed with honey was rubbed on to cause the hair to grow.

Among civilized nations we have a written history of our relics and this history is handed down to us in the shape of books of reference that have been printed from time to time. Among the savage nations the history of the relics has been partly written in hieroglyphics and has been in part handed down by word of mouth. Much of the information thus to be obtained depends upon the statements of eye witnesses or of those who were intimately associated with the grand medicine lodges.



No. 6.

MANDAN INDIAN VILLAGE.

A very large population inhabited the North American continent before the advent of the white man, and descendants of the aborigines are still to be met with. The Indians lived in towns and villages (plates 6 and 7) where there was to be found all the noise and bustle incident upon such congregations of people. The medicine men were very prominent in their midst. They were highly respected and possessed great power. There were many curious superstitions regarding them.

It was believed that if the medicine man was not paid no cure would be effected, but that if he was paid his work would be well done and the patient would receive great benefit. The medicine man was not always paid in specie but, like many of our brethren of the out-lying districts, he was forced to accept

various commodities in return for his services. At times he was found to be more grasping than he should have been, but all this goes to prove that there is nothing new under the sun.

The Indians possessed a greater knowledge of medicine and surgery than the Chinese, although the Chinese profess to have a much more ancient civilization. The Indian knew that heat made the blood circulate more freely; he knew that the lungs were the organs with which the animal breathed, and that the kidneys must act or else death would certainly ensue.

He had no very distinct or definite ideas regarding modern pathology. The knowledge of pathology among civilized nations has only been obtained of late years, very largely through the aid of the microscope, the *post mortem* examination, and a study of organic chemistry.



No. 7.

CAMANCHE INDIAN VILLAGE.

Some of the Indian tribes thought that disease was due to some mythic existence that could be driven out by incantations, and propitiated by rites and ceremonies. Others again thought that disease was due to bile in the painful part and the medicine man attempted to draw this out through a bone that was used as a suction tube. He endeavored to force this belief upon the sick one by spitting out saliva that was tinged by the juice of a root that he was chewing (plate 8). Others believed that all pains were due to the bite of worms situated in various parts of the body.

The aborigines learned some comparative anatomy from the experience of the chase. They had names for the heart, the lungs, the liver, the windpipe, and for some other parts.

There were several types of medicine men (plate 9), some of them of much more importance than others. The

medicine men were not always free from danger, and they frequently became victims to superstitious belief. If a patient died, the death was believed to be due to the malefic arts of the doctor, and such a circumstance was sufficient to bring upon him the resentment of relatives.

All tribes selected some animal to which they attributed supernatural or medicinal powers. The whale was chosen by the Indians on the north coast, the war eagle by those on the east side of the Rocky Mountains, and the wolf by those inhabiting the Columbia River district.

An initiation into the Grand Medicine Lodge reminded one of Masonic ceremonies. *Medecin*, the French word for doctor, was corrupted by the English speaking people until at last they called the Indian doctor, the medicine man. Some of the



No. 8.

MEDICINE MAN REMOVING DISEASE.

medicine was supposed to be good and some of it was supposed to be evil. Certain articles were called good medicine or, in other words, propitious and unpropitious.

The society of the *Mide* or the Medical Faculty was known as the *Mide-wiwin*. The place in which the degrees were conferred was called the *Mide-wegan*, or the Grand Medicine Lodge (plate 10). The teachers who officiated were called priests, corresponding to our professors. Four degrees were granted to a candidate and a period of a year elapsed between the granting of each degree, so that the course of study consumed at least four years.

There were three different varieties of the mystery man, called the *Mide*, the *Jessakid*, and the *Wabeno*.

The *Mide*, or true medicine man, was also a Shaman, though by various authors he has been called prophet, seer, priest, and a *pow-wow* man.

The Jessakid was also called a seer or prophet but was commonly known as a juggler or a revealer of hidden truths. He had no medical association by which he was bound to others who practised his art. His power was to cause evil, while that of the genuine Mide was to avert it. The lodge used by him was made of four poles that were placed in the ground in such a way as to form an upright cylinder. During the exercise of his functions he got into this and swayed to and fro and made various noises and answered questions that were asked him. If everything was favorable the answers were soon received.



No. 9.

BLACKFOOT MEDICINE MAN IN ROBES.

The Wabeno were called the men of the dawn. Their profession was not thoroughly understood, and their number was so extremely limited that but very little information can be obtained. Some recorded the Wabeno as a degraded form of the Mide. He furnished hunting medicine, love powders, and practised medical magic. By the use of his medicines he was able to pick and handle with impunity red hot stones, burning brands, and to bathe his hands in hot syrup. He was a dealer in fire, and a handler of fire. He sought entrance into the Mide-wiwin and when admitted he became more of a specialist in the practice of medical magic and incantations.

The Mide-wiwin, or Grand Medicine Society.—The origin of the Mide-wiwin, erroneously called the Grand Medicine Society, is buried in obscurity. It consisted of an indefinite number of practitioners of both sexes. Though the Society was graded into four separate and distinct degrees, it was generally thought that any degree beyond the first was a mere repetition. There was much reiteration in the ritual, but this was supposed to aid in impressing the candidate with the importance and sacredness of the ceremonies.

Birch bark records (plate 11) were preserved by the Mide priests or prophets bearing delicate incised lines to represent, pictorially, the ground plan of the number of degrees to which the owner was entitled. Such records or charts were very sacred and were not exposed to public view, being brought



No. 10.

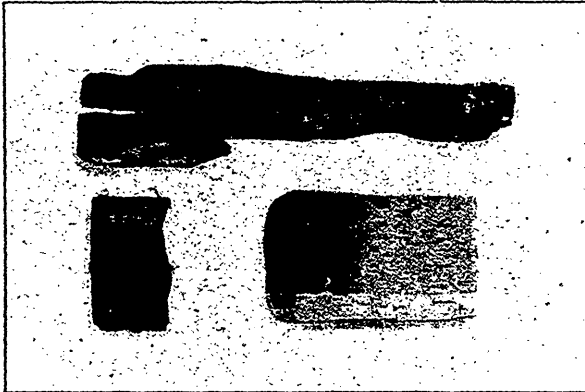
INTERIOR OF MEDICINE LODGE.

forward only after an accepted candidate had attended to a very important matter, namely, the payment of his fee, and even then they were only produced subsequent to the necessary preparation by fasting and the offerings of tobacco.

The record was sometimes seven or eight feet long, consisting of sections that were fastened together at the top by being stitched with strands of basswood. At each end two strips of wood were secured transversely to prevent fraying of the ends of the record.

It is interesting to examine these charts. Two of them have been analyzed in a very interesting article by Hoffman, to which I am indebted for much of this information. (Seventh Annual Report, Bureau of Ethnology, Washington, 1885-6.) One of these is called the Red Lake Chart (plate 12), and the other the Sandy Lake Chart (plate 13).

The Red Lake Chart.—In the Red Lake Chart the large circle at the right side of the chart denotes the earth as upheld by Minabozho. The other appeared at the square projection, Nos. 1, 2, 3, 4, the semi-circular appendages between these representing the four quarters of the earth. Nos. 9 and 10 represent two of the numerous malignant manidos or spirits who endeavor to prevent entrance into the sacred structure of the Mide-wiwin. The oblong colors, Nos. 11 and 12, represent the outline of the first degree of the society, while the inner lines correspond to the route that must be traversed by the candidate during initiation. Entrance to the lodge is directed towards the east, while the western exit indicates the way towards the next higher degree. The four human forms at Nos. 13, 14, 15



No. 11.

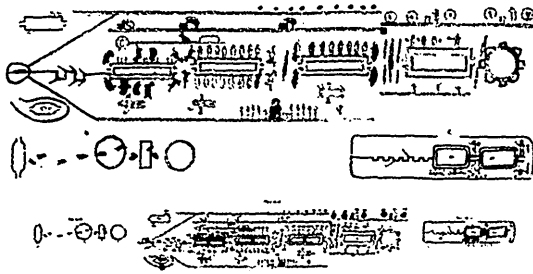
SACRED BIRCH-BARK RECORDS.

and 16 represent the four officiating Mide priests, or members of the faculty, whose services are always demanded at an initiation. Each of these is represented as having a rattle. Nos. 17, 18 and 19 represent the cedar trees, one of this species being planted near each of the outer angles of the Mide lodges. No. 20 represents the ground. The outline of the border at No. 21 represents the bear spirit, to which the candidate must pray, and make offerings of tobacco to compel the bad spirits to draw away from the eastern entrance to the Mide-wegan shown in No. 28. Nos. 23 and 24 represent the sacred drum which the candidate must use in chanting his prayers.

After the candidate has prepared to advance to the second degree, he offers three feasts and chants three prayers to the bear spirit, No. 22. At the entrance to this lodge of the second degree are five serpent spirits, Nos. 30, 31, 32, 33, 34, the evil manidos who oppose the candidate's progress, but it will be

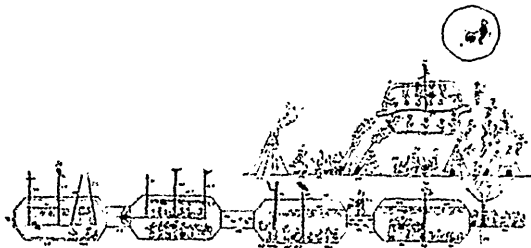
noticed that the four small serpent spirits move to either side of the path, while the large serpent, No. 32, arches its body in the middle to allow him to pass to the second degree. Nos. 35, 36, 46 and 47, are four malignant bear spirits who guard the entrance to the second degree and the exit from it. The form of this lodge is like the preceding one, but there are more priests assisting, as shown by figures Nos. 39, 40, 41, 42, 43, 44 and 45.

When the Mide is of the second degree he receives supernatural powers, as shown at No. 48. The lines extending from the eyes represent the ability to read futurity, the lines from the ears indicate that he can hear what is taking place at a great



No. 12.

RED LAKE CHART.



No. 13.

SANDY LAKE CHART. OJIBWA'S RECORD.

distance, the lines from the hands show that he can touch for good or evil friends or enemies who may be a long way off, while the lines from his feet denote his ability to traverse all space. The small disk upon the breast indicates that a Mide of this degree has had the migis or life shot into his body several times.

No. 50 represents a bad Mide who employs his powers for evil purposes. He can assume the form of any animal, and in this way can destroy the life of his victim. His services are in demand by people who wish to destroy enemies and rivals. He is in the disguise of a bear spirit whose footprints are seen at

Nos. 51 and 52 at either side. The trees represent a forest, this being the location usually sought by a bad priest.

The candidate again crawls beneath the body of the serpent spirit, No. 54, when he is approaching the third degree. Two of the four panther spirits, guardians of this degree, are now awaiting him, Nos. 57 and 58. Spirits inhabiting the lodge are in this degree represented by Nos. 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75 and 76. After the candidate has passed through this degree he becomes a very skilled practitioner; his powers have been very much augmented, and he is represented at No. 77, with his arms extended, and many lines crossing the body, representing darkness and obscurity, and signifying his ability to grasp from the unseen world assistance to enable him to accomplish extraordinary deeds.



No. 14.

SHOOTING THE MIGIS.

The candidate enters the fourth degree by again using his sacred drum. The greatest spirit and the most powerful of the bad spirits now make a last effort to prevent his entrance at the door, No. 80. The chief opponents are the two panther spirits, Nos. 81 and 82, and the two bear spirits, Nos. 83 and 84. There are many other bad spirits around the structure who make a prolonged resistance to his entrance. The chief of the bad spirits are the bears, Nos. 88 and 96, and the panther, No. 91, and the lynx, No. 97. The outline of a human figure, No. 97, again expresses the power with which it is possible to become endowed after one has passed through the fourth degree. The spots placed on the figure 98 demonstrate that the body is covered with migis, or sacred shells that are symbolical of the Mide-wiwin. From the number of spots it is shown that the migis (plate 14) has been very frequently shot into his body

during the initiation and subsequent degrees, while the lines connecting them demonstrate that he is able to exercise all the functions of the different parts of his body. The Mide of the fourth degree is now able to accomplish the very greatest feats of necromancy and magic.

The rest of the chart indicates the devious paths that must be followed through life by the now fully-fledged doctor. The little scroll, No. 102, at the end, indicates that he has been a graduate for fourteen years.

The Sandy Lake Chart.—The chief points of interest in the Ojibwa's record, otherwise known as the Sandy Lake Chart, are that the spirits are represented as descending to the earth from the far off abode of Kitshi manido in the sky. The four lodges are present, and in them are granted the four different degrees. Each lodge has the posts, one in the first degree, two



No. 15.

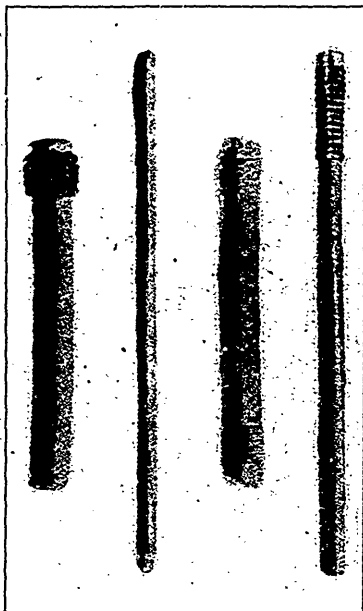
SACRED OBJECTS.

in the second degree, three in the third degree, and four in the fourth degree, placed in position, and one of these posts is the sacred cross, at the foot of which is placed (figure 59) the sacred stone. The articles that are hung up are to represent the presents that must be given, or, in other words, the fees that must be paid by the candidate for his instruction. The priests are represented as using drums and rattles. The sacred objects are to be seen in plate 15. They represent shells that are used in the various degrees; one of these (No. 1) is very similar to the Cowrie. Another (No. 2) looks like a pearly-white Helix. The Mide sac represented in the centre is made of the skin of a mink; in it were carried the sacred objects belonging to the owner, such as colors for facial decoration, amulets, invitation sticks, etc.

When a meeting was arranged for the purpose of initiating or passing a candidate, invitation sticks (plate 16) were sent to the neighboring medicine men.

The lodge in the first degree contained one sacred post, which was painted red, with a band of green around the top, and upon this was perched an owl (plate 17, figure 1 and 2).

In the second degree the lodge contained two sacred posts, the first of which was the same as that represented in the first



No. 16.

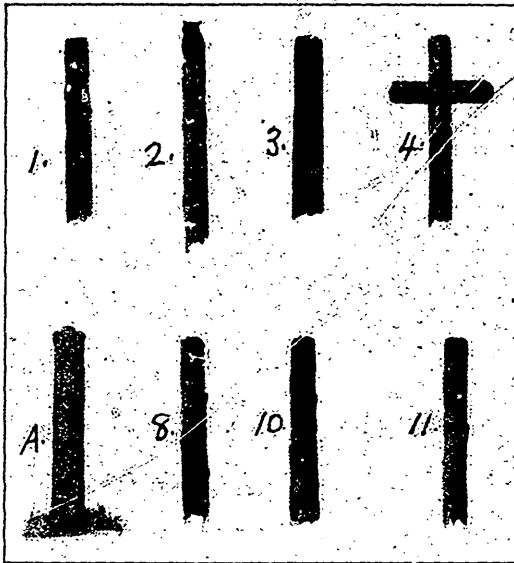
INVITATION STICKS.

degree, while the second was painted with white clay, bearing two bands of vermilion, one about the top and one near the middle (plate 17, figure 11).

In the third degree the lodge contained three sacred posts; the first was painted black, and upon this was placed an owl (plate 17, figure 3). The second was painted with white clay, and upon the top was the effigy of an owl, while the third was painted with vermilion, and it bore upon its summit the effigy of an Indian.

In the fourth degree the lodge contained four sacred posts; the first was painted white upon the upper half and green upon the lower half (plate 17, figure 8). The second was painted in a similar manner; the third was painted red, with a black spiral

line extending from the top to the bottom, upon which was placed the owl (plate 17, figure 10). The fourth was a cross, the arms and part of the trunk of which were white with red spots, intended to designate the sacred migis. The lower half of the trunk of this post was cut square. The face towards the east was painted white to denote light and warmth (plate 17, figure 4). The face towards the south was painted green to denote the source of the thunder bird, who brings the rain and causes the trees and grass and flowers to grow. The face towards the west was painted red to indicate the line of the setting sun and the far-off abode of the dead; and, lastly, the face towards the north was painted black to indicate the direction from which comes all affliction, cold and hunger.



No. 17.

SACRED POSTS OF THE MIDEWIGAN.

In the fourth degree a sacred stone was deposited a short distance from the one entrance to the lodge, next to this was an area that was reserved in order that the applicant might deposit here his presents or, in other words, his fees. About ten paces to the east of the main entrance, in a direct line between it and the sweat lodge, was planted a piece of thin board the top of which was cut to represent a three-lobed apex (plate 17 a). One side of this board was painted green while the side that faced the Mide-wiwin was painted red. Near the top was a small opening through which the Mide were enabled to peep into the

interior of the sacred structure in order that they might observe the angry spirits that were occupying it and opposing the intrusion of anyone not of the fourth degree.

The lodges always faced east and west, (plate 18). There were four openings to the lodge in the fourth degree, while in the other degrees there were only two. The cross in the fourth degree symbolized the four days of struggle at the four openings or doors in the north, south, east and the west walls of the structure. At each of these four openings Minabozho, or the great rabbit, appeared and shot charmed arrows into the enclosure at the horde of demons occupying the sacred place, and the bear spirit was the last of these to yield to Minabozho's superior powers. The equilateral cross, or the Greek cross, has become one of the sacred symbols of the Mide within and has special reference to the fourth degree. To the Dakotas it represented the four winds issuing



No. 18.

THE CROSS IN THE MEDICINE LODGE.

from the four caverns in which the souls of men existed before their incarnation in the human body.

Facial Decoration.—Certain facial decorations were adopted to distinguish the candidate during his progress in his studies (plate 19). The student who had obtained the first degree, or the first year student, was decorated with one strip of vermilion across the face near the ears and across the tip of the nose. The student who had obtained to the second degree was decorated with one strip of vermilion across the face near the ears and across the tip of the nose and another across the eyelids, the temples and the root of the nose. The student who had reached the third degree had the upper half of his face painted green and the lower half red. The students who had reached the fourth degree had the forehead and left side of the face from the outer canthus on the eye downward painted green, while four spots of vermilion were placed upon the forehead and four of the same color upon the green surface of the left cheek.

The facial decorations varied according as the candidate subsequently became a priest or professor or remained just as an ordinary member of the society or an alumnus. In addition to this painting of the face the plumes of the golden eagle were worn upon the head and down the back, in the fourth degree, and they were painted red.

The above represents one of the methods of decoration adopted. There may have been several others in different localities similar but not exactly the same.

The Ceremonies.—The ceremonies for each degree were somewhat similar. When an Indian wished to be initiated into the order of the pow-wow, or grand medicine lodge, he paid a large fee to the faculty for his preliminary education. The faculty or priests of the Mide-wiwin were very careful to conceal



No. 19.

FACIAL DECORATIONS OF THE STUDENT OF MEDICINE.

from all except those initiated a knowledge of the plants that they used as medicines. In fact one of the chief objects they had in pulverizing the herbs after drying them was to prevent others from discovering their exact nature and oftentimes they added some other article to still further obscure their identity.

After the young medical student had paid his fee he was taken into the woods and taught the names and the virtues of the useful plants. He was then instructed how to sing the medicine song and how to pray the prayers to the manidos or gods whom

the afflicted ones imagined they had offended. The second spirit or Dzhemanido was the guardian spirit of the medicine man, and he was second only to the first or the great spirit. To continue his medical education still further, the pupil had to pass through the four degrees of which we have spoken.

The membership of the grand medicine lodge was not hereditary. So closely were their secrets guarded that educated men, after great effort, could obtain but little information about them. An entrance into the lodge itself, during the ceremony, has sometimes been granted through courtesy, but those who were so introduced were by no means initiated into the mysteries of the creed nor made members of the society. These priests and priestesses constituted an order, and they were employed in all times of sickness. They occupied positions of conspicuous importance as they were supposed to have control over mysterious agencies and to be endowed with almost supernatural powers. While they were believed to be under the influence of the Great Spirit, it was also thought that they themselves had more or less control over other powers whose aid they could compel for weal or woe either upon friend or enemy. They could interpret signs of major or minor importance, could foretell the severity or mildness of approaching seasons, and pointed out the most appropriate time for the undertaking of expeditions of those engaging in war or in the chase.

These doctors, magicians, prophets, dreamers, or whatever the medicine man may be conceived to have been, were prepared then for their profession only after long and arduous training. The tests required for recognition as skilful practitioners were oftentimes severe and exacting, requiring great physical endurance and bravery of no mean order. The renown of these men sometimes spread to other tribes and nations. Young men seeking to become great prophets often travelled far for instruction by those who were great prophets.

When the prophecies of the medicine man failed the Indians attributed it to some neglect of the instructions given, and did not believe that it was due to any deficiency in the medicine man himself. When success was attained great honor was bestowed upon the prophet.

Henry writes, "Early on the 18th of May, 1801, we returned to Red River and found the Indians busy making the grand medicine ceremony that was performed by them every spring, when they met to admit some novice into the mysteries of this solemn affair."

Hoffman obtained much of his information owing to the fact that great areas of land that had been given to the Indians by the United States Government were being relinquished and the tribal ties that bound one tribe to another were broken up. The

chief Mide priests were unable to continue the ceremonies any longer and they imparted to him a complete description in order that such a description might be transcribed and preserved for the future information of their descendants.

Paul Kane, in his "Wanderings of an Artist among the Indians of North America," on one occasion saw a medicine lodge erected in the centre of their encampment, and to it he at once directed his steps. It was rather an appalling structure, composed of poles that were bound in the form of an arch with both ends forced into the ground. This long arched chamber was protected from the weather by a covering of birch bark. On entering, he found four men, who appeared to be chiefs, sitting upon mats spread upon the ground and gesticulating with great violence and keeping time to the beating of a drum. Something that was evidently of a sacred nature was covered up in the centre of the group, and he was not allowed to see it. They ceased their pow-wow, or music, and seemed displeased at his entrance. The interior of the lodge or sanctuary was hung with mats constructed of rushes, and to these mats were attached various offerings that consisted principally of beads, red and blue cloth, calico, and the scalps of enemies.

Catlin writes, "My appearance here, owing to the operations of my brush as a portrait painter, commenced a new era in the Arcana of medicine. Both chiefs then walked up to me in the most gentle manner, in turn taking me by the hand with a firm grip, with head and eyes inclined downwards and in a tone, a little above a whisper, they pronounced some words and walked off. That moment I took the degree not of Doctor of Laws, nor of Bachelor of Arts, but of Master of Arts of magic and of hocuspocus, or the degree of the great white medicine man."

But, from what has gone before, we can readily see that neither Kane nor Catlin understood much about the great medicine man or his society of the Mide-wiwin. Among the medicine men in times past there have been some who were very celebrated. One of these was a Shawnee prophet Ten-squa-te-way, who was the brother of the great chief Tecumseth, and as great a medicine man as his brother was a warrior. He was blind in his left eye. In the portrait presented he is seen to be holding in his right hand his medicine fire and in his left his sacred string of beads. With these mysteries he went through most of the western tribes and enlisted warriors to assist his brother Tecumseth in the great scheme he had formulated of establishing a confederacy of the Indians intended to defend Indian rites and drive back the whites. He failed in giving much assistance, owing to the fact that two of his enemies followed him and denounced him as an impostor or quack. This was believed against him and he sank silently into disgrace.

It was believed that medicine men were able to repel any foe to health until such time as the superior gods ordered otherwise.

La Hautau says that the *joueur* is a sort of physician, or rather a quack, who, having been once cured of some dangerous distemper, has the presumption and the folly to fancy that he is immortal and possesses the power of curing all diseases by speaking to the good and evil spirits.

Father Hennepin looked upon the medicine man as the veriest quack. He says in one place, "It is impossible to imagine the horrible howlings and strange contortions that these jugglers make of their body when they are disposing themselves to conjure or raise their enchantments. They also pretend to physic and apply medicines that, for the most part, have little virtue in them."

"Now for medicines, or mysteries," writes Catlin, "for doctors, high priests, hocuspocus, witchcraft and animal magnetism. I spoke of "Eagle Ribs," painted in a splendid dress, holding the medicine bags of skins of otters, curiously ornamented with ermine and other strange things. Medicine here means mystery, and nothing else. Medicine bags are mystery bags. They are seldom opened, and are attached to some part of the clothing or carried in the hand. They are greatly respected, or even actually worshipped, and looked to for safety and protection."

A boy of fourteen or fifteen years of age was said to be making or forming his medicine. He wandered away from his father's lodge and absented himself for the space of two to four days. He lay on the ground in some secluded or remote spot and cried to the great spirit and fasted. The first animal, bird, or reptile of which he dreamt he regarded as chosen by the great spirit to be his mysterious protector through life. He then hunted and procured the animal and removed from it the entire skin. This he carried with him through life for good luck, and it was buried with him after death to conduct him safely to the beautiful beyond. It was a great disgrace to sell or give away a medicine bag. If lost in battle the owner lost with it the respect of the other men of the tribe until it was replaced. It could only be replaced by rushing into battle and taking the medicine bag from an enemy slain by him. The medicine thus obtained was of the very best variety.

We are told that we may imagine the Witch of Endor, or ghosts, or spirits, or furies of demonology, but that we must see a medicine man fitted out in all his strange and unaccountable coverings to form any just conception of his real frightfulness.

Certain charms were used, such as a pipe, curiously shaped stones and stuffed birds. Different medicine men evidently approached their patients in different manners. Sometimes the crouching position was taken, with a slow and halting

step; in the one hand a frightful rattle, and in the other a medicine spear or wand. Sometimes he approached in jumps and bounds, with yells and groans, and crawled like the grizzly bear whom he represented on behalf of his patient, while meantime the patient was perhaps rolling and roaring in the agonies of death. The doctor jumped over his patient, pawed about him, and rolled him around from side to side. He bellowed like a bull, or hissed like a snake. The patient had his abdomen pressed in with fists or his chest walked over.

I find an instance related of a poor Indian who was ill with dropsy and in great pain. The medicine man held his hand over the fire until it was warm, then raised it over the body of the patient and moved it about mysteriously and rapidly as if he was suffering from delirium tremens. A pipe was then lit, from which two or three whiffs were taken. The stem of the pipe was raised towards the sun and then pointed towards the earth. The smoking was carried out in honor of both the sun and the earth. Then another whiff was taken, and the smoke was blown out over the body of the patient. It was supposed to be more efficacious if the stem of the pipe was broken off and the smoke was drawn out through the broken stem. The smoke was sometimes blown into the throat to relieve sore throat, and perhaps the smoke was blown into the ear to cure earache, though I can find no mention of this fact.

When the medicine man came to the dances he brought his armamentarium with him, and these articles made quite an exhibit. The charms used were peculiar objects, with which they touched the credulous patient who believed, as some do among civilized nations, in the laying on of hands. The charms were wrapped up in cloth or buckskin and put into boxes ornamented with beads.

Kane gives us some information regarding the medicine pipe stem, and the pipe stem carrier, who was elected every four years, and was not allowed to retain the distinction beyond that period. All were eligible for the position who had the means of paying for it. The expense was very considerable, as the new-comer had to buy out the practice of his predecessor to obtain the insignia of his office, that were frequently valued at from fifteen to twenty horses. The insignia consisted of a highly ornamented skin tent, in which the pipe stem carrier was expected to reside. A bear's skin was required, upon which the pipe stem could be exposed to view when it was found necessary to take it from its manifold coverings, and it was brought forth on such occasions as the calling of a council of war or the performance of the medicine pipe stem dance. When a quarrel occurred in the tribe the medicine man was called upon to bring forth his medicine pipe stem in order that the contending parties might smoke from it.

Besides the articles already mentioned he had a medicine rattle, a wooden pail from which he took his food, and several other smaller articles. It required two horses to carry all his impedimenta when on the move. The favorite wife of the official usually carried the pipe-stem itself, and in this way was of great service to him. If, by chance, the pipe-stem fell on the ground many ceremonies were performed to bring back good luck. The carrier always sat on the right hand side of the lodge as you entered, and it was considered to be a mark of great disrespect if the visitor passed between the pipe-stem carrier and the fire. The official never condescended to cut his own meat; it was cut for him. One of his misfortunes in the presence of so many parasites was the fact that he dared not scratch his head without compromising his dignity. The pipe-stem, enclosed in all its wrappers, hung in a large bag on the outside of the lodge, and was never taken inside either by day or night, or uncovered in the presence of a woman.

In the councils of war and peace the medicine man had a seat with the chiefs, and was regularly consulted before any public step was taken, and the greatest confidence and respect was paid to his opinions. The Indian medicine man had a persistence that would have done credit to the modern doctor. He forced his attentions on the dying until, in despair, the poor sick one acquiesced in all his effusions in order that he might be rid of him. One observer says that he saw a blind man treated. He was struck on the head by the medicine man and asked if he could see. He naturally replied "No." He was again struck and asked if he could see, and by this time he had profited by his experience and said, "Oh, yes," and immediately it was considered that the medicine was all right.

The sick were sometimes trampled on, and considerable harm was done, but there were no lawyers and therefore no suits for malpractice.

A lady doctor, designated "She strikes the rider of the spotted horse," pressed her darling husband, who was sick, with her hands, and then stood on his chest and trampled on him. This was done in an endeavor to make him sick at the stomach, but, as it was not successful, it was tried again, and as a last resort a very vigorous stamp with one foot was administered. The patient gave a fearful moan as if he had been shot and life was found to be extinct, but in order to be sure of the effect, and to give him enough of the remedy, the trampling was continued. When the lady physician was finally satisfied that her husband was dead she and her lady companion in grief carried him to the burying-ground with great signs of mourning.

Another case is recorded in which the stomach of a dying patient was pressed on, in order that a snake that was supposed

to be lodged there and was gradually working towards his heart, might be killed. The medicine man was satisfied that if the snake ever reached the heart it meant sure death.

Kane says that he saw a young Indian girl, the handsomest he had beheld, in one of the lodges. In the middle of the lodge sat a medicine man with a wooden dish filled with water before him. Twelve or fifteen other men were sitting around the lodge to assist in the cure of some disease affecting the girl's side. The officiating medicine man was in a state of profuse perspiration resulting from his exertions, and he sat down completely exhausted. A younger medicine man then took his place beside the patient, and began singing and gesticulating in the most violent manner, while the others kept time by beating on poles and drums. They were singing continuously. The younger doctor now darted upon the woman and took hold of her side with his teeth and shook her for a few minutes. The patient appeared to suffer great pain. He then relinquished his hold and cried out that he had got it, at the same time holding his hands to his mouth, after which he plunged them into the water in the bowl and pretended to hold down with great difficulty the disease that he had extracted. He held up something between his thumb and finger that looked very much like a piece of cartilage. One of the Indians sharpened his knife, divided the piece in two, and held one section in either hand. The one he then threw into the water and the other into the fire, and accompanied the action with a diabolical noise that none but a medicine man can make. The poor patient seemed to be unrelieved by the violent treatment.

It was believed that by drawing the figure of any person in sand or ashes, or in clay, or by considering any object as the figure of any person, a prick of this representation with a sharp stick or other substance would cause pain or injury to the individual represented.

INDIAN MEDICINE.

Indian Materia Medica.—It is impossible to deny the fact that either by their discernment or the force of some unerring instinct, the Indians were guided to a knowledge of the good preparation of the medicinal plants that were indigenous to their respective sections of country. It was supposed that perhaps the long continued intercourse between the Indians and the Catholic Fathers, who were tolerably well versed in the ruder forms of medication, had much to do with improving an old and purely aboriginal form of practising medical magic. The whites knew but little of the materia medica of the Indians, owing to the fact that the knowledge was kept within the

ranks of the mide wiwin. It has been stated that they had no remedies of any value that were not known and embraced in the Pharmacopeia of the United States. Surely this is saying a good deal, and is one of the greatest compliments that could be paid to their powers of observation.

Strange coincidences are found to exist. Many of the botanical remedies employed by the aborigines were the same as those used by educated physicians. From a very early day it has been supposed that the aborigines were skilled in their knowledge of botanical plants. They used aromatics such as the northern mint (*Mentha Canadensis*) and field thyme (*Thymus Serpyllum*). These were added to the water in which they washed, and to the oil with which they anointed themselves. The name *Mentha* is of mythical origin. According to the fable a nymph was transformed by Proserpine, the wife of Pluto, into a plant that now bears her name. The thyme is, no doubt, of the same family as the ancient hyssop, and perhaps identical with it, for we read in the Scripture, "Purge me with hyssop and I shall be clean." But it must be presumed that this passage referred to external cleansing. Hyssop or thyme has long been used as an aromatic to improve digestion. The odor resembles that of the lemon scented melissa.

Emetics and purgatives were the chief among the drugs used by them. The purgative used by the Dacotas was the large flowering spurge or milk purslain (*Euphorbia Corollata*). This is evidently the American ipecac of the herb doctors found in western New York, in Ontario, and southwestward to Alabama and Louisiana, and west to Kansas. It possessed emetic as well as purgative properties. A small portion of the root of this was eaten and the patient was forbidden to drink. They dried and preserved the plants they collected by hanging them up in bags that were made of animal tissue.

Hygiene.—Hygienic conditions were improved by the moving of the tepee from place to place. When the Indians began to live in houses no moving took place and filth accumulated. They were fond of athletics.

When the Indian was sick he only drank broths and ate sparingly. If he had the good luck to fall asleep he thought himself cured. He believed that sleep and sweating could cure the most stubborn diseases in the world.

Epidemic Diseases.—Epidemics occurred after their contact with the whites and measles and smallpox played sad havoc among them. Mumps were met with and erysipelas occasionally appeared in an epidemic form.

Other Diseases.—They were, in general, free from such disorders as dropsy, gout, or stone, while inflammation of the lungs and rheumatism were among their most ordinary com-

plaints. Exposure to wet and cold, sleeping on the ground and inhaling the night air accounted for their liability to these diseases. White men similarly situated are prone to suffer from them.

Carbuncles were frequently met with.

Cancer was rarely found among the Indians.

Diseases of the Eye.—The Indians had strong eyes, but when he was forced to endure the glare of the sun on the snow for four or five months in the year he suffered from conjunctivitis. Tyrell tells us that at the present day the Eskimos, in order to guard against the occurrence of snow-blindness, wear a very ingenious contrivance, in the form of wooden goggles. These are neatly carved so as to fit over the nose, and close into the sockets of the eyes. Instead of colored glasses, which the Eskimos have no means of getting, these goggles are made with narrow horizontal slits, just wide enough to allow the wearer to see through. Thus the excess of light is excluded, while the sight is not entirely obstructed. Conjunctivitis was also produced by the smoke in the lodges. Many of the Indians suffered from granular lids, but blindness was very infrequently met with.

Fevers.—Fever was met with, but was not distinguished. As is well known, fever or elevation of temperature accompanies many diseases, and when this condition was found they gave an emetic, thinking that the stomach should be emptied in order that the nausea so frequently found at the commencement of these conditions might be relieved. The emetic used was the wild ipecac (*Euphorbia Ipecacuanha*), the boneset or the Canadian hemp (*Eupatorium Perfoliatum*). In the treatment of fevers they also relied very largely upon the use of the vapor or the cold bath. When it was not possible to give the patient a natural cold bath the wet pack was used by wrapping him in blankets and pouring cold water over him. The most common drink given to quench the thirst of fever patients was a decoction made of the root of a plant called the red root, or New Jersey tea (*Ceanothus Americanus*). The leaves of this plant were used during the American War of Independence as a substitute for Chinese tea, and in the Civil War it was employed in the same manner as a good substitute for poor black tea.

Indigestion.—Some of the Indians suffered a good deal from what was called *mal-de-boeuf*, produced by eating the meat of the buffalo bull. The meat was tough and leather like, hard to masticate, and difficult to digest. When the tongues of the buffalo were eaten this condition was not present.

Consumption.—In some places in which the evidences of tuberculosis have been found the climate is so dry that bodies laid on scaffolds, according to the burying rites, dried and dis-

integrated without the usual evils of decomposition. For the relief of consumption they gave slippery. elm, or an infusion made from the mucilaginous leaves of the velvet leaf (*Abutilon Avicenna*), and also from the common mallow (*Malva Rotundifolia*). It is not necessary for me to say anything further regarding consumption among them, for its ravages have become well known.

Asthma.—Asthma was occasionally met with, and for its relief they smoked tobacco and drank decoctions of sassafras and skunk cabbage.

Pleurisy.—This disease was met with. In the acute stage blood-letting was practised for its relief, and the skin was blistered with the juice of the mayweed or the wild chamomile (*Anthemis Cotula*). Internally, pleurisy root (*Asclepias Tuberosa*) was given. The pleurisy root was one of the milkweed family, the best known of which is the *Asclepias Cornuti*, or the common milkweed. The pleurisy this plant was credited to relieve was in all probability muscular rheumatism of the walls of the chest.

Dropsy.—For dropsy they gave the bark of the prickly ash (*Aralia Spinosa*), and accompanied its administration with a good hot vapor bath. The prickly ash is one of the ginseng family, the best known of which are the three-leaved and the five-leaved ginseng. The latter variety still brings a good price in China, where much of it is exported from this country.

Mental Diseases.—The Indians were peculiarly exempt from mental strain and its accompanying evils. Lunatics were met with and the tribes attempted to care for them. Insanity was not, however, very prevalent among them.

Poisons.—When it was thought that poison had been taken or administered, emetics were given to cure the sufferer. For snake bites, and the bites of venomous insects, each nation had a different treatment.

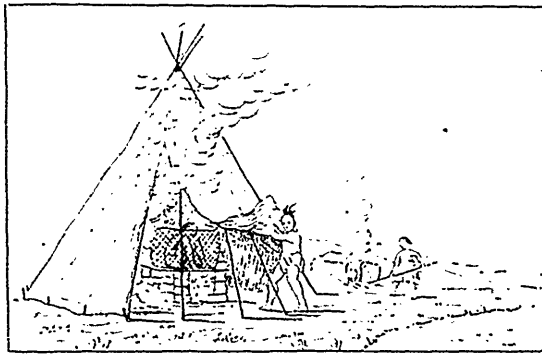
Blood-letting.—They were fond of blood-letting. Bleeding was such a favorite operation among the women that, according to Henry, they never lost an opportunity of enjoying it, whether sick or well. He says that he himself, sometimes bled a dozen women in a morning as they sat in a row along a fallen tree. The operation was carried out by driving a piece of flint into the vein by giving it a sharp tap with a stick.

Cupping.—Cupping was performed by scarifying with a piece of flint. A horn was taken that had been cleaned out and perforated at the tip, and the large end placed over the scarified area. The air was then sucked out of the horn.

Steam Baths.—The steam bath seems to have been largely used. The women indulged in this luxury as much as the men. The sweating house was used by both of them as a house of prayer. They prayed loudly for themselves, and cursed their enemies.

Sometimes, in cases of sickness, the steam bath was used to very great advantage, and again in other cases it did more harm than good. In every Mandan village a crib or basket, (plate 20), made in the shape of a bath-tub was to be seen. It was constructed by weaving together willow boughs, and was sufficiently large to receive a person in the reclining or recumbent posture. It was carried by the squaw to the steam bath or sudatory, when any one was about to take a bath, and it was then brought back to the wigwam after it had been used.

The bath house was built by placing skins that were tightly sewn together over a frame-work. In the centre were two walls of stone that constituted the furnace, while across from one wall to the other were placed a number of sticks, on which the bathing crib was rested. Hot stones were brought in from a fire conveniently situated near the lodge, by the squaw, and



No. 20.

SWEAT BATH OR SUDATORY.

water was poured over them to raise a profuse steam. The lodge was now kept tightly shut, and the bather, lying on the willow crib, quaffed this delicious and enervating draught with long drawn sighs and extended nostrils until he became drenched in a profuse perspiration. At a given signal from him the lodge door was opened and he plunged headlong into the river for an instant, and then, putting his robe around him, ran home to dry himself and to sleep, wrapped up closely in his buffalo robes.

Another form of the sweat bath is described by Schoolcraft (plate 21). A hole was dug in the ground, into which stones were put. A small fire was kindled about them to heat them, and over them some sticks were placed that were fastened in the ground at each end, forming the frame-work of a miniature

tent. Over these poles a blanket was thrown, and the patient got under this tent and steamed himself by pouring water very gradually upon the hot stone heap.

Still another variety of sweat bath was in use. A log heap was burned on a selected spot. While the earth was hot an excavation was made large enough to receive the body of the patient. He was laid in this excavation with enough clothing on to absorb the perspiration. This clothing was covered over with hot earth while the head only was left out above the surface.

These sudatories were resorted to as a luxury for giving freedom and vigor to the faculties of the mind at times when deliberation and sagacity were called for, and also in sickness. If a sudatory was prepared for a guest it was an evidence that every assistance was to be given to his judgment; if the suda-



No. 21.

CROW INDIAN SWEAT TEEPEE.

tory was refused it manifested a desire to take an unfair advantage of him. Under the latter circumstances they generally offered him alcohol.

The Indians said that they took sweat baths to make them more alert in the pursuit of an animal that they desired to kill.

INDIAN SURGERY.

The ambulance or travois (plate 22). The Indian ambulance, or travois, was a remarkable conveyance used to carry the wounded, during a battle, out of the reach of harm. The comfort of this mode of conveyance was greater than would appear at first sight. With it they transported the wounded to the home camp. Litters were also made by lashing together two

poles with cross pieces and filling up the intervening space with bark. The wounded were placed upon these frames and carried off the field on the shoulders of four men.

TREATMENT OF WOUNDS.

It is said that the Indian cannot bear the loss of as much blood as the white man. The skill of the Indian in treating wounds appears to have consisted in a very close attention to the injured part, and the frequent applications of washes and poultices, and, further, to the fact that they kept the part clean. Wounds were brought together with sutures made of the inner bark of the basswood or the fibre of the long tendon taken from the leg of the deer. The sutures were left in until the sixth day, when they were removed. After this time the parts were washed with a mucilaginous decoction prepared from lichens or from slippery elm.



No. 22.

CROW INDIAN AMBULANCE OR TRAVOIS.

Alexander Henry says that, in regard to flesh wounds the Indians certainly affected some astonishing cures. The injuries inflicted were those produced by the war club, the tomahawk, the knife, and the bow and arrow, and in later years those produced by firearms.

He saw at Sault Ste. Marie a man who, as the result of a quarrel, received the stroke of an axe in his side. The blow was so violent, and the axe was driven in so deeply, that the wretch who held it could not withdraw it, but left it in the wound and fled. A medicine man arrived and took from his bag a small portion of a very white substance resembling a piece of bone. This he scraped into a little water, and, after

forcing open the jaws of the patient with a stick, he poured the mixture down his throat. The wounded man soon opened his eyes and became sick at the stomach and vomited. The medicine man now examined the wound, from which he could plainly see the breath escaping. This, no doubt, was not the breath, but was the air being drawn back and forth into the abdominal cavity. The omentum was found protruding and was cut away. The portion cut away was eaten by the men. After six days the patient was able to walk about; within a month he was quite well, except that he was troubled with a cough. He was living twenty years afterwards.

A chief was stabbed in a quarrel, and the wound was a very large one, and opened up the chest. After a very violent fit of coughing part of the lung protruded, but this protrusion acted very well and stopped the hemorrhage. The medical practitioner of the village was much puzzled, and he called another medicine man to give him advice, when it was decided to remove the protruding portion of the lung and deal with the removed portion in the usual way by eating it. After a time the portion of the lung in the opening sank back, the skin healed over, and the chief was once more restored to health.

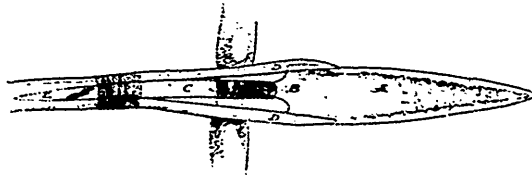
In a conflict with a grizzly bear a terrible injury was inflicted on the face. The eye was destroyed and a portion of the cheek bone removed. The other paw of the bear made two openings into the left half of the chest. When the man was discovered he was supposed to be dead. He was carried to his lodge, placed on the wounded side so that good drainage could be effected, and the wounds were faithfully washed with mucilaginous decoctions. In a few months he was well.

Gun-shot Injuries.—Gun-shot wounds were cleansed by injecting, with a quill and a bladder fastened to it to make a syringe, vegetable decoctions into them. An effort was made to keep up suppuration, and the external opening was not allowed to close prematurely. To keep the wound open it was packed with the bark of the slippery elm, which is soft and mucilaginous and makes an admirable pack. Great attention was given to these wounds, and to this fact the success was mainly due.

Arrow-heads and bullets were removed by means of an instrument that was made as follows (plate 23). A willow stick was procured and cut exactly in half by splitting it down the centre; the pith was then removed and the inside was smoothed off and the ends rounded, narrowed and pointed. One end was inserted above the arrow-head and the other below it, and then the two sticks were bound tightly together to keep them firmly secured against it. Traction was then used and the foreign body successfully removed. The piece of split willow acted like a pair of modern bullet forceps.

Trephining.—The skull has been trephined by savages for the purpose of allowing the escape of an evil spirit that could not be dislodged by ordinary exorcism. It is practised to this day by the South Sea Islanders, and by some of the Arab tribes of Algeria, but I cannot find that it was practised by the North American Indian medicine man. In America only one skull has been discovered that showed evidence of prehistoric trephining. This skull was that of one of the Incas, and was found in Peru. In the Island of Ewea, in the Loyalty group, according to Martin, nearly all of the male adults have this hole in the cranium. The operation seems to have been performed upon them for the relief of convulsions in infancy or childhood.

Fractures.—For the treatment of fractures they made splints out of the bark of trees. The bark was adapted to the limb and fastened to it to prevent any motion at the ends of the broken bone. Deformities often followed such treatment. They were evidently unacquainted with the use of extension in the treatment of fractures.



No. 23.

THE EXTRACTION OF AN ARROW HEAD.

Amputations.—The Dakotas laughed at the folly of amputation. Some of them would rather have died than to have had it done. There seems to have been a prejudice against amputation, and I cannot find that it was adopted as a practice.

Hernia.—When a hernia was found to be strangulated, nothing was done to relieve the condition. To keep up simple ruptures they applied a bandage and used compression.

Aneurism.—Aneurism was evidently a very rare disease among the Indians. I find no reference to any form of treatment adopted for the cure of aneurism.

Ulcers and Burns.—The Dakotas treated ulcers and sores by dusting on them the dry pulverized root of the butterfly weed or pleurisy root (*Asclepias Tuberosa*). In other tribes a powder made by pulverizing the root of the sweet flag (*Acorus Calamus*) was used. Poultices were often applied to ulcers and the ulcers were frequently cauterized with a red hot iron.

Burns were treated by placing over them pieces of the inner bark of some species of pine that was boiled until it was soft.

The boiling must have extracted most of the turpentine present and the substance thus applied acted as a protective.

And now in conclusion let me say that our profession is even yet bound down by the conjectures of the past and that we, like the Indian tribes, have a certain amount of fetich worship. We are gradually eliminating much that is conjectural and it will be a great step in advance when nothing that is not actually known is taught to the student of medicine. Theories should be proved and thus be made facts, or they are of little practical value. Theories may be used to pad book covers, where they serve a certain purpose, just as did the incantations and jugglery of the steam bath.

Charles Darwin is an object lesson to everyone who has matriculated in medicine. The accuracy of his observations founded his immortal greatness. He disposed of theories, not by substituting other theories for them, but by displacing them entirely, and this he accomplished by studying, by thinking out, by understanding the changes that took place in plant and animal life, so that he was able to demonstrate these changes to others who had been surfeited with the wisdom of their own theories, but who had not put into practice or else had not been endowed with sufficient powers of observation.

As a profession, we can alleviate suffering, we can assist nature, but we cannot prevent death. With our increased knowledge we can save many lives that a few years ago were lost. We can recognize disease more readily than we could a few years back, and we understand the nature of many diseases that were not understood and before many years we will understand the nature of some diseases that are not understood as yet. Physiological experiment and study of pathology are our two sheet anchors. They have already raised us far above the juggling medicine man, but we have much to rearrange. Our pharmacodynamics is almost as unscientific as that of the savage and we worry our students with a great deal that is valueless contained in our pharmaco-poeia. Their time would be spent to greater advantage in the practical study of physiology and physiological chemistry. The man who can estimate the immense benefits that will accrue to the human race from such continued progress must indeed be a great prophet.

Progress of Medical Science.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, JAMES W. F. ROSS, ALBERT A. MACDONALD,
K. McILWRAITH, AND HELEN MACMURCHY.

The Perils of the Curette and Uterine Catheter.

A recent article by Dr. Mauclaire (*Annales et d'Obstétrique*, February,) deserves the attention of every practitioner. "Minor gynaecology" has long ceased to be a reproach, but the simplest operations on the uterine cavity are never without peril, even when certain well-known precautions, seldom neglected, are observed. In Paris great advances have been made in the practice of obstetrics and uterine therapeutics, yet Dr. Mauclaire has had to intervene three times within a few months in cases of "gynaecological" perforation of the uterus. The first patient had aborted at the third month; three weeks later the curette was used in a great Parisian hospital be it remembered. The instrument suddenly went through the fundus; the scraping was at once discontinued and a plug of gauze passed into the uterine cavity. Six hours later the patient was in a state of collapse from acute septic peritonitis. Supravaginal amputation of the uterus was performed and the peritoneum drained through the vagina, but the patient died in twelve hours. The uterus had been perforated through a suppurating focus in its walls. The second patient was in another great hospital in Paris when the curette was used to remove some retained products of conception. It suddenly perforated the uterus, and the cavity of that organ was at once plugged with a strip of gauze. The case was watched, septic symptoms were very distinct at the end of twenty-four hours, therefore Mauclaire operated. The perforation was closed with two deep catgut sutures, and as the right appendages were inflamed they were removed. The pelvis was drained after Mikuliez's method; recovery was speedy. In the last case the patient had septic symptoms beginning twelve days after a normal labour. A doctor called in by the midwife employed intrauterine douches, making use of Doléris's metal dilating catheter, the tampon being inserted after each daily douche. At the end of a fortnight, during the douching, the patient fainted, then it was found that the catheter had passed far through the uterine walls, whilst the fluid, a solution of cresyl, did not return. The patient was sent into hospital, but the history of the case was

not known until the next morning. Mauclaire operated twenty-four hours after the accident; he performed a supravaginal hysterectomy, drained the cervical canal, and packed the pelvis with gauze, the drain opened through an incision in each groin. The patient, however, died seventeen hours later. Dr. Mauclaire adds two cases in his experience last year (making five in all) where the puerperal uterus had been perforated, and most probably after or during an illegal operation. Both underwent supravaginal hysterectomy and packing of the pelvis with aseptic gauze. The first died, but she was sinking from acute anæmia as well as sepsis when admitted into hospital, the second was saved. These cases are instructive, as it shows that perforation may occur even when instruments are used by experts with all the advantages of appliances and nursing at a metropolitan hospital. The conscientious practitioner employing the intrauterine douche in a septic midwifery case may meet with the same accident. It is not only the abortionist, eager to scrape away at once all incriminating products of conception, who is likely to perforate the uterus. Further comment is needless, but the perils of intrauterine "minor" surgery must never be forgotten. Perforation by the sound in a non-gravid uterus is seldom followed by bad results, though some authorities suspect that in some cases so styled the sound has passed along the canal of one Fallopian tube so that no wound has been inflicted; still, the sound as an instrument used for diagnosis is not without grave disadvantages. About the treatment of sepsis after perforation there is much difference of opinion; many authorities distrust supravaginal hysterectomy, as the cervix left behind is probably septic.—*Brit. Med. Jour.*

Ectopic Gestation. Lithopedion found after thirty-three years.

L. B. R. was born in New York, September 6, 1828. Her family history is good. Measles in childhood left a cough, which persisted through life. Menstruation began at about 14 years. At 16 the contraction of a "cold" during a menstrual period brought on dysmenorrhœa, from which she afterward suffered. Her periods were regular. She attained a stature slightly above the average. She was married at 23. She first became pregnant 13 years after marriage (in March, 1865). The usual signs of pregnancy were present, and quickening occurred about the fifth month. Except for the continuation of the monthly periods, gestation was considered normal. Labor began about the expected time (December, 1865), and continued about 36 hours, when there was a complete abeyance. About a week later vigorous fetal movements were noted, which suddenly disappeared and never returned.

Abdominal enlargement persisted for 12 or 15 years, then began to diminish, but never entirely disappeared.

Upon her death (in October, 1898, almost 33 years after the futile labor noted) I removed a lithopedion occupying the right tube, which was not ruptured. The whole fetus is 7 x 4 x 3 inches, and weighs four pounds.—E. E. Evans, M.D., of Lawrence, Kan., in *American Medicine*.

A Case of "Dissecting" Puerperal Metritis.

Dr. V. I. Polkanoff (*Roussky Vrach*, November 2nd) describes a case of rare type of metritis which occurred in a puerperal woman, aged twenty-two years, a primipara, who was brought to the hospital in the midst of attacks of eclampsia after a labor lasting fifteen hours. The child was delivered with forceps, a complete laceration of the perineum resulting from the extraction. On the fifth day a marked enlargement of the uterus, and a foul odor of the lochia were noted; there came a rise of temperature and of the pulse, and the other symptoms of puerperal metritis. On the thirty-first day after the labor, there came out of the cervix a piece of the affected uterus in the form of a mass of uterine tissue of irregular shape, covered by peritoneum. Most authorities state that it is impossible to make a diagnosis of dissecting metritis before the piece of uterus is expelled. Garrigues, however, states that in such cases the uterus remains high, does not contract after labor, and there is an edema of the external genitals. Beckman confirms the observations of Garrigues in this respect. Most cases reported have ended in recovery, but death took place from sepsis in 27.5 per cent. of cases, according to Beckman. Recovery is due to the formation of adhesions of peritoneum about the opening in the uterus. The treatment of this affection is chiefly expectant, and should be limited to rest in bed and antiseptic vaginal douches. All forcible attempts at removing the gangrenous portion of the uterus should be avoided.—*N. Y. Med. Jour.*

No Essential Fever of Pregnancy.

Pinard (*Ann. de Gynec et d'Obstet.*, March, 1903) absolutely denies the existence of the fever of pregnancy described by Burns, of Glasgow, in 1809. Tarnier and Budin admitted that fevers in pregnant women offered no characteristic symptoms, they must therefore be most probably multiple. Vinay in 1894 showed how modern experience had proved that pregnancy plays an entirely secondary share in the production of the fevers with which it is sometimes associated. Pinard insists that there is distinct danger in maintaining a belief in an essential fever of pregnancy. It may cause the medical attendant to overlook many conditions little known in the days of Burns, such as appendicitis, torsion of ovarian tumors, and dilated tubes,

cholecystitis and other diseases, which often complicate pregnancy, and involve rises of temperature. When such a rise occurs, the cause, which is never the pregnancy as such, should be sought for. In the course of 1902 Pinard observed many "temperatures" in pregnant women under his care in the Clinique Baudelocque, many of the patients were nearing term, but some were in very early pregnancy. One woman had distinct fever in the fourth month, and the cause was not clear, apparently there was no local tenderness. An exploratory incision was made, and an ovary full of pus was detected and removed. "That's what her 'fever of pregnancy' meant," concludes Pinard.—*Brit. Med. Jour.*

Ectopic Gestation—Twin Pregnancy.

Ersilio Ferroni reports a case of twin pregnancy in the *Zentralblatt für Gynäkologie*, February 28, 1903. In the third month of gestation left ovariosalpingectomy was performed. The tube removed contained two fetal sacs apparently unconnected, and the portion of the tube between them in a normal condition, but both openings were stopped with blood clots. The two fetal sacs were unequal in size, and showed different stages of development. It appeared that in the larger sac abortive changes with the death of the embryo had occurred while the other advanced to a later stage of development before a fresh lesion led to further abortive changes and symptoms requiring operation. The question whether both ovums came from the same or different ovaries at different times is also discussed. The symptoms of the patient were those of an ordinary ectopic gestation, and it was only the anatomic examination which made known the existence of a twin pregnancy.

Editorials.

RECIPROCITY IN MEDICAL DEGREES.

Much to be regretted is the defeat in the Quebec Legislature of the bill to give effect to Dr. Roddick's proposition relating to the recognition in other parts of the Empire of medical degrees conferred in Canada. It has been a long standing complaint that Canadian medical men cannot practice in Britain or on ships of British register. The reason assigned for the prohibition is the fact that a Canadian doctor is not free to practise in Canada except in the province in which he is licensed. If we had a broader system here a like system would prevail in the wider arena. To meet the case a measure looking to registration for Dominion purposes was passed on Dr. Roddick's initiative at a recent session of the Dominion Parliament. Seeing that the legislation dealt with a provincial issue it was made subject to provincial acceptance or to ratification by the various Legislatures. All favored it, and the question of endorsing it and making it operative depended upon the action of the Quebec House. There it has been defeated by a large majority. The reason assigned for its rejection is its alleged interference with provincial rights. But this is illogical. It was in order to prevent interference with provincial rights that it was submitted to the Provincial Assembly. If adopted it is adopted with provincial concurrence, and the provincial right is sustained. There can be no interference with provincial rights if the legislation is endorsed by the province. The only argument upon which the objection from the point of view of autonomy can be raised is such as is to be derived from the fact that under reciprocity in medical degrees a practitioner from one province may pursue his profession in another without submitting to local examinations. But this is not an argument that will hold good save in a very small portion of Quebec, namely, that in which English is the language of the people. The vast majority of the Quebec people must have French-speaking doctors, and as a consequence the invasion of provincial rights under reciprocal legislation is not likely to be so

marked in that province as in the English-speaking parts of Canada. If the English-speaking provinces do not object to a broader system Quebec certainly should not, for it has the least to fear from such a change. The rejection of the bill is to be regretted. But possibly upon giving the question closer consideration the Legislature will be prepared to act differently at its next session.—*Mail*, April 21.

THE ONTARIO MEDICAL ASSOCIATION.

The next meeting of the Ontario Medical Association will be held in Toronto, June 16, 17 and 18, under the presidency of Dr. J. C. Mitchell, formerly of Enniskillen, but now one of the physicians to the Asylum for Insane, Toronto. As mentioned in a former issue the Committee on Papers and Business under the chairmanship of Dr. W. P. Caven, has about completed its work. Correspondence with members in different parts of the province is still going on, and it is expected that a full programme will be issued the first week in May.

Among the contributors outside of Ontario will be Dr. Musser, of Philadelphia and Dr. Thos. S. Cullen, of Baltimore, who will read a paper on "Uterine Myomata and their Treatment."

There will be a discussion on Arteriosclerosis in which the following will take part: Pathology, Dr. H. B. Anderson, of Toronto; Cardiac, Dr. J. W. G. McKay, of Oshawa; Cerebral, Dr. Hugh McCallum, of London; Ophthalmology, Dr. J. C. Connell, of Kingston; Therapeutics, Dr. J. L. Davison, of Toronto.

Dr. Jas. F. W. Ross will read a paper on "Surgical Treatment of Septic Peritonitis." Mr. Wm. Riddell, Legal Lecturer on Medical Jurisprudence in the University of Toronto, will read a paper on "The Medical Witness under Cross Examination. The following physicians will also read papers: Dr. Frank McConnell, of Los Cruces, New Mexico; Dr. Perry Goldsmith, of Belleville; Dr. C. D. Parfitt, of Gravenhurst; Drs. W. B. Thistle, R. D. Rudolf, A. McPhedran, Wm. Oldright, G. H. Burnham, G. Silverthorne, A. Primrose, John Amyot, Geo. A. Bingham and Adam Wright, of Toronto.

The Committee of Arrangements, under the chairmanship of

Dr. Bruce Riordan, has about completed its work. The meeting will be held in the Normal School Building, St. James' Square. There will be a smoking concert on the evening of Tuesday, the 16th, probably in St. George's Hall, Elm Street, and a luncheon probably in the new King Edward Hotel on Wednesday, the 17th. There will also be an exhibition of medical and surgical appliances and pharmaceutical preparations.

ISOLATION OF SCARLATINA PATIENTS.

The scarlatina regulations recently passed by the Provincial Board of Health are being subjected to a great deal of hostile criticism. According to these regulations all patients suffering from scarlet fever must be isolated and removed to buildings or tents specially prepared for them. The lay papers are taking the matter up, and some of them state that any regulation which compels the authorities to take a child from its mother and remove it to a tent, especially in winter, is nothing short of inhuman. We understand that certain mutual benevolent societies have been discussing the regulations, and one at least, as we learn from the Toronto *Evening Telegram*, has taken decided action.

One of the Courts of the Canadian Order of Foresters has passed the following resolution and forwarded it to the Mayor and Medical Health Officer of Toronto :

“Whereas, by recent regulations issued by the Provincial Board of Health regarding scarlet fever, those inflicted with this disease are to be isolated ;

“And Whereas, scarlet fever is more particularly a child's disease ;

And Whereas, if the said regulations are carried out, children will be removed from the care of their mothers, who are their best attendants, physicians and comforters ;

“And Whereas, we believe the mother can and will give better care, treatment and attention to her children than a stranger can or will give during the period of isolation ;

“Therefore, be it Resolved, that we, the members of Court Occident, Canadian Order of Foresters, protest against the removal of children having scarlet fever from the care, treatment,

attention and companionship of the mother, whom we believe to be the best person to look after and attend to her children ;

“Further, be it Resolved, that we request the proper civic authorities to seek to have these regulations of the Provincial Board of Health as to scarlet fever revoked and annulled ;

“Further, be it Resolved, that we send a copy of this Resolution to the Secretary of the Provincial Board of Health, the Medical Health Officer of the city of Toronto, and the Mayor of Toronto. Dated this 6th day of May, 1903.”

At the meeting of the Reception and Legislation Committee of the Toronto City Council, held April 11th, the following resolution was passed :

“That this committee places on record its protest against the regulations adopted by the Provincial Board of Health on February 12th last, and made an Order-in-Council on March 5th last, whereby any one suffering from scarlet fever is placed in an isolation hospital or tent, giving neither the physician in charge nor the Medical Health Officer any opinion as to the effectiveness of the isolation of the case at their home, nor of the safety or danger with which the patient might be moved, and which, in our Canadian winters and with this disease, would under certain conditions of the patient be extremely dangerous to life. Moreover, the forcible separation of mother and child under all conditions of this disease is a violation of personal and family rights which the circumstances do not warrant, and the knowledge of this forcible separation will defeat the very object for which the regulation is intended, by (1st) causing the parents to avoid calling in proper medical advice when a child has only a slight rash, for fear of it being pronounced scarlet fever, and (2nd) physicians will be very loth to report and will avoid making a diagnosis of scarlet fever if they can find any reasonable excuse for so doing. Thus many of the very simple cases that are now diagnosed and isolated will, under the present laws, not be reported nor isolated at all. This committee believe that the Medical Health Officer, Dr. Sheard, is carrying out isolation in cases of contagious diseases as effectively and thoroughly as it can be done at the present time. We recommend the adoption of this resolution by the Council at its next meeting.”

THE MODERN MATERNITY HOSPITAL.

Dr. Barton Cooke Hirst, of Philadelphia, in an address delivered before the Philadelphia Obstetrical Society on the above subject, gives an account of the new building for the Maternity Department of the University of Pennsylvania Hospital in Philadelphia (*American Medicine*). This part of the hospital contains fifty beds and an operating amphitheatre, fully equipped. Provision is made for privacy and isolation of the patients, so that thorough instruction of students is secured without undue exposure of the patients. Dr. Hirst states that no patient leaves the institution "with any disease or abnormality of the pelvic or abdominal organs which follows or complicates parturition." The aim of those in charge is to have each patient leave the maternity hospital in as good or in better condition than she entered it. Dr. Hirst also states that there are three kinds of specialists in America competing for the surgical treatment of diseases of women: the general surgeon, the gynecologist, and the surgeon who is trained in both obstetrics and the diseases of women. He appears to think that eventually the work to which he refers will gravitate into the hands of the "specialist who has had adequate training in both branches of gynecology, who must recognize and treat all the diseases of women in all their steps, whose work demands a training in abdominal and pelvic manœuvres, diagnosis and treatment of every kind." He concludes by saying that such is the decision which has already been reached in the Teutonic, Scandinavian and Slavonic countries of Europe.

THE RICHARDSON TESTIMONIAL.

The committee in charge of the banquet and presentation of the portrait to the University of Toronto received the following letter from Dr. Richardson :

“36 St. JOSEPH ST., April 20th, 1903.

“*The Chairman of the Presentation Committee.*

“DEAR SIR,—Please convey to the committee my heartfelt thanks for their exertions which resulted in the banquet on Wednesday. The attention shown Mrs Richardson gave her the greatest pleasure, and were especially appreciated by myself. I regret that I was so surprised, as I had not had the slightest intimation of its preparation; that when the address, so beautifully illuminated, was handed to me, I had not the presence of mind to allude to it when I spoke. It will be a cherished heirloom, to be kept as a memorial record of the results of my life's work. The affectionate terms in which you allude to me in the address, fill me with gratitude, and will cheer me through my declining years. I hope there may be an opportunity of conveying my warmest thanks to the numerous pupils who contributed so generously to the expenses of the portrait, the banquet and the address.

“Your highly honored and grateful teacher,

“(Signed) “JAMES H. RICHARDSON.”

At the recent Congress of American Physicians and Surgeons held in Washington, Dr. Allen Baines, of Toronto, was elected Vice-President of the American Pediatric Society.

Dr. Alan B. Greenwood (Tor. '95) has removed from Sutton to Moose Jaw, N.W.T., where he has commenced practice.

Dr. John S. Hart, (Tor. '89) of Toronto was married, May 14th, to Miss Jean Lawson.

Dr. C. D. Parfitt, (Trin. '94) who was in excellent health during the past winter, has a slight relapse of his old trouble, and has given up active work for a time. He will spend the summer at Gravenhurst.

Dr. H. S. Hutchison (Tor. '00) has been appointed to temporarily fill Dr. Parfitt's place in the free Sanitarium for Consumptives, Gravenhurst.

Personals.

Dr. King Smith, of Toronto, visited Cornell in April.

Dr. Silveithorne has removed to 266 College Street.

Dr. Thos. H. Balfe left Hamilton for Europe, April 23rd.

Dr. Robert T. Noble, of Toronto, has removed to 74 Gerrard Street E.

Dr. Algernon Temple has removed to his new house on Bloor Street West.

Dr. J. Ephraim Elliott has been appointed associate coroner for Toronto.

Dr. H. E. Roaf (Tor. '02) is a Colonial Fellow at University College, Liverpool.

Dr. Wm. Goldie, of Toronto, spent a week in New York from May 9th to 16th.

Dr. H. T. Machell, of Toronto, spent a week in New York during the latter part of April.

Dr. W. H. B. Aikins went to New York May 2nd, and returned to Toronto May 10th.

Dr. Jas. F. W. Ross, of Toronto, left for a two weeks' sojourn in North Muskoka, May 11th.

Dr. Chas. J. Hastings, of Toronto, left for Baltimore May 8th. He expected to return May 18th.

Dr. E. N. Coutts (Tor. '00) is surgeon-in-charge of the mining camp at Obnassi, Gold Coast, West Africa.

Dr. Colin C. Campbell (Tor. '01) has been appointed house surgeon in the Royal London Ophthalmic Hospital, England.

Dr. G. W. Badgerow (Tor. '94) has been appointed to the clinical staff of the Golden Square Throat and Nose Hospital, London.

Dr. Lorne F. Robertson, of Stratford, after being engaged in post-graduate work in London for a year, is now *walking* the hospitals, and taking certain special courses in Germany.

Drs. A. McPhedran, J. J. Mackenzie, A. H. Garratt, Price Brown, Allen Shore, Allen Baines, W. P. Caven, B. E. McKenzie and Chas. J. Hastings, of Toronto; Dr. Cummings, of Hamilton; Sir William Kingston, Drs. Stewart, Blackader and Hutchison, of Montreal; Drs. Hugh McCallum and Hodge, of London; attended the Congress of American Surgeons and Physicians at Washington, May 12th to 15th.

Obituary.

ROBERT COTTON, M.B.

Dr. Cotton, of Regina, N. W. T., died May 6th, of pneumonia, aged 48. He was graduated, M.B., from the University of Toronto in 1881, and the following year went to Regina where he practised continuously up to the time of his fatal illness. He was a brother of Dr. Jas. H. Cotton, of Toronto.

HON. DAVID MILLS, LL.B., K.C.

Hon. David Mills, one of the Justices of the Supreme Court of Canada, died suddenly at Ottawa, May 8th. For many years he was known as one of Canada's greatest statesmen and jurists. He was for a time a member of the Senate of the University of Toronto and also Legal Lecturer in Medical Jurisprudence in that institution.

SAMUEL BRIDGLAND, M.D., M.P.P.

Dr. Bridgland died at his home in Bracebridge, May 6th, of Bright's disease, aged 55. He received his medical education at Jefferson Medical College, Philadelphia, and Queen's University, Kingston, and was graduated from the latter in 1870. He at once settled in Bracebridge and practised there until his last illness which became acute a few months ago. He was very successful in practice, and being a man of broad sympathies and kindly manner was everywhere beloved and universally popular. He was a prominent Liberal in politics, and was twice elected as representative to the Ontario Legislature—in 1898 and 1902.

Book Reviews.

A Text-Book of Legal Medicine and Toxicology. Edited by FREDERICK PETERSON, M. D., Chief of Clinic, Nervous Department of the College of Physicians and Surgeons, New York, and WALTER S. HAINES, M. D., Professor of Chemistry, Pharmacy, and Toxicology, Rush Medical College, in affiliation with the University of Chicago. Two imperial octavo volumes of about 750 pages each, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Per volume: Cloth, \$5.00 net; sheep or half morocco, \$6.00 net. Canadian Agents: J. A. Carveth & Co., Toronto.

This work presents to the medical and legal professions a comprehensive survey of forensic medicine and toxicology in moderate compass. For convenience of reference the treatise has been divided into two sections, Part I. and Part II., the latter being devoted to toxicology and all other portions of legal medicine in which laboratory investigation is an essential feature. Under "expert evidence" not only is advice given to medical experts, but suggestions are also made to attorneys as to the best methods of obtaining the desired information from the witness. The Bertillon and Greenleaf-Smart systems of identification are concisely and intelligently described, and the advantages of each stated. A chapter not usually found in works of legal medicine, though of far more than passing significance to both the medical expert and the attorney, is that on the medicolegal relations of the X-rays. The responsibility of pharmacists in the compounding of prescriptions, in the selling of poisons, in substituting drugs other than those prescribed, etc., furnishes a chapter of the greatest interest to everyone concerned with questions of medical jurisprudence. Also included in the work is the enumeration of the laws of the various States relating to the commitment and retention of the insane. In fact, the entire work is overflowing with matters of the utmost importance, and expresses clearly, concisely, and accurately the very latest opinions on all branches of forensic medicine and toxicology.

Tuberculosis. Recast from lectures delivered at Rush Medical College, in affiliation with the University of Chicago. By NORMAN BRIDGE, A.M., M.D., Emeritus Professor of Medicine in Rush Medical College; Member of the Association of American Physicians. Handsome 12mo volume of 302 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, \$1.50 net. Canadian Agents: J. A. Carveth & Co. (Limited), 413-415 Parliament Street, Toronto, Canada.

In this excellent work the practical side of the care and management of those sick with the various non-surgical forms of tuberculosis has been concisely stated. Full consideration has been given to prophylaxis, an all-important phase of the subject that has heretofore been much neglected. There are also chap-

ters upon the Bacillus of Tuberculosis; on the Pathology Etiology, Symptoms, Physical Signs, Diagnosis, and Prognosis of the disease, each treated in the judicious and thorough manner to be expected in a work by such a well-known authority as Dr. Bridge. Treatment is accorded unusual space, there being chapters upon Hygienic Treatment, Management of the Diseased Lung, Climatic Treatment, Medicinal and Local Treatments, Special Treatments, besides a chapter devoted to the subject of Sanatoria. Altogether the work is a most valuable one, and we heartily recommend it to practitioners as the latest and best work of its pretensions it has been our good fortune to review.

Veasey's Ophthalmology. A Manual of Diseases of the Eye. For Students and General Practitioners. By CLARENCE A. VEASEY, A.M., M.D., Demonstrator of Ophthalmology in Jefferson Medical College, Philadelphia. 12mo. 410 pages, with 194 engravings and 10 full-page colored plates. Cloth, \$2.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

As an authoritative and convenient manual of practical ophthalmology, this new work by Dr. Veasey is likely to prove a favorite. It is written for students and general practitioners, two classes of medical readers who should assuredly be or become familiar with all that is contained in this attractive little volume. Specialists naturally prefer the large and exhaustive works, but even they will find compendious manuals, like the present, convenient for prompt reference. The author has shown excellent judgment in what to include and what to omit—a very important matter for the reader. He has been guided in this by his experience in teaching both under-graduate and post-graduate students, and this same teaching ability is manifest in the systematic, practical and concise manner in which he has marshalled and presented his facts. The publishers have done their part by giving the book a handsome dress, embellishing it with nearly 200 engravings and ten full-page colored plates, and, withal, issuing it at a very moderate price.

Diseases of the Stomach. By DR. F. RIEGEL, of Giessen. Edited, with additions, by CHARLES G. STOCKTON, M.D., Professor of Medicine in the University of Buffalo. Handsome octavo volume of 335 pages, illustrated, including 6 full-page plates. Philadelphia, New York, London: W. B. Saunders & Co, 1903. Cloth, \$5.00 net; half morocco, \$6.00 net. Canadian Agents: J. A. Carveth & Co, Parliament Street, Toronto, Ont.

This volume, like the others of this excellent practice, is thorough and complete. The importance of examining the stomach-contents in diagnosis, and the various methods of obtaining the contents and performing the examination, are discussed with the accuracy and clearness that spring from wide

experience. Full consideration is given to the hydrochloric acid question as a factor in the pathology of stomach diseases, the latest views having been incorporated by the editor. Particular attention has been accorded disturbances of motility, and their influence in the disturbances of secretion. It is evident that careful study has been devoted to the subject of impairment of the absorptive powers, and the significance of gas-fermentation has been emphasized. The eminent editor, a recognized authority on diseases of the stomach, has added to the already excellent German text his own extensive experience, bringing the work in accord with our present knowledge. We are confident that for scientific excellence and completeness, as well as for mechanical perfection, this work stands unrivalled.

SURGICAL HINTS.

A plaster cast can easily be removed with a knife if the line of incision has been beforehand well saturated with ordinary vinegar, which softens the plaster.

The ordinary washing soda solution in which instruments are boiled will entirely ruin aluminum instruments, and hence should not be used for sterilizing them.

Plaster of Paris dressings that are liable to be moistened by secretions from a wound, as, for instance, in the treatment of compound fractures or of excisions, where a fenestrum is made, can be nicely protected by painting the exposed parts with melted paraffine.

In children prone to the development of so-called scrofulous glands of the neck, it is a mistake, unless they rapidly disappear under the influence of local and general treatment, to await the formation of abscesses. The latter cause more marked cicatricial deformity than does proper incision with enucleation, and there is always a possibility of systemic infection from the abscess.

In a case of gonorrhœa in the male, a chill occurring without swelling of the external organs strongly suggests the possibility of prostatic abscess. Always examine by the rectum, and if the gland is large and tender, and hard though elastic, little time should be wasted before opening the perineum. The old method of opening through the rectum with a trocar is a bad one, because it is unclean and liable to result in the formation of urethro-rectal fistula, and because the abscess cannot be incised and drained as widely as by the perineal route.—*International Journal of Surgery.*

Selections.

Hereditary Syphilis.

R. Matzenauer (*Wiener klin. Wochenschrift*) treats in an exhaustive article the question as to whether a paternal inheritance may be demonstrated, and comes to the conclusion that it cannot. He believes that Colles's law has no exceptions, and that cases of this kind cited in current literature which would demonstrate such exceptions are due to errors. Every apparently healthy though immune mother of a hereditary luetic child has latent syphilis. There is no hereditary syphilis without syphilis of the mother; it therefore follows that the mother of the syphilitic infant, even though she shows no symptoms, should be treated specifically. He advises that a syphilitic man in order to prevent the infection of the woman should not marry before the lapse of a number of years, nor until receiving a number of specific treatments.—*Medical Age*.

The Operative Treatment of Puerperal Pyemia.

Sippel (*Centralbl. f. Gyn.*) is induced by Trendelenburg's success in curing a case of puerperal pyemia by ligation of the hypogastric and spermatic veins to draw attention to the fact that in 1894, in a case of purulent phlebitis of the uterus which took the form of an acute pyemia, he proposed to remove the uterus and resect the internal spermatic and uterine veins, though he did not actually carry out this proceeding. Of four cases of puerperal pyemia, two recovered spontaneously; the other two could not for independent reasons be operated on, and both died. Sippel is not inclined to the extraperitoneal method suggested by Trendelenburg, and would only proceed by laparotomy, and having done so would remove the uterus as well as the veins; but many a case of pyemia recovers spontaneously, and operation is not indicated unless life is endangered.—*Medical Age*.

Concerning Sea-Sickness.

Binz (*Centralblatt fuer Innere Medicin*), concludes that sea-sickness is due to anemia of the brain, and that the shaking of the vessel causes a contraction of the arteries of the head, which brings about this anemia. Acute local anemia has here, as in other cases, a tendency to produce nausea and vomiting. He would explain the periods of rest and ease by the fact that the act of vomiting, and the violent action of the abdominal muscles forces more blood to the brain. This overcomes for a time the anemia and its consequences. The stomach plays only

a passive role, and is centrally stimulated whether it contains food or not.

In the treatment of sea-sickness means must be employed which encourage a flow of blood to the brain. Of chief importance is the horizontal position. Several hours before one goes on board the vessel he should take a hearty, nutritious meal. Internally, those drugs are indicated which bring about a dilatation of the blood vessels of the brain. Of these, chloral hydrate and amylnitrite have been found the most efficient.—*Interstate Med. Jour.*

Drugs in Typhoid Fever.

The literature of the last couple of years contains decreasing references to drug treatments in typhoid fever. The Woodbridge treatment seems to have fallen into disuse, but there is still search for an efficient intestinal-antiseptic. Acetozone seems to fulfil this indication. A number of favorable reports have been made of the action of this remedy, which seems to modify the course of the disease.

Guaiacol in typhoid fever, while it was an essential ingredient in the Woodbridge treatment, is still believed by many to favorably influence the course of the disorder. It is sometimes given in the form of carbonate of guaiacol, but more commonly in four-or-five-drop doses every three or four hours in whiskey. The external application of 20 drops will produce a marked fall in temperature, though this means of reducing the temperature has sometimes been attended with collapse, the same as has been noted after the administration of antipyretics.

Among the later and more striking suggestions in the therapy of typhoid is that of Woroschilsky, who employs washed sulphur throughout the disease. From 15 to 20 grains is administered every two or three hours to adults, and a proportionately less quantity to children. It was found that this remedy lessened the diarrhea if present, and relieved constipation if it existed, although the dose had to be increased if the sulphur was expected to act on the bowels.—*Medicine.*

Infectious Epithelioses and Epitheliomata.

A. Borrel (*Annales de l'Inst. Pasteur*, January, 1903).—Under the name of infectious epithelioses A. Borrel comprises a number of exanthematic diseases, as sheep-pox, foot and mouth disease, vaccinia, variola, etc. They all have in common a predominant involvement of the stratified epithelium in the form of proliferation and secondary softening, and the fact that in none of them the causative micro-organism has as yet been discovered. All of them, however, have been the playground for parasite-hunters, and numberless formations found in the

lesions have been described as protozoa, etc. (bodies of Guarnieri, etc.). Although careful investigation in no case has been able to prove these claims (including the latest publication about cultivating the vaccine virus), many still adhere to this opinion. Borrel has made a careful and beautiful investigation of the whole question on the most favorable material, and has come everywhere to the conclusion that the so-called parasites are nothing but polynuclear leucocytes, engulfed by the epithelial cells and gradually disintegrated in their protoplasm. The paper is beautifully illustrated, and the pictures are very convincing. That the peculiar formations found in molluscum contagiosum belong to the same category is probable. In a carcinoma that could be inoculated from one mouse to another (Jensen, (in 1902) described a similar inoculable carcinoma in the mouse). Borrel has found, also, inclusions which very much resemble the epithelioid forms, and most likely must be interpreted in the same way. It may be mentioned here that Apolant and Embden (*Zeitschr. f. Hyg. u. Infect. Krankh.*, Vol. 42, Heft 3), from the Ehrlich Institute in Frankfort, have published lately their studies on the cancer-inclusions, in which they come about to the same result—that all of these formations are products of degeneration.—*Interstate Med. Jour.*

The Recognition of Incipient Tabes.

G. Flatau (*Berl. klin. Woch.*) deals with the diagnosis of tabes in the early stages. Referring to the absence of tendon reflexes, he says that the triceps reflex is not only not easy to elicit, partly on account of the difficulty of hitting the tendon cleanly, and partly on account of the difficulty of relaxing the muscle sufficiently, but it has been shown that it is frequently absent in perfectly healthy individuals. With regard to the tendon Achillis reflex, he has found that in 100 persons, who were certainly not suffering from tabes, it was absent on both sides in two cases, and on one side in a further two. In these four patients, the knee-jerks were present, and there was nothing abnormal to be found which could explain the absence of the tendon reflex. In eight of the cases the reflex could not be elicited in the ordinary way, but only could be demonstrated by Babinski's method. Since this method cannot always be carried out, it would appear as if several of the patients had absent Achilles reflexes, and he has come across the same condition in many cases of tabes. Flatau recites the histories of some early cases of tabes, and shows that the diagnosis can be made even when the cardinal symptoms are absent, if one regards the grouping of the signs, however slight they may be. A sluggish reaction of the pupil, an absent reflex, and a very small area of disturbed sensation of themselves will not justify

a diagnosis, but when two of these are met with together, even when the anamnesis does not point to tabes, one is often put on the right scent. He illustrates the importance of localized disturbances of sensation in the early diagnosis, but finds it necessary to insist on repeated examination, to prove that this condition is constant. He further illustrates that one must not rely on the history of a past attack of syphilis, in making the diagnosis in doubtful cases, by quoting a case, which was like early tabes dorsalis, and in which there was a history of syphilis, but in which the condition proved not to be of this nature.—*British Med. Jour.*

Chronic Granular Kidney.

Claude and Burthe (*Biochem. Centralbl.*) have made a large number of observations on the elimination of the solids of the urine in patients suffering from this disease, fed on a constant diet. The urine was examined chemically, and also by a cryoscopic method. They found, confirming the work of others, that both the saline and the nitrogenous constituents of the urine were excreted usually in normal or even in more than normal quantity. The danger of the disease lies in the ease with which any disturbing cause, such as an infection or an intoxication, leads to a sudden fall of excretory power. They point out that the continuance of a sufficient excretion depends on the integrity of that part of the kidneys which is still functionally active, and on the maintenance of the raised arterial tension and the efficiency of the hypertrophied heart. Any interference with these three interdependent factors is liable to cause a failure of excretion and bring on uraemic manifestations.—*British Med. Journal.*

Bromine vs. Chlorine.

Experience has shown that the physiological effects of bromine are obtained with much smaller doses when chlorine salts are withdrawn from the dietary; moreover, the gastric intolerance which so often imposes the abandonment of the treatment is less readily induced. Direct experimental observation proves that bromine can replace chlorine in the animal economy, so that by substituting the former for the latter an organic compound of bromine is formed which enables us to obtain the therapeutical effects of bromine in a more satisfactory manner. This fact renders it possible not only to administer the bromides in larger doses without producing inconvenient collateral effects, but allows of the drug being exhibited over long periods of time without the supervention of symptoms of intoxication. It is a good plan to give bromide of sodium instead of salt in the food, which should consist largely, if not exclusively, of cereals, milk and vegetables.—*Med. Press and Circular.*