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THE PRESENT EPIDEMIC OF SMALLPOX IN AMERICA.*

BY

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Some time ago I was asked by your president to prepare a history of the present smallpox epidemic in Minnesota for this meeting. I promised so to do, not because I thought you would be interested in such as a local condition, but because the history of this epidemic is in all probability the history of each and every epidemic in province or state of Canada or the United States during the past five years.

In March, 1899, a porter from a Great Northern Railway train was found ill with smallpox in St. Paul, after his return from the Pacific coast. His infection occurred at some point between St. Paul and the coast, probably at Seattle. At the time his case was diagnosticated as smallpox, he remarked, "If such is the case, there is plenty more of the same thing in the place that I came from."

From exposures to this case, there followed thirty-one cases of smallpox in St. Paul, with but one death. The outbreak was well handled by the very efficient health commissioner of that city, Dr. J. Ohage. I did not see any of these cases.

In May, 1899, a gentleman, aged about fifty years, returned from California to his home at Worthington, Minnesota. On his way home he stopped in Nebraska for a few days. There was quite a little smallpox in that state at certain points during the winter of 1898 and 1899. This gentleman had after his return to Worthington an eruption so mild in type that no physician was called, I understand. I believe some parties thought he had chicken-pox. In due time the wife was taken ill.

* Read before the Canadian Medical Association, August 20, 1901.

At first her disease was thought to be measles, but in a few days it was recognized as smallpox of severe type. After but a few days' illness, she died.

The physician called to attend this lady, after her disease was recognized as smallpox, went into voluntary quarantine with this infected family, for the good of the community. He was not immune to the disease, and in consequence became infected and died.

In all, there were at this place eight cases of smallpox from this infection, with two deaths. The disease occurred in varying degrees in these cases, from the very mild type in the father and grandmother, to the confluent form in the mother and attending physician.

Late in June, 1899, I was called to East Grand Forks to give an opinion as to the nature of the disease from which a man was suffering. My diagnosis was smallpox. The man was quite ill, though not dangerously so, and in about the fourth or fifth day of the eruption. I was then asked by a physician to see a boy in Grand Forks ill with an eruptive disease. I again made the diagnosis of smallpox. The eruption in this case was markedly confluent and the patient dangerously ill. When my diagnosis was given out, certain physicians of prominence disputed its correctness. I stated that if two of them—excellent men—would visit the boy in their own city (Grand Forks) and would still say that the disease was not smallpox, I would hold my opinion in abeyance and watch developments. They visited the case and still gave it as their opinion that it was not smallpox. I thereupon repeated my opinion that this boy had smallpox and that he would soon die, and stated that I would be interested to know the cause of death that would be given on the death certificate. I further stated that the East Grand Forks case should be quarantined as for smallpox. The Grand Forks patient died in less than thirty-six hours from the time the last negative diagnosis was made by the two resident physicians referred to. Before his death, however, the health officer of the city and the superintendent of the state board of health, both of whom were absent at the time of my visit to Grand Forks, returned to their homes; both pronounced the case as one of smallpox. From this time on, the disease in both Grand Forks and East Grand Forks was without dispute recognized as smallpox and the little epidemic was quickly suppressed. The perplexing elements in this epidemic were:—first, the fact that an eruptive disease of very mild type had appeared first among the telephone operators. It was thought that these mild cases were in all probability of the same type as these severe cases, which certainly had all the ear marks of smallpox, and it was hard to believe that they could possibly have been smallpox. The history given by these recovered patients was

very vague. Second, the boy in Grand Forks who died of smallpox gave a history of possible exposure to poisons that might have caused an eruption quite similar to that shown at the time of our visit. After careful study of all these cases there was, however, but one conclusion that could be accepted, viz., that all had one and the same disease, smallpox, varying greatly in type and severity.

On August 31st, 1899, a health officer in Southern Minnesota wrote me that two young men, proprietors of a grocery store, had an eruptive disease which he diagnosticated chicken-pox. I replied at once, drawing his attention to the rarity of chicken-pox in adults, and advising him to quarantine the cases. My advice was not heeded. September 27th, I was called by a physician to this same place to see a suspicious case. A boy had consulted him with an ulcerated cornea. The physician noticed some bluish marks upon the face of this patient. Further examination showed similar marks upon other parts of the body. The corneal ulcer was recognized as the remnant of a smallpox vesicle. Investigation showed that there had been a number of cases of smallpox in this little city, the first one occurring early in July and being that of a young man from Grand Forks, who was home on a visit to his mother. The disease had remained isolated until the two young grocery men contracted it and carried it to their store to distribute with their goods to the entire community. At the time of this visit I found two very typical cases of smallpox, one being a man who had been under treatment in hospital for a compound fracture of the leg and had there contracted smallpox (the same source of infection as that for the boy with the corneal ulcer). He was at about the seventh day of the eruption: the other a young lady in the second day of eruption. In this latter case the eruption was quite extensive, and being governed by previous experience with smallpox, I predicted for her that she would undoubtedly be very sick during the progress of her disease. In this I was wrong. It could hardly be said that she had a sick day after that upon which I visited her. The temperature quickly fell to normal. The patient was decidedly marked with pigmented spots after her recovery from the disease. I have not seen her for nearly two years, but I venture to state that, judging from my knowledge of other cases, she in all probability shows but little marking from the disease at this time. The prediction I made as to the seriousness of this case was unfortunate, for the unbelievers in my diagnosis of smallpox used this as an argument against my ability to recognize this disease when present.

Much opposition to quarantine regulations, and in fact, to the diagnosis of smallpox, existed at this place. In consequence, the disease was not brought under control as it should have been. It continued in

the city for a period of nearly a year; it spread from this place far and wide through Southern Minnesota and Northern Iowa. In the city itself there was a total of one hundred and one (101) *recorded* cases from this exposure, *without a single death.* There were, however, four deaths at other places traceable to infection at this point. This was my first, but not my last experience with epidemic smallpox, with a phenominally low mortality.

In August of 1899, a physician and health officer wrote me that his little girl was quite ill with vaccinia. He described in his letter the eruption upon her person. I replied to him at once, urging him to be on his guard, stating that in all probability his child had been exposed to smallpox before she was vaccinated, and was suffering from this latter disease, rather than from vaccinia. He paid no attention to my warning. A few days later, at the request of a physician in a neighbouring village, I visited this child with him and found her very ill with confluent smallpox,—so ill, in fact, that she died within a few hours of our first seeing her. Her father still insisted that she did not have smallpox. There had been much exposure to this child. As a result in this little village there were in all twelve cases, with four deaths. Close inquiry brought out the fact that the father of this child was taken ill July 4th with symptoms that were undoubtedly the *prodromata* of smallpox, and that following these symptoms, he had an eruption, the nature of which he failed to recognize. He undoubtedly had smallpox and infected his child.

In October, 1899, a young woman from Carver County visited a sister who was a servant at the B——— Hotel, in Minneapolis. At the time she was just recovering from a rash which she stated was due to chicken-pox. She also stated that the whole family had the same disease. Later developments proved this in all probability to have been smallpox. Where it came from I have not been able to determine by correspondence, nor have I had time to visit the place myself in order to trace its origin, if possible. After the return of this young woman to her home, her sister (the servant) went home, and also had what was called chicken-pox. A few days later another servant in the same hotel was found to be ill with an eruptive disease which was diagnosticated as smallpox by Dr. Norred, and sent to the Minneapolis pest-house November 1st.

A clerk of one of the leading dry goods houses had a meal ticket at the B——— Hotel, where the girl who was sent to the pest-house Nov. 1st was a waitress. In due time this young man had a rash which was not diagnosticated. Others in the same store had this same disease, and as the Thirteenth Regiment returned from the Philippines about this

time it was given the name of "Philippino Itch." From these parties there was quite an infection which was later recognized as smallpox, and the poetry of Philippino infection was removed, for it came from no more distant place than the B——— Hotel through the waitress. A man living at 15 W——— Ave., and boarding at the B——— Hotel had what was called chicken-pox. He passed the disease from one to another at his place of rooming until finally one infected young man went to Janesville, Minn., where he had smallpox. Inquiry there elicited the fact that a case of smallpox had first been recognized in this house on W——— Ave. by the husband of the patient. A physician confirmed this diagnosis, and reported the fact to the health office. The commissioner of health is said to have visited this place, and to have pronounced the disease nothing but chicken-pox. Smallpox under the name of chicken-pox made various excursions from 15 W——— Ave. Among the places visited were Wahpeton, N.D., and Hoff Township, Pope County, Minn. In this latter place there was one death from hæmorrhagic smallpox. Although several diagnoses of smallpox had been made by competent physicians in Minneapolis, to be marked and called chicken-pox by the then commissioner of health, it was not until January 23, 1900, that the city was forced to recognize the presence of smallpox. To November 1, 1900, there were in Minneapolis 448 cases with 13 deaths. There were known to be 53 localities in 23 counties with a record of 543 cases with 5 deaths, or a total of 991 cases with 18 deaths, due to Minneapolis infection.

But why relate other outbreaks? These are enough for illustrative purposes. The disease has continued in Minnesota up to the present time with the common epidemic history of first, mild unrecognized cases, with later severe cases, easily recognized, and with disputings among physicians, even after the disease has assumed such a marked type that the medical tyro should have recognized it, had he reasoned from the positive rather than from the negative standpoint.

For convenience these cases are divided into seven groups according to severity as follows:—

1. Smallpox, without eruption.
2. Very mild smallpox.
3. Mild smallpox.
4. Mildly severe smallpox.
5. Severe smallpox.
6. Confluent smallpox.
7. Malignant smallpox.

Dr. Geo. D. Haggard, who had opportunity to watch many smallpox cases in Minneapolis, has given such an excellent description of the

symptoms of smallpox as it is now prevailing that I simply quote him as follows :—

"Of the early symptoms, fever, the one most constantly present, may be overlooked entirely in children, or recognized only as fretfulness. It may also happen in the mild cases that the fever will accompany but not precede, the eruption in children. In the severer forms of the disease fever is almost always, if not always, present. If the case is malignant the temperature may be subnormal for days at a time, especially after the eruption has appeared. In some severe cases the temperature fall may be momentary only, the fever being practically continuous throughout the course of the disease.

"Chills are very inconstant. They may be the first prodromal symptoms; they may be alternating in close succession. They have been absent or unrecognized in a large proportion of cases.

"Pain in the lumbar region is quite constant as an early symptom in the severe cases the pain in the back continues after the eruption appears. disease. In the mild cases headache is a prominent early symptom. Associated with the early headache may be general pains. The first pains may be in the feet and legs. There are sometimes fleeting pains appearing in the head, the back, the legs and then in the abdomen. In the severe cases the pain in the back continues after the eruption appears. Sore throat is a common symptom in all the types of smallpox described. It may be the earliest symptom; it may appear with the eruption or even later, then disappear promptly, or develop into a most annoying condition. There may be only a diffused redness, or the eruption may cover the entire pharyngeal surface. The throat has sometimes an apparently diphtheritic, gangrenous slough on the tonsils, severe adenitis, with pain and dysphagia. There may be aphonia, or the hoarse whisper of "croup," and choking that alarms the attendants. The breathing, for days, may be like that of a severe diphtheria, in which the nose is stopped and the fauces closed at the end of each inspiration and expiration. The peculiar odor which is said to attend smallpox is noted only in the cases of some severity. It is of such a character and appears so early in the disease as to be of material benefit in making a diagnosis. This early odor is unlike that which comes later, the odor of suppuration.

"In some cases there is severe sweating at about the fifth to the seventh day of the disease, and this is accompanied by a great stench irrespective of the extent of the eruption.

"The tongue, quite constantly, has a fine, white coating, with the shape and palor so common in atonic diseases. In the severe cases it often has the appearance of the so-called typhoid fever tongue. In the

milder cases the tongue may have no vesicles upon it, or only a few, as in chicken-pox; but in the severe cases it may be thickly covered with the eruption. Loss of appetite is a common early symptom, and may be somewhat prolonged in the severe cases. Nausea or vomiting, or both, are common early symptoms, and these two may continue to be present for some time in the severe cases.

"Weakness is often extreme when the duration of illness is taken into account. Diarrhœa is a somewhat common symptom in all forms of the disease, but is most marked in the severer forms. Constipation is sometimes present, possibly in twenty per cent. of the cases.

"Sleeplessness is present in probably half the cases, lasting but a few days in the mild type, but quite persistent in those more seriously ill. In these latter the use of the milder hypnotics seems to have but little effect.

"Convulsions occur in children in the early stages of the disease. Delirium is often present and is most frequent in the early or febrile period. Tremor of the hands is a common symptom, occurring after the fifth day, slight in the mild, but in an aggravated form in the severe cases.

"With so many grades of severity, and with the varying reaction of the skin, a great range in the degree of the eruption is not strange. This creates much confusion and discomfiture in the minds of physicians who have had little experience with the disease. It is not uncommon to find a diagnosis of grippe, typhoid fever, measles, scarlet fever, or even erysipelas, made before the correct diagnosis is reached. In several cases of purpuric variola the disease has been classed as purpura hæmorrhagica, or 'black measles,' or 'heart failure,' or 'gastric catarrh.'

"It is necessary to be guarded in making a negative diagnosis when smallpox is prevailing in mild form. The patient and his friends are generally certain that the mild cases cannot be smallpox. The patient is said to have been 'working too hard,' or to have 'cooled off too soon,' or to have 'ridden too far on a wheel,' or to have 'had such attacks before.' He is subject to 'lumbago.' The eruption is 'due to the heat,' to 'medicine taken,' or to 'bad blood.' If the physician sees the patient but once he is apt to make a diagnosis of grippe, rheumatism, typhoid fever, or cold. If he makes later visits he is very likely to find an eruption that does not belong to any of these diseases, and which as certainly is not chicken-pox.

"One must not adhere too closely to the classical description of smallpox eruption, for he may be misled. In the mild cases there may be only a few broad and flat papules of irregular outline and uneven size. These reach the stage of involution so early that the case is out of

quarantine in half the usual time. For example: A child aged five years was vaccinated a few days after exposure to his father, who was ill with smallpox. Thirteen days after such exposure there were marked prodromal symptoms of smallpox. Later four papules appeared upon the child's neck, and these increased in prominence for two days, then decreased for a like period of time, and disappeared without vesiculation.

"In other cases, after the severe prodromal symptoms, an eruption, thick set and hæmorrhagic, may appear. There may be marked prostration and delirium. By the fourth or fifth day of the eruption all symptoms may change for the better, and the patient's case progress as a typical varioloid.

"There were mild cases without previous vaccination, and hence mild in character independently of any influence from vaccination. There were still other cases with a mixed eruption. Thus M. and E., sister and brother, aged respectively eleven years and ten months, were ill. The histories of these two cases were practically the same. There was fretfulness, fever, malaise, sore throat, headache on the third day, a macular eruption of irregular size, and most marked on the head, hands and feet. From the centre of many of these maculæ there developed, within twelve to twenty hours, a small dome-shaped transparent vesicle, with thin top, which would break within the next twenty-four hours, leaving the usual flat, dry, dark scab, of irregular size, so characteristic of chicken-pox. But accompanying these typical prodromal symptoms of smallpox, with the rash of chicken-pox, was another eruption of papules going on to vesiculation slowly, as in smallpox, full and tense at the end of a week; mostly round, but occasionally oval; refilling quickly when emptied. These had thick tops and a hyperplastic base. There was an elevated ring left when the usual smallpox scale dropped off.

"The following complications were met with in one or more cases: Brachial paresis preceded by a neuritis; severe inflammation of the eyes, lasting from seven to ten days: suppurative otitis media; impetigo following the desquamation; facial erysipelas following the secondary fever (in one case); burrowing abscesses over back, sacrum and buttocks. There were small wounds of the skin, which showed no disposition to heal so long as the eruption was active. In one case the nails dropped off, and this was in progress when death occurred in another case. In one case there were bed sores. Many of the severe cases had a crop of pimples following the desquamation. Inflammation of the glands of the neck, of the groin or of the axillæ was noted in many of the cases. Accompanying this was chills, irregular temperature, and local pain. There was a marked variation in the size of these glandular and periglandular swellings, which advanced and receded from day to day. The

skin was not so brawny over these glands as is usual in such inflammations. The softness and mobility of the glands was striking. Upon the rapid recession in size of the glands, without rupture, the skin would lay in folds where it had previously been tense. The disorders of the alimentary canal were mostly following the secondary fever, and were represented by gastroduodenitis, accompanied by jaundice or by gastroenteritis."

Up to August 12th, 1901, there have been recorded since January 1st, 1899, nine thousand, four hundred and ninety-seven (9497) cases of smallpox in Minnesota, with sixty-seven (67) recorded deaths. Of these, six thousand, two hundred and eighty-eight (6288) cases and twenty-nine (29) deaths have been recorded since January 1st, 1901.

It may be well for us to consider whence came this disease and why does it differ so from the classical history of smallpox epidemics.

It is impossible to locate positively the source of this widespread epidemic. By some it is said to have originated in Cuba. Certain it is that smallpox of the present mild type was in Florida, Alabama and Tennessee early in 1897. In all probability it spread from the Southern to the Western states, for there was smallpox of this mild form in Texas, in Nebraska, probably in the state of Washington, in Montana and other western states prior to January 1st, 1899. The first known case of this present epidemic coming to Minnesota was that of the coloured porter on the Great Northern Railway.

Prior to October 1st, 1899, at least two cases (St. Cloud and Willmar) came to Minnesota from Montana, and the disease was quite general in North Dakota before it became general in Minnesota. The case that was found in full bloom at the Willmar railway station September 16th, 1899, received his infection in a hospital at Great Falls, Montana. It had not been recognized by the attending physician as smallpox. The patient was allowed to leave Great Falls when fully and extensively broken out, and was advised by the attending physician (so it was stated) to keep out of the way of physicians while on his trip, *for the eruption resembled smallpox,* and there was a possibility that he might be removed from the train and placed in a "pest-house" before he should reach his intended destination (precisely the thing that was done). In reply to an inquiry sent from Minnesota to Great Falls, Montana, relative to this disease which they were importing into this state, which we called smallpox, a very capable physician stated that an eruptive disease was prevailing at that point, over which the physicians were disputing. His own cases he was quarantining as smallpox without making a positive diagnosis. Other physicians, however, were said to be treating cases in the general hospital. He further

stated "if this is smallpox, then all of northern Montana is affected. It may be that the disease is modified in some way by the climate of this section." (Later developments point to the fact that this was undoubtedly smallpox of the type so common over the entire country since that date, and that some cause other than climate must be sought to account for its mildness.) Shortly after this letter was written, several deaths from smallpox occurred in and near Great Falls.

In January, 1900, smallpox was introduced into Duluth from Texas.

It is thus seen that into the one state, Minnesota, smallpox of mild type was introduced from three distinct points, Nebraska, the line of the Great Northern Railway, and Texas, within a period of one year, and it is quite probable that all three of these sources received their original infection from a common source, probably the Southern states, Florida or Alabama.

It should be noted that as early as 1895, there was a local outbreak embracing twenty-five cases of smallpox at Midway (a section of St. Paul), with but one death. The infection for this outbreak is said to have come from Green Bay, Wis. How the disease reached that point I do not know.

It is common to hear from people, who have not given the subject much study, the statement that the disease was brought home by the soldiers returning from the Philippines and from Cuba. This is not the fact. The disease was widely epidemic in Southern and Central states before a single soldier had been sent to either of these places. It was epidemic in many of the North-western states before a single soldier had returned from the Philippines. It is quite probable that the disease was imported from Cuba by Cuban refugees before hostilities had broken out between the United States and Spain.

It is amusing, although at the same time annoying, to note the names that have been substituted for this old-fashioned, well-described disease, smallpox. Among these are such pleasing suggestions as Cuban Itch, Manila Itch, Philippino Itch, Yaws, Pseudo-Smallpox, Modified Smallpox, etc., *ad nauseam*. With much reading I have failed to find any disease described under these first three attractive names. "Yaws" is the name of a disease that should no more readily be confused with smallpox than should syphilis. It is a disease not at all common in the United States and probably never seen by many of those who are using the term. To call it pseudo-smallpox is a dangerous practice, for it conveys the idea, as it is meant to by those who use the term, that the disease is not smallpox. The term "modified smallpox," may with propriety be used, so long as it is understood that by this is meant smallpox in modified form.

When we try to explain the reason for the present mild form of smallpox, we find before us a difficult task. We know that with all communicable diseases there are epidemics in which the severity of the disease differs greatly. There may be epidemics of typhoid fever in which the number of walking cases represent a large proportion of the whole, or on the other hand, in which the mortality is very great. There may be epidemics of scarlet fever of so mild a type as to almost pass without notice, or on the other hand, in which a very large percentage of the cases may die. The same may be true of measles. Why should it not also be true of smallpox? But there may be another reason for the mildness of the disease. Dr. J. Nevins Hyde, in an article written December, 1899, says: "The mildness of the present epidemic of smallpox can be accounted for rationally only on the basis of the very general practice during the last fifty years of vaccination of our people. Instead of being astounded at the result, we should greet it with a degree of satisfaction. It is the fruit of a century of progress." I must admit that this argument is a very plausible one. It certainly has been demonstrated time and time again during the present epidemic that vaccination does protect, and while there are many individuals at the present time who have never been vaccinated and yet do not have smallpox after an apparent exposure, these have great reason to be thankful for the protection conferred upon them by their ancestors.

Prior to 1798, smallpox was regarded as the king of diseases. It is said to have been the cause of one-tenth of all the deaths amongst human beings, while in addition to this, "many who outlived its ravages were disfigured, blind or invalided for the rest of their lives."

MacCauley says "Smallpox was always present, filling the churchyards with corpses, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to her lover." He further called smallpox "the most terrible of all the ministers of death."

Alexander McKenzie describes it in an unprotected community as "a fire consuming the dry grass in the field."

Europe, in the century preceding the discovery of vaccination, lost in deaths from small-pox alone fifty million of her population, or an average of five hundred thousand per annum. The mortality from smallpox at the present time in all civilized countries is as nothing compared with these pre-vaccination times. The mortality from smallpox in well-vaccinated countries is practically nil. To whom belongs the credit for this changed condition? To the immortal Jenner. And yet there are those who malign vaccination and the father of vaccination;

anti-vaccinationists, they are called. Shame upon them! How many of these erratics would wish to return to the pre-Jennerian era?

While it is absolutely proven that vaccination protects in the large majority of cases of smallpox; while it is altogether probable that at least in part the mildness of the present epidemic of smallpox must be due to an acquired immunity, transmitted by our well-vaccinated ancestors, it must be admitted that such transmitted immunity is not complete protection. In many instances that have come under my observation during the past two years, the first cases of smallpox that appear in a community have been of the mild type, but these have been followed by more severe, and in many instances, fatal cases. We cannot rest entirely upon the good done by our ancestors. We, too, must act and *vaccinate, vaccinate, vaccinate!*

Since this mild type of smallpox has become so widespread, I have tried to find some history of a previous similar epidemic and have failed. This is not surprising. In the pre-Jennerian era there were no immunizing influences at work. During the early years of the Jennerian era, vaccination became general in the British possessions, in America and in the various European countries. The inherited immunity has become quite well established. In consequence, we have the present type of the disease. But the mildness of the disease is not sufficient excuse for failing to recognize it.

The doubters and unbelievers have been telling us that these mild cases of smallpox are not described in our text-books. Let us see if what they say is true or whether the picture of the disease which they have in their own minds is blinding them to actual facts.

Sir Thomas Watson, in speaking of smallpox, says: "The discreet form is scarcely ever dangerous; the symptoms largely depend upon the amount of the eruption; the secondary fever is but slightly marked in the discreet form; sometimes there are not more than half a dozen pustules; sometimes there are many thousands."

Flint says: "Not every smallpox vesicle is umbilicated; in mild cases there may remain no permanent traces of the eruption; some of the pocks do not break, but harden and their contents are absorbed. It is probable that in these cases the corium is not involved in the suppuration, or that the vesicles are not converted into pustules. Some persons are wholly insusceptible (without vaccination); some have become susceptible after having been insusceptible for many years."

Osler says: "Whether pitting takes place depends a good deal upon the severity of the disease. In the majority of cases Sydenham's statement holds good that 'it is very rarely the case that the distinct (discreet) smallpox leaves its mark.'"

In Ziemssen's Cyclopædia it is stated by Curschmann that "the variations may present the most extreme limits from the severest and absolutely fatal, to the very lightest cases, in which but a few small pustules reveal the fact that we are dealing with a sick patient. None of these forms are sharply defined amidst the great group of variolous affections. Under various forms of this disease are described *Variolois verrucosa*, in which the eruption does not develop into large, well-formed pustules, but remains in the form of solid conical papules, which have a small vesicle at the summit containing fluid; and again—*Variolois miliaris*, yellowish vesicles the size of millet seed, which disappear by simply drying up."

Dr. Wm. M. Welch says (Loomis-Thompson's System of Practical Medicine, Vol. 1): "There may be only a few small pustules, scarcely definite enough to verify the disease. Discreet variola is attended by no great danger. It is well known that in some unprotected persons there is naturally but slight susceptibility to infection and the disease in this class is mild and of short duration."

In Albutt's Practice it is stated that from one to two per cent. of the unvaccinated are immune to smallpox. Some say one to five per cent. Modified smallpox occurs in well-vaccinated communities.

Moore, of Dublin (Twentieth Century Practice), says: "Many individuals have only this form of smallpox (mild) because of a naturally slight susceptibility to the contagion of the disease."

Hyde, in his recent article, says: "The most significant and startling contrast between modified and unmodified smallpox is exhibited when the patient, after reaching the stage described of complete development of pustules, suddenly ceases to betray any further significant symptoms of smallpox. The pustules dry rapidly into crusts which are thrown off and leave the skin either somewhat stained at the points where the crusts formed, or in nearly its normal condition."

Is there not meat in these quotations upon which the doubters may feed to good purpose? It is worthy of note that those who dispute the diagnosis of smallpox in these mild cases of the present epidemic are much fewer in number than a short time ago. He is a bold man who will place his opinion, when he is first called upon to see one of these mild cases, against that of those who have become thoroughly familiar with the disease and its eccentricities. Mistakes are excusable, but persistent opposition in the face of accumulated positive proofs is never excusable.

Much good was done at the recent meeting of the American Medical Association, when there was passed with but one dissenting vote, at a well-attended joint session of the Sections on the Practice of Medicine,

Hygiene and Sanitary Science, the following:—"Resolved, That the disease now prevailing extensively in the United States, and called in some instances 'pseudo-smallpox,' is genuine smallpox, and should be so treated with vaccination and quarantine."

At no time in the history of the world have the conditions been more favourable for the spread of smallpox in mild form than the present. Our facilities for travel tend to spread the disease. This is especially true in America, for we are a travelling people. Even the labourer migrates from state to state and from province to province with greater ease than people made journeys of fifty miles in the pre-Jennerian era.

It is impossible to give accurate statistics for an epidemic while it is still in progress. Suffice it then to say that a recent journal gave as the total number of cases of smallpox for the United States, since the beginning of the epidemic, as thirty thousand. I venture to say that if all cases in all the states had been reported, the total would exceed a hundred thousand.

I have told you when and how smallpox first appeared in Minnesota. Let me also quote from reports for a few other places. Smallpox existed in Florida, January, 1897; in Alabama, March, 1897: in Tennessee, April, 1897; in Georgia, October, 1897; in South Carolina, January, 1898; in North Carolina, January, 1898; in Kentucky, February, 1898; in Virginia, February, 1898; in District of Columbia, February, 1898; in Ohio, April, 1898: in Pennsylvania, April, 1898.

(One report says that the disease had existed for two years prior to 1897 among negroes in Alabama, unrecognized as such by physicians).

Infection for both Kentucky and Alabama is given as Cuba. The march northward is distinctly shown by the dates appearing one after another.

In 1898, New York state is said to have had three hundred cases, all traceable to one source of infection, a travelling show. In this number there was but one death.

The march westward seems to have been by way of Arkansas, for in January of 1898, a case is reported as occurring at Little Rock,—a negro woman from Birmingham, Alabama. Undoubtedly it was this infection that extended to Nebraska. Arkansas was also infected by way of Mexico. (Epidemic at Fair Oaks, March 1st, 1898, the first case coming from Mexico, February 7th, 1898).

It was quite possible for Texas to have had her infection from some one of the Southern states or from Mexico, and for the disease to have reached the Pacific shore of the United States from any of these sources.

In the Province of Quebec, from reports it would appear that there had been four epidemics since January, 1897,—the first July 5th, 1897,

to April 8th, 1898, with 26 cases and 14 deaths in Montreal, and 9 cases and 2 deaths outside of Montreal. The source of infection is not given in the reports, but it undoubtedly was not from the Southern states at this early date. This outbreak seems to have been of the old-fashioned severe type. The second, in districts outside of Montreal, between January 9th to April 1st, 1899. Fourteen cases are recorded, with one death. The infection is given as from a so-called chicken-pox case, but the source of the infection for this improperly diagnosed case does not seem to have been known. This outbreak represented the mild type of the disease, and was in all probability introduced by way of the States.

The third epidemic existed from November, 1899, to September 27th, 1900. Twenty cases were reported from Montreal, with seven deaths. Two hundred and ninety-seven cases were reported as occurring outside of Montreal, with but three deaths. The source of infection for this epidemic is given as New Bedford, Mass., Taunton, Mass., Bradford, Pa., and "a tramp."

The fourth outbreak is recorded from March 4th to May 27th, 1901, and seems to have been of the characteristic mild type prevailing throughout the United States, for there were reported three cases in Montreal, with no deaths, and two hundred and twenty-three cases outside of this city, with but two deaths. The sources of infection for this epidemic are given as Duluth, Michigan, Ontario, Wisconsin and Massachusetts.

There is a report in the *Journal of the American Medical Association* (August 10th, 1901, p. 396), of three hundred and thirty-seven cases in the Province of Quebec from January 1st to August 1st, 1901, with but one death. This seems to be a more recent record than that given for the four epidemics referred to in this Province, which is up to May 27th, 1901, only.

The Province of Ontario seems not to have been free from smallpox since January, 1898. The sources of infection given are from various parts of the States, as well as from certain points in the Province itself. The records that I quote for Ontario report five hundred and thirteen cases, with eighteen deaths (January 25th, 1898, to May 5th, 1901). The disease was apparently of the mild type prevailing in the United States.

I have no record for other provinces in Canada, but there certainly is no reason why those bordering on the North-western states should not have had many cases similar to those found in North Dakota, Montana, Wyoming and Washington.

There is quite a tendency to predict a more severe type of the disease to follow in the wake of this mild type. It would be strange indeed if

such a result did not follow. It is not safe, however, to make any such predictions for the near future. It is surprising that the disease should have already been present in the United States for a period of at least five years, with so little change in its character for the worse.

It may be well to again quote from the *Journal of the American Medical Association* (August 10th, 1901, p. 395), where the mortality from smallpox in New York state is given as seventy-four for the month of June, the highest mortality from smallpox for any one month in the history of the state. It would seem that New York is already showing evidence of a change in the type of the disease.

Finally, in closing, let me name the three cardinal points to be observed in suppressing smallpox: *Vaccination, Isolation* and *Disinfection.*

SCLEROTIC ENDOCARDITIS: AN UNDIAGNOSED HEART LESION.*

BY

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On November 16th, 1900, I brought before this Society a child who was suffering from some cardiac lesion, the nature of which it was difficult to determine, and the report of the case was published in the *Montreal Medical Journal* for January, 1901. After having had an opportunity of examining the child in the anteroom, several of the members present at that meeting expressed opinions regarding the nature of the case, the diagnoses suggested being aortic regurgitation, a congenital lesion of the heart causing stenosis of the pulmonary artery, and mediastino-pericarditis. The last of these agreed with my own opinion, which I based mainly upon an experience of a somewhat similar case, which eventually came to autopsy and exhibited this condition.

Briefly, the physical signs then present were: bulging of the chest wall corresponding to the outlines of the heart, a heaving, forcible cardiac impulse, a diastolic thrill felt at the second left interspace one inch from the sternum, great increase of the cardiac dulness to the left of the sternum and upwards, and a diastolic, loud, rough murmur over the site of the thrill and transmitted to the left only, with a very loud pulmonary second sound.

Since November, 1900, the patient has attended the out-patient department of the hospital occasionally, and the conditions above described did not vary very much from time to time. The force of the heart beat varied considerably at different times, and occasionally there was marked cyanosis, but unaccompanied by any physical signs in the lungs. The patient died on September 2nd, and the last examination was made on August 22nd, eleven days before death, when the following notes were made:—

Child now shows no cyanosis. The heart is slower than usual, the beats more forcible. The prominence of the præcordium is about as before. The impulse is heaving, the fourth interspace rising and the

* Read before the Montreal Medico-Chirurgical Society, Oct. 4, 1901.

third and fifth falling with each systole. There is a well-marked diastolic shock with a fine diastolic thrill felt over the first and second left interspaces and extending out to the left shoulder. Relative dulness reaches to the second rib above, absolute dulness extends from the second rib above and at the level of the fourth rib it extends from a point half an inch to the right of the sternum five and three-quarter inches to the left. At the apex both sounds are clear, but a diastolic murmur can be heard which proves to have its origin at the base. Over the pulmonary cartilage (2nd left) there is an extremely loud pulmonary second sound, followed by a loud, rough, diastolic murmur which can be heard all over the upper part of the front of the thorax, but has its maximum intensity here. It is transmitted most loudly to the left along the second interspace. The lungs are clear.

On September 2nd, during my absence from the city, the child's mother came to the hospital for a death certificate, stating that at 11.30 that morning the child had complained of feeling hungry and had eaten a plate of soup and some bread. At 3 p.m. she became very short of breath and much cyanosed, but did not lose consciousness. Attempts at relieving the condition were ineffectual, and she died at 3.30 p.m. To Dr. Walter Fiske, who was taking the clinic in my absence, I am indebted for the above notes of her death, and also for obtaining an autopsy on this very interesting case.

Dr. John McCrae, Resident Pathologist of the Montreal General Hospital, very kindly made a partial autopsy on the patient with the following report :—

"A partial autopsy was performed on V.H., female, aged 14 years. Precordial region bulging: on section, pericardium contained the usual small amount of clear fluid and presented no adhesions, nor other abnormalities. Heart large, weight 300 grammes; all valves appeared normal and post-mortem measurements indicate no changes of importance. Auricles are slightly dilated, right ventricle greatly dilated and hypertrophied, left ventricle less so, the whole heart presenting a reversal of the usual state. On casual observation the left ventricle would be called the right. The right ventricle shows intense mural sclerotic endocarditis, and many of the columnæ carneæ are almost completely fibrosed on microscopical examination. Coronaries small but healthy looking. The condition is evidently an extreme grade of sclerotic endocarditis which has failed to affect any valves."

I think it not unreasonable to conclude in spite of the apparent competency of the pulmonary valves post-mortem, that there was relative incompetence during life without any actual deformity of the valves.

The extreme hypertrophy and dilatation of the right ventricle with the diastolic murmur, the thrill, and the accentuated second sound are thereby adequately explained. The primary cause of the condition is, however, not at all evident, as there was no pulmonary lesion or congenital narrowing of the pulmonary vessels to account for any hypertrophy of the right side of the heart. The fact, too, that the increase in dulness was almost entirely to the left and above is not accounted for by the post-mortem findings. The sclerosis was not found to include the pulmonary artery and aorta in so far as they were examined.

THE DIAGNOSTIC VALUE OF HÆMOGLOBIN IN SYPHILIS (JUSTUS).*

BY

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The test for the presence of syphilis, which goes by the name of Justus, may be summed up as follows:—"Syphilis untreated produces a diminution in the hæmoglobin varying in extent according to severity of the disease. As the syphilis undergoes spontaneous involution the loss of hæmoglobin is gradually made up. A like diminution of hæmoglobin occurs after the administration of mercury, varying according to the amount of the drug employed. The hæmoglobin is restored sooner or later, and it may sink again after the repetition of the mercury. If treatment is continued it finally reaches a higher level than before the mercurial treatment was begun. When the hæmoglobin no longer diminishes, after repetition of the drug, the syphilitic manifestations remit. The diminution is a specific phenomenon, not being observed in the blood of healthy persons nor in other diseases. This reaction is observed in early secondary and all subsequent stages, disappearing when the signs of syphilis remit and reappearing during every relapse."

Assuming these statements to be correct, it appeared that here was a valuable method for setting at rest the doubts which often arise in the diagnosis of conditions supposed to be of syphilitic origin. Many men have a haunting fear that in early life they may have contracted the disease, and even surgeons are often puzzled to explain lesions of the liver, and alienists, aberrations in the nervous mechanism. It seemed to me then that this test, assuming again, I say, the correctness of the above statement, very closely touched upon the etiology of general paresis. We are convinced that syphilis is the

* Read before the Montreal Medico-Chirurgical Society, November 1, 1901.

etiological factor of prime importance in paresis. All authorities agree that it concerns from 70 to 90 per cent. of all cases, and many hold the view that the causal relation between them is absolute. Not that nervous conditions like paresis and locomotor ataxia have ever been regarded as other than post-syphilitic, yet Justus' insistence upon the efficacy of the test "in all subsequent stages of the disease" brings these conditions within his claim.

The original communication was made to the Third International Congress of Dermatology held in London, and is contained in the *British Journal of Dermatology* for February and March, 1897. The author is Dr. J. Justus, first assistant in the University Dermatological Clinic, St. Stephen's Hospital, Buda-Pest, and the investigation covered five years in Professor Schwimmer's hospital practice, during which 300 patients were examined.

An examination of the original reveals the following affirmations:—

(1) Syphilis, if untreated, has the power of producing a diminution of the hæmoglobin according to the severity of the attack.

(2) If a patient, the subject of syphilis, absorbs a fairly large quantity of mercury in one dose, the hæmoglobin will sink rapidly and considerably.

(3) This decrease will be restored sooner or later if treatment by mercury is continued: the hæmoglobin will ultimately reach a much higher level than that observed before the treatment.

(4) When the amount of hæmoglobin ceases to sink in repeating the drug the syphilitic manifestations will be observed to remit.

(5) This rapid sinking is a specific phenomenon not to be observed in healthy persons or in other diseases.

(6) The reaction may be observed as soon as the glands remote from the point of inoculation are affected, and in all subsequent stages of the disease. The reaction disappears whenever the signs of syphilis show remission, but will appear during every relapse of the malady.

These observations were made upon persons in the Hospital for the Insane at Verdun, and are here tabulated:—

No.	Percentage before mercury.	Percentage after mercury.	Previous history.	Present disease.
1	105.	105.	Syphilis.	General paresis.
2	100.	109.	"	" "
3	105.	100.	"	" "
4	95.	95.	Unknown.	" "
5	85.	85.	"	" "
6	85.	85.	"	" "
7	110.	110.	Syphilis probable.	
8	90.	95.	"	Sec. syphilis and melancholia.
9	85.	90.	No Syphilis.	Dementia.
10	90.	80.	"	"
11	95.	100.	Alcholism.	Delusional insanity.
12	100.	95.	Syphilis probable.	General paresis.

SUPRARENAL EXTRACT IN CARDIAC CONDITIONS.

BY

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These few notes are presented, not with any intention of giving a detailed study of the action of suprarenal extract in cardiac conditions, but merely in exemplification of its therapeutic value when other measures have failed.

Case I.—Miss O., aged 82 years. About ten years ago she had an attack of what was then diagnosed as rheumatic gout, and was accompanied by severe swelling of the hands and feet and considerable temperature. Previous to this she had for years suffered from gastric disturbance, but was otherwise healthy. About six years ago I saw her for some asthmatic and bronchial troubles, and, on examination, found marked arterial sclerosis with mitral insufficiency in a well compensated heart. Subsequently, slight indispositions occurred at intervals until a year ago last winter, when she had another attack of bronchitis. Being absent from the city, another physician was called in, and, although making a good recovery from this, cardiac incompetency soon supervened, as manifested in œdematous extremities. Cardiac tonics were employed and improvement gradually took place, and after a brief holiday in the country she was completely convalescent. Again in the autumn the lower extremities began to swell, and, notwithstanding the administration of cardiac tonics with more or less rest in bed, the swelling would not disappear.

I resumed charge of the case in January last, and then found on examination an enormously dilated and hypertrophied heart, apex three inches external to the nipple line in the sixth intercostal space, heart action weak and irregular, with a series of murmurs of which it was impossible to determine the exact rhythm. The principal lesion was mitral insufficiency with myocarditis and marked arteriosclerosis. She had been taking a pill consisting of digitalis, one grain, squills, one grain, and nitrate of potash, two grains, an excellent combination from which she at first derived great benefit, but which later on lost its effects. Successively, then, she ran the gauntlet of cardiac tonics, digitalis, strophanthus, sparteine, caffeine, in various combinations, and occasionally in conjunction with the vasomotor dilators, the nitrates and iodides.

Though the swelling would partially disappear, the slightest attempt at sitting up or rising would bring on a recurrence of it. The different tonics and particularly digitalis along with the gastric venous

* Read before the Montreal Medico-Chirurgical Society, November 1, 1901.

congestion had so upset her stomach that vomiting ensued, and for some days I despaired of the life of my patient. Suprarenal extract in three grain doses, three times daily after meals, was then administered, and I was gratified to find that from the first day improvement began, and continued with marvellous rapidity, so that in a couple of weeks she was able to move about the house, the swelling of the feet along with the stomach trouble having entirely disappeared.

She was soon able to resume her walks; her heart action became regular and settled down to between sixty and seventy, with a well marked murmur of mitral insufficiency. The tension of her pulse is now good, and she says that she is now better and able to do more than she has for three years. The dose varied from nine to eighteen grains per diem.

Case II.—Mr. B., aged 76 years. The patient has always lived a very regular life, and, with the exception of rheumatic pains, a very healthy one. A couple of years ago he began to suffer from severe pains at night in the right hip joint radiating to the knee. Apart from the discomfort and nocturnal suffering, his health continued good until about four months ago, when I was asked to see him because of beginning swelling in his feet. The hip joint trouble was apparently a rheumatoid arthritic one, and was attended with severe pain and crepitation on movement. The question arose in diagnosis as to whether this might not be malignant, and the attendant swelling in the feet an obstructive one due to metastases, although the absence of cachexia and the duration argued against it.

The heart action was regular and fairly strong without discernible enlargement and abnormal sounds. The first sound seemed a little weak, but apparently insufficiently so to account for the increasing œdema, which persisted day and night. Digitalis, strophanthus, caffeine, sparteine and strychnine in various combinations were successively exhibited without any improvement. The swelling continued to increase until it reached the abdomen.

About this time a surgeon was called in consultation, and was inclined to think with me that there must be some obstructive condition in the course of the inferior vena cava, inasmuch as after the administration of the above cardiac tonics there had been no improvement, and there did not seem to be sufficient cause there to account for the symptoms. As I had just had such brilliant results with suprarenal in my other case, I began its use with him. Improvement set in almost immediately, and continued without interruption until the entire disappearance of the œdema, about six weeks afterwards,

proving that the trouble was due to cardiac weakness, and not to obstructive conditions.

When examined a few days ago, there was absolutely no œdema present, and, apart from his rheumatic arthritic joint, which troubles him at night, he seems to feel perfectly well. In this case also, suprarenal proved a *dernier resort*, and more than justified my fondest expectations. In both cases all other forms of recognized heart tonics had been employed without benefit, and it was only in despair that suprarenal was resorted to. What is its nature, and how does it act; are the questions naturally asked.

The active principle is derived from the medulla of the gland. It is neither a proteid, a carbohydrate, nor a fat. It is insoluble in pure alcohol, ether, or chloroform, but soluble in water, dilute alcohol and dilute acids. It diffuses through vegetable parchment, and is a reducing agent.

Physiologically, removal of both glands in an animal is followed by extreme muscular weakness, loss of tone of the vascular system, loss of appetite, general prostration, and death in from 12 to 72 hours. Intravenous injection of the watery extract, according to Shaeffer and several other investigators, is followed by powerful tonic action in the whole muscular system, but especially in the muscles of the heart and blood-vascular system. On the skeletal muscles contraction in response to a single excitation of nerve is as ready as normal, but its action is greatly prolonged, the effect produced being similar to that of veratria.

On the heart and blood-vessels with the vagi intact, the effect is to slow the auricle and stop it while the ventricle continues to contract with independent rhythm. With vagi cut the effect is to increase powerfully the strength and rapidity of auricular and ventricular contractions, with the result of increased flow of blood and rise of blood pressure.

There is, with small doses taken by the mouth and by intravenous injection, a very marked increase of blood pressure and vascular tone with intact vagi; and this becomes enormously increased with the vagi cut. The contraction of the arteries is further exemplified by placing an organ such as kidney or spleen in a plethysmograph and oncometer. The diminution of its volume under suprarenal demonstrates arteriole contraction. This arterial rise of blood pressure is due to the action of the drug on the musculature of the arteries, as the same results are obtained if the brain and spinal cord are destroyed in the animal experimented upon. If a drop of one per cent. solution be placed on the mestentery of a frog, the arterial contrac-

ture is so strong as to prevent the circulation of the blood through the vessels affected. This, Oliver has also stated in his Croonian lectures. "In man the effect of taking suprarenal extract by the mouth is to produce a general diminution in the calibre of the arteries as measured by the arteriometer." We have ample justification, therefore, in using the drug in the cases cited, and I believe that in these same cases similar results could not have been obtained in any other way.

I have also used it in two cases of Graves' disease, and the results have been good in toning up the vascular system and relieving some of the marked distress, particularly the attendant diarrhœa and tachycardia. The treatment, however, has not been sufficiently long in evidence to be able to draw definite conclusions.

To sum up, I believe that in suprarenal extract we have the best remedy known for toning up the vascular system in old myocarditic conditions attended by a lowered blood pressure, with the least possible disturbance to digestive and other functions.

A CASE OF CONGENITAL ABSENCE OF THE UTERUS.*

BY

A. MACKENZIE FORBES, M.D.,

Assistant Demonstrator of Anatomy, McGill University, Montreal.

The pelvis presented to-night was procured in the dissecting room of the Medical Faculty of McGill University, and as obsolutely nothing abnormal was noticed about the cadaver from which it was taken until the dissection of this part was begun, the absence of the uterus was discovered at a time when it was impossible to complete those observations which would be of interest in this case.

The student dissectors of this part have stated that the cadaver was that of a fairly developed female of between the ages of twenty and thirty years. They also affirm that no abnormality was noticed of the external genitalia or of any other part.

The pelvis as now presented to you has been prepared for the Anatomical Museum of McGill University, and it is by the kindness of the Professor of Anatomy that I am able to present it to you to-night. It demonstrates a condition which, although on record, is certainly rare, namely, what is apparently a congenital absence of the broad ligaments and of the uterus and its appendages, in a subject of otherwise normal development.

The common cavity of the uterus and vagina is formed in embryonic life by a fusion of the Mullerian ducts, which become, later,

* Read before the Montreal Medico-Chirurgical Society, October 4, 1901.

divided and modified into the uterus and vagina. Why this further development or division has not occurred in this case, seems difficult to explain, no rudiment of the missing structures having been found; while it will be noticed that the vagina appears to be normal with the exception of its termination as a blind *cul de sac*.

MISSED ABORTION.*

BY

FRANK R. ENGLAND, M.D.

The specimen which I wish to bring before you speaks for itself. It is that of a three months ovum with its membranes still intact. The following is a brief history of the case:

Mrs. B., æt., 32 years, a healthy woman with a good personal and family history, the mother of three children, all of whom are living and well. Last menstrual period was November 20th. She consulted me on March the 2nd, complaining of backache and weakness. Digital examination per vaginam showed the cervix to be soft and the uterus somewhat enlarged. I told the patient that I thought she was pregnant, and prescribed a tonic. For the next five months I saw nothing of her, as she improved in health and strength, and was soon feeling particularly well. The amenorrhœa persisted, but no abdominal enlargement or other signs of pregnancy developed. On July 31st, more than eight months after the cessation of menstruation, she was seized with severe labour pains, accompanied with a bloody discharge. After four hours suffering a mass was expelled, which on examination was found to be an ovum of about three months with membranes unbroken. Very little blood was lost, and the patient made an uninterrupted recovery.

The points of greatest interest to me in the case are: First—that the uterus showed such toleration in retaining in its cavity a dead ovum for over five months without showing any symptoms denoting its presence; second—that the patient was so wretched during the first three months of gestation and improved in health so rapidly after the death of the embryo; third—that menstruation or other discharge did not appear till the ovum was expelled; fourth—that the case terminated so satisfactorily without interference.

* Exhibition of specimen with notes of the case presented at a meeting of the Montreal Médico-Chirurgical Society, Nov. 1st, 1901.

RETROSPECT
OF
CURRENT LITERATURE.

Medicine.

UNDER THE CHARGE OF JAMES STEWART.

Pneumonia.

NORRIS, G. W. "Croupous Pneumonia." *Amer. Jour. of Med. Sciences, June, 1901.*

From this statistical paper, embracing the results of 500 cases of pneumonia admitted to the Pennsylvania Hospital from May, 1897, to March, 1901, the following points of special interest have been selected. Doubtful cases, and those that died within twelve hours from the admission were excluded from the report.

From 1898 to 1901 there was a remarkable increase in the number of cases of pneumonia admitted, the figures being 78, 169, 171 (to March, 1901), an increase out of proportion to the city's growth. The mortality was 125, or 25 per cent. Seven cases developed pulmonary tuberculosis. Males attacked, 382, with a mortality of 30 per cent. Females attacked, 118, with a mortality of 20 per cent. With regard to nationality, there were native Americans, white, 173; negroes, 59. Among those of foreign birth the Italians were the most numerous, 128. (A similar prevalence has been observed on a smaller scale among the Italians in Montreal.) Natives of England figure as the smallest item of the list, 14. The mortality was highest among the Germans, 53 per cent., and lowest among the Russians (chiefly Jews), 13 per cent. The high mortality of the Irish and Germans, who are for the most part hardy, as compared with that of the Russian Jews, is accounted for by the greater temperance of the latter in the use of alcoholic stimulants. Out of 34 individuals known to have been drunkards 23 died, or 67 per cent.

Prevalence in respect to age.—The maximum was between the ages of 20 and 30, 136 cases. The period of least fatality, between 10 and 20, 9.9 per cent., that of highest fatality (excepting in a single case over 80) between 60 and 70, 77 per cent. The mortality was highest amongst teamsters, 50 per cent., lowest among school children, 8.2 per cent.

Site of lesion.—Right lower lobe, 145 cases; mortality, 18 per cent. Left lower lobe, 115 cases; mortality, 13 per cent. The highest mor-

tality was when the disease affected both bases or both apices, respectively 48 and 50 per cent. Apical pneumonias were most frequent from one to ten years of age, and next from twenty to thirty.

Complications vastly increased the mortality percentages; uncomplicated cases, 355, with a mortality of 10 per cent; complicated cases, 145, with a mortality of 40 per cent. High temperature did not appear to affect the mortality unfavorably (except in one case of hyperpyrexia 108°F.), the highest figure, 40 per cent., occurring in a series of 30 cases whose maximum temperature was only 101°. A chart shows the increased prevalence of pneumonia in midwinter and in spring (January, April and, May).

An initial chill was noted in exactly 50 per cent. Termination by crisis occurred in 301 cases, especially frequent from the sixth to the tenth days of the illness (respectively, 34, 43, 58, 42, and 30 cases). Termination by lysis occurred in 74 cases. Four cases died after a crisis had taken place (a most unusual occurrence). The lowest subnormal temperature after a crisis was 95.2°F. A pseudo-crisis was observed in 54 cases, most frequently on the sixth and seventh days. The mortality in cases with a pseudo-crisis was only 9.2 per cent.

Prior attacks of pneumonia had occurred in 57; the mortality in these was 10 per cent. Albumin and casts were present in 245, albumin alone in 78. In the fatal cases albumin and casts 88, albumin alone 8.

The four most common complications were in order:—Jaundice, 18—11 deaths; delirium tremens, 17—12 deaths; typhoid fever, 15—7 deaths; pleural effusion, 12—1 death. Nephritis (acute) figures for only six cases, with three deaths, and empyema for six, with one death. There are no cases of abscess, and only four of pericarditis. Meningitis occurred four times with only one death (!). Endocarditis, 6 times, with 4 deaths (although of the malignant type).

Observation of the condition of the pupils in 64 cases showed that in this series of cases inequality of pupils was rare; in 33 apical pneumonias it occurred in only 2 cases, myosis in one case, mydriasis in the other, on the affected side. The phenomenon, when it occurs, is due to irritation of the inferior cervical ganglion, and to this are due also unilateral flushing and pallor.

Abnormalities of onset.—With acute delirium (1), epistaxis (1), pain in the ear (2), severe abdominal pain simulating appendicitis (2). Relapse occurred in 3 cases, in one, two days after a seventh day crisis.

The treatment was expectant and symptomatic. Venesection in sthenic cases to overcome cyanosis or marked dyspnœa proved of great benefit (no statistics of recoveries). Wet and dry cups, and the ice

bag were used to relieve pleuritic pain. Usually a mercurial laxative was given at the onset, and opium was used freely to allay erethism, pain, excessive cough, and to procure sleep. Ammonium carbonate was employed when bronchitis was marked, and the sputum very tenacious. Hyperpyrexia was occasionally combatted by sponging, more frequently left untreated. When stimulation was indicated, strychnine, whiskey, spirits of ammonia, nitroglycerine, camphorated oil, caffeine, or digitalis were ordered. Oxygen inhalations were apparently the means of tiding a number of cases over the critical period. Transfusion in connection with bleeding was occasionally resorted to where toxæmia was great.

The conclusion is that much may be done to alleviate suffering, and we have learned, at least, what not to do while awaiting future developments in the direction of prophylaxis and serum therapy.

A New and Early Sign of Pneumonia in Children.

WEILL. "Sur un nouveau signe précose de la pneumonie infantile." *Gaz. des Hôpitaux, No. 72, 1901.*

In infantile pneumonia a sign occurs early in almost every case. It is a defect of expansion in the infraclavicular region of the affected side. Weill has looked for this sign in respiratory affections of all kinds, and has found it exclusively present in pneumonia. In pleurisy and pneumothorax expansion may be deficient on the affected side, but it involves the base or the whole side of the chest if the effusion be considerable. On the contrary, in pneumonia the seat of deficient expansion is limited to the infraclavicular region, and even when the pneumonic consolidation is at the base of the lung. This sign appears during the first days of the illness and often outlasts the febrile period of the illness. Its value lies in its early appearance, for it often happens that the physical signs are absent up to the fifth, sixth or seventh days in the form of the disease called by Weill, "centrifugal pneumonia," and, moreover, one knows that in pneumonia in children the onset may suggest a variety of diseases. The author has been enabled by this sign to recognize immediately the pneumonic nature of attacks that had been called appendicitis, meningitis, typhoid fever, and influenza.

To detect this sign all that is necessary is to place the patient in the dorsal position, and to wait until the deficient infraclavicular expansion will be observed. One must not mistake the upward lift of the clavicle for expansion. By placing the palmar surface of the fingers alternately on the two sides, one can perceive that on the healthy side the fingers are lifted by a wave, while on the affected side the hand is simply drawn upwards by the movement of the chest wall.

H. A. Lafleur.

Surgery.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

Exclusively Rectal Feeding in Acute Appendicitis.

OCHSNER (Chicago). "Ueber Verwendung ausschliesslicher Rektalernährung in akuten Appendicitisfällen." *Berliner klin. Wochenschrift, 1900, No. 39.*

Ochsner claims that the safety of a patient during the onset and development of appendical inflammation depends upon the formation of localising, limiting adhesions of the omentum and knuckles of small intestine around the appendix. He also states that this protective process is favoured by rest, and that food given by the mouth, even in small quantities, gives rise to the formation of more or less gas and stimulates peristalsis, which is incompatible with the repose of the bowels so much desired. He would therefore administer food by the bowel only until the acute symptoms have passed. He advocates operation early, during the first two days if thought necessary, emphasizing the importance of operating before the development of such conditions that make necessary the employment of a drainage tube.

Statistics of Mammary Carcinoma.

GULEKE. "Beitrag zur Statistik des Mamma-Carcinoma." *Archiv. f. klinische Chirurgie, Bd. 64, Hf. 3, 1901.*

Guleke, a candidate in medicine, presents the statistics of 884 cases of cancer of the breast as a thesis, and very creditable indeed is his work. These cases presented themselves at von Bergmann's clinic in Berlin between Oct. 1, 1882 and Dec. 31, 1899. The thesis represents a lot of careful reading and arranging of cases in groups, and the comparison of results obtained on each point with those previously published by various writers. Some of the conclusions are interesting.

In discussing the etiology the author is very guarded and wisely abstains from the expression of any very decided views. He, however, finds that two-thirds of the cases occur between the ages of 41 and 60, and that about 90 per cent. of the patients have borne children. In only 7.3 per cent. of the 884 cases does trauma appear as as a probable cause. Many physicians will think this altogether out of harmony with their own experience. On the other hand, definite statements as to heredity are made in 127 cases, in 21 of which, or 16.5 per cent., there was a history of cancer in some relative, more frequently the

father or mother. The two breasts are involved with almost equal frequency.

Gulcke's findings as to the course of the disease are as follows:—Adhesion of the breast to the overlying skin occurs 12.15 months after the beginning of the dicase; infiltration of the axillary glands in 11.8 months; adhesion to the pectoral fascia in 13.9, and ulceration in 16.45 months. Metastases occur most frequently in the liver, then, in order of frequency, in the other breast, the lungs, pleura, stomach, vertebræ and sternum. These latter results are about what one would expect.

The percentage of cured, that is, living and free from evidence of recurrence after three years, is 28.79 per cent. This is certainly low.

The Appendix Vermiformis.

JAFFÉ, in Posen. "Zur Extirpation des Wurmfortsatzes im Freien Intervall." *Centralblatt f. Chirurgie, No. 31, 1901.*

SUDSUKI. "Beiträge zur normalen und pathologischen Anatomie des Wurmfortsatzes." *Ibid., No. 39, 1901.*

The Germans are becoming much interested in appendicitis; their journals make frequent mention of the subject, and they are studying it in their usual thorough and systematic manner. While it is true that they are doing good work in this field, it is also true that some writers have dealt with anatomical characteristics and pathological conditions familiar to all American and Canadian surgeons.

Some of the methods are very radical. Jaffé recommends, for instance, in cases of long-standing fæcal fistulæ the removal of a portion of the cæcum and the performance of an entero-anastomosis. In one case in which he did this the result was a fatal peritonitis. He had two successful cases of resection of cæcum, and Dr. E. Martin of Köln reports another in the *Centralblatt für Chirurgie*, No. 39, 1901.

Suduski gives the results of the examination of 500 appendices in the Pathological Institute in Friedrichstein, Berlin, which did not show gross changes. He found the average length to be 8.6 cm. and the circumference 1.7 cm. Only in one-third of the cases was the valve over the mouth of the appendix present, and when found did not seem to prevent fæces from entering the lumen. Fæces were found in about half the cases although fæcal concretions were only seen four times. These concretions are often found in cases of perforation of the appendix and appear to be a cause of the perforation.

In one-third of the cases the direction of the appendix was downwards and often reached the border of the true pelvis. In the other cases it lay horizontally or directed upwards. In 22.6 per cent. of the cases the lumen of the appendix was totally or partially obliterated. In

elderly people over 70 years of age the lumen of the appendix was more or less obliterated. This is regarded as a result of a process of involution and not of inflammation. The process generally begins at the apex and sometimes at the cæcal end, when the lumen beyond may be dilated and filled with mucus. The epithelial lining atrophied, but the lymphatics persisted for a long time.

Treatment of Hydrocele and Varicocele.

LONGUET. "Transposition of the Testicle in the Treatment of Hydrocele and Varicocele." *Le Progrès Médical, Sept. 21, 1901.*

Longuet, in an illustrated article, advocates a procedure which he has carried out in a number of cases for the cure of hydrocele and varicocele. He emphasizes three steps in the operation:—

(1) Incision of the sac and the pressing forward through the incision of the testicle.

(2) The folding of the sac into a cord, and the insertion of retaining satures.

(3) The placing of the testicle outside of the serous membrane and suturing of the skin.

He does not remove any portion of the tunica vaginalis, thereby lessening hæmorrhage. The method, he claims, is applicable to cases of hydrocele and hæmatocele, to varicocele, and to the replacement of ectopic testicles. The illustrations are indistinct and only imperfectly illustrate the points it is desired to make clear.

Treatment of Renal Tension by Surgical Means.

HARRISON. "Renal Tension and its Treatment by Surgical Means." *British Med. Jour., Oct. 19, 1901.*

It would seem that the aggressive surgeon is about to invade another field hitherto occupied by the physicians exclusively. At the last meeting of the British Medical Association, Mr. Reginald Harrison opened the discussion on the surgical treatment of renal tension, and gave the clinical history of cases in which incision of the kidney capsule and subsequent drainage was carried out with apparent benefit. He compares the relief to the kidney tension after incision of the capsule to that obtained by the performance of iridectomy in glaucoma.

Harrison thinks incision of the kidney capsule indicated in cases of acute nephritis following scarlatina or exposure to cold, or resulting from traumatism, in which the disease, as indicated by the continued presence of fever, pain, albuminuria and hæmaturia beyond the period when convalescence might be reasonably supposed to be established. In other words, cases which are tending rather to chronicity rather than to cure.

He also recommends the treatment by incision in the malignant type of constitutional nephritis. Cases in which "the kidneys appear to be at once overwhelmed in the pathological changes that supervene, suppression of urine occurs, and death rapidly follows from uræmia, with coma and convulsions. After death under these circumstances it is usual to find the kidney intensely congested, the capsule tense and shiny and overfilled with blood."

However capable of gradual distension the capsule of the kidney may be, there is no doubt that it is very intolerant of any sudden increase of internal tension, and experience gained in operating on that organ teaches that in certain conditions of congestion the capsule is so tightly stretched and its substance exposed to such pressure, as quite to explain any interference with its function.

Marked disturbance of the heart and circulatory apparatus arising in the course of renal disorders is another indication for surgical interference.

Most marked improvement certainly followed operations in several of Mr. Harrison's cases. He leaves in the drainage tube, which is carried down to the line of incision, for several days, and sometimes for weeks.

Resection of the Bowel in Strangulated Hernia.

VIDAL. "Huit cas de résection étendue de l'intesin pour sphacèle herniaire". *Archives Provinciales de Chirurgie, Septembre, 1901.*

Vidal reports eight cases of resection of gangrenous bowel resulting from strangulated herniæ with only one death. In the fatal case, there was advanced renal insufficiency. The author considers that resection gives better chances of immediate recovery than does the formation of an artificial anus, to say nothing of the avoidance of the unpleasant sequelæ. His results would certainly seem to sustain his opinion. He finds that gangrene may appear in strangulated herniæ in from 16 hours to 4 days. Strong opposition is made against forcible attempts to reduce by taxis after ten hours of strangulation. It is admitted that this rude may lead to operation in some cases in which taxis would have proved successful, but it is claimed, on the other hand, that the returning into the abdomen of sac contents, which are septic, is avoided.

Vidal claims to have proved experimentally that there is in the mucus of the normal intestine a secretion which is antitoxic to stercoral poisons. He has extracted this antitoxin and injected it into some of his cases. He uses it in conjunction with saline solution, and believes that if injected in sufficient quantities it neutralises the action of the stercoral poisons in the kidneys and heart, and enables them to resume their functions.

G. E. Armstrong.

Obstetrics.

UNDER THE CHARGE OF WILLIAM GARDNER.

Puerperal Eclampsia.

GROVES, ERNEST W. HEY. "The Pathology and Treatment of Puerperal Eclampsia with Special Reference to the use of Saline Transfusion (with notes of two cases.) *Trans. of Obstet. Society of London Part II., Vol. XLIII.*

The author reports the following interesting cases:—

Case I.—Primipara, aged 23, easy labour in advance of medical attendance, immediately followed by convulsions and coma which increased in severity for twelve hours in spite of morphine and pilocarpine. Injection of 100 ounces of normal saline solution at a temperature of 100°F. introduced by means of canula in the median basilic vein. Transfusion occupied forty minutes. Marked improvement immediately followed; fits ceased in three hours; coma passed off, and diuresis occurred in thirteen hours. Subsequent progress uninterrupted.

Case II.—Secundipara, aged 21; labor at full term ushered in by convulsions coma and anuria. Twenty-six fits of extreme violence between 2 a.m. and 4 p.m. Transfusion of 70 ounces of normal saline solution into median basilic vein. Labour concluded an hour and a half later. Frequency and violence of fits lessened after transfusion. Steady improvement; diuresis established within forty-eight hours.

Forty-five cases, chiefly those of Porock, Bernheim and Jardine are tabulated, showing a mortality of 12.7 per cent. with transfusion treatment. Evidence of the toxic nature of puerperal convulsions is then considered. He believes that the most constant and characteristic lesions associated with eclampsia are those found in the liver, which are *par excellence* those of acute toxæmia. The great prominence of tissue necrosis, associated with capillary thrombosis and hæmorrhagic infarcts in the brain and kidneys as well as the liver, also indicates the toxic nature of the disease. Closely related to this tissue necrosis is the greatly increased coagulability of the blood, which has been observed both ante and post mortem. He thus considers that eclampsia is due to the toxic condition of the blood, which first increases its coagulability, and then causes it to form multiple thromboses in the various organs. While the nature of the toxine is uncertain it is pro-

bably related to the bases, and is derived from the placenta, the fœtus, and from the alimentary canal. The presence of the toxines in the blood produces the pre-eclamptic symptoms; the actual convulsions and coma result when these toxines cause the coagulation of the blood and the multiple capillary thrombi.

He suggests that the therapeutic action of the saline solution is probably due to its hindering the formation of thrombi and dissolving those already formed. The fact that diuresis does not take place until some time after the convulsions have ceased, indicates that the saline solution does not act primarily as a diuretic. He notes as bearing out this theory that cases have been recorded in which gelatine injections have caused symptoms of anuria and uræmia with multiple thrombosis.

Fibroid Tumours Complicating Pregnancy.

DONALD ARCHIBALD. "Fibroid Tumours Complicating Pregnancy and Labour. *Trans. Obstet. Soc. of London, Part III., Vol. XLIII.*

The writer discusses the risks which are involved by the existence of fibroid tumours of the uterus during pregnancy and labour, and comes to the conclusion that in the majority of instances neither pregnancy nor labour is seriously influenced by these tumours, but that in a small proportion of cases the danger to mother and child is greatly increased.

The risks during pregnancy he sums up as follows:—(1) Rapid increase in the size of the tumour, causing severe pain or distress; (2) incarceration of the tumour in the pelvis; (3) serious pressure on the bladder; (4) degeneration of the tumour through diminished nutrition; (5) excessive rotation of the pregnant uterus; (6) abortion or premature labour as the result of pressure or of submucous development of the fibroid.

Abortion or labour may be complicated by (1) obstruction of the maternal passages, (2) malpresentations, (3) retention of the placenta or membranes, (4) extrusion of the tumour during labour.

The presence of a uterine fibroid during the puerperium renders septic infection more likely.

With regard to the treatment, the writer is of the opinion that it is better to leave matters alone until term, when the treatment in each case must be settled by a careful examination under an anæsthetic if necessary. If delivery by the natural passages involves the employment of much force, Cæsarean section is to be preferred.

The treatment in the earlier months when interference is necessary involves the choice of one of three methods:—(1) induction of abortion;

(2) hysterectomy, or (3) myomectomy. The author considers that induction of abortion should be abandoned on account of the risks involved. In these cases the growth is generally so situated as to block the pelvis, so that the cervix is difficult to reach, and the uterine cavity is twisted and deflected. There is thus great difficulty in thoroughly emptying the uterine cavity; hence the danger of severe hæmorrhage at the time of operation and the risk of subsequent septic infection.

The writer advocates a preliminary myomectomy whenever it is possible, should interference in the earlier months of pregnancy be required, as by this method the life of the child may be saved. In all classes of subperitoneal pedunculated fibroids the tumour ought to be removed during pregnancy. When the tumour is more sessile and operation is required during the earlier months, it is best to enucleate the tumur and stitch up the gap in the uterine wall. If, however, the raw surface is too extensive as if it is close to the uterine cavity or if the hæmorrhage is difficult to control, the operation ought to be terminated by hysterectomy.

Notes of three cases of abdominal hysterectomy for rapidly growing fibroids in the early months of pregnancy are then given. One case of myomectomy is also reported where the tumour occupied the anterior wall and fundus of the uterus. The operation was performed in the thirteenth week of pregnancy and no signs of abortion followed, the patient going to term successfully.

Value of Hegar's Sign.

Le Conte, Robert G. "The value of Hegar's Sign in Differentiating Pregnancy from Uterine Myoma." *Amer. Jour. of Obstetrics, July, 1901.*

After pointing out that softening of the vaginal portion of the cervix cannot be relied upon for differential diagnosis between early pregnancy and myoma, especially when the latter is rapidly growing, the writer gives a review of the literature on this subject. The conclusion reached thus is that authorities differ on the value of Hegar's sign as a diagnostic symptom.

He states that he has been unable to find reported a case of myoma of the uterus resembling in appearance, size, and consistency a condition of pregnancy. In each case compressibility of the lower uterine segment (Hegar's sign) was absent, so the operation was proceeded with, and in none was pregnancy found to exist. He, therefore, suggests that the presence or absence of Hegar's sign is a valuable factor in the differential diagnosis.

Prophylactic Value of the Tub Bath before Labour.

STROGANOFF, W. "Can Tub Baths be Considered the best Mode of Cleansing the Bodies of Parturients"? *Cent. f. Gyn., No. 6, page 145, 1901.*

Stroganoff shows that the dirt and bacteria from previous bathers in the tub, from the woman's own body, and from excrement removed from the anal region, are transferred to the nipple in diluted form and may enter the vagina. He has proved the entrance of the bath water into the vagina of the bather by causing a woman to bathe in a solution of potassium iodide, and then removing and examining the contents of the vaginal fornix. He considers that staphylococci and streptococci may be carried in the same way if the person has ulcers on any part of the body.

He advises washing with soap while the woman stands under a stream of running water. Since he has adopted this method in his maternity service the morbidity has been reduced 7½ per cent.

STICHER. "Preparatory Bath of Parturients a Source of Infection." *Central f. Gyn. No. 9, page 217, 1901.*

The writer has demonstrated that bacteria may gain entrance to the vagina during the preparatory bath. He placed in the bath water a quantity of bacilli which are ordinarily not met with in the vaginal secretion, the bacillus prodigiosus. He succeeded in demonstrating in primiparæ as well as in multiparæ, the presence of the bacillus in question in the vaginal secretion after the bath.

Treatment of Laceration of the Puerperal Uterus.

CRISTEANU, CORNELIUS. "The Treatment of Complete Uterine Lacerations by Total Abdominal Hysterectomy. Report of three cases." *Annales de Gyn. et d'Obstet, April, 1901.*

The writer reports three cases of complete laceration in which he performed total hysterectomy successfully by the abdominal route.

He totally disagrees with the conclusions reached by Herbert Spencer in a recent paper read before the Obstetrical Society of London, which were:—(1) that opening of the abdomen was rarely indicated; (2) that abdominal hysterectomy is rarely indicated, the vaginal route being preferable when the tissues are lax and lacerated; (3) in partial lacerations tamponade with extraction of all clots by douching.

Cristeanu concludes that in ruptures penetrating the uterus there is an absolute indication for laparotomy, and the extraction of the fœtus by the abdominal route when it has escaped into the peritoneal cavity, after which the patient should be placed in the Trendelenburg position,

and total hysterectomy performed. He prefers to close the abdominal wound in two stages and to drain through the vagina. Saline injections should be given before, during, and after the operation.

BRINDEAU, M.A. "Two cases of Subperitoneal Laceration of the Lower Uterine Segment. *Bull. de la Soc. d'Obstet. de Paris, No. 3, 1901.*

The writer reports two cases of partial rupture of the lower uterine segment subsequent to the operation of version on account of transverse presentation. The condition in each case was suspected from the symptoms, severe hæmorrhage, and collapse, and diagnosed by internal examination. The rent in each case was packed with sterilized gauze which was replaced in twenty-four hours.

Septic symptoms developed in both cases, but by securing good drainage and by regular douching the patients recovered and left the hospital within thirty days.

D. J. Evans.

Reviews and Notices of Books.

SAUNDERS' MEDICAL HAND ATLASES. ATLAS AND EPITOME OF LABOUR AND OPERATIVE OBSTETRICS. By DR. O. SHAEFFER. of Heidelberg. From the fifth revised German Edition. Edited by J. CLIFTON EDGAR, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 14 lithographic plates in colours and 139 other illustrations. Philadelphia and London, W. B. Saunders & Co. 1901. Canadian Agents, J. A. Carveth & Co., Toronto. Price, $2.00.

That this work is extremely popular in Germany is evidenced by the fact that this book is translated from the fifth German edition. The editor of the English translation has retained the classification of presentations, positions, and obstetric operations as in the original.

The book is a consideration of the act of parturition from the standpoint of a practical obstetrician. The subject is divided into two sections, the first being a consideration of the various presentations and conditions of the fœtus, while the second deals with obstetric operations.

The work is essentially an atlas, but the text constitutes a condensed outline of the subject. The photos and figures are wonderfully good in most instances and very true to nature. As exceptions to this rule may be instanced plates 15 to 18, which give a quite erroneous idea of the matter of separation of the placenta. Plate 12 shows how the placenta should *not* be separated, as the operator's hand is pictured as within the sac of the membranes.

The work is German in its attention to detail and in its thoroughness. It should prove of great value to the student as an aid to his study of text books on the subject.

SAUNDERS' MEDICAL HAND-ATLASES—ATLAS AND EPITOME OF OBSTETRICAL DIAGNOSIS AND TREATMENT. By DR. O. SHÆFFER, of Heidelberg. From the second revised German Edition. Edited by J. CLIFTON EDGAR, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 122 coloured figures on 56 plates, and 38 other illustrations. Philadelphia and London, W. B. Saunders & Co. 1901. Canadian Agents, J. A. Carveth & Co., Toronto. Price, $3.00.

This book is in fact a small text-book of obstetrics with a profusion

of illustrations and diagrams of exceptional value, and is to be recommended as a work of reference. The author states in his preface that he has been guided chiefly by the demands of the practical and clinical side of obstetrics in the preparation of this work. All scientific explanations and data are printed in different type from the ordinary text.

Part I. deals with the physiology and dietetics of pregnancy, labour, and the puerperium. Part II. is a consideration of the pathology and treatment of pregnancy, labour and the puerperium. The plates and figures, as in the case of the previous book by the same author, leave nothing to be desired.

One notes that in the expectant treatment of abortion the author advises vaginal bougies of opium and the application of cold compresses to the abdomen when hæmorrhage is profuse. In the treatment of putrid abortion cases he recommends vaporization of the uterus, but qualifies his remarks with the statement that "this treatment should only be performed by a practised hand."

The chapter on "Deformed Pelves" is excellent, perhaps the best in the book.

Those two works taken together form an original and highly interesting consideration of the subject of obstetrics and are to be highly commended as valuable contributions to the literature of the subject.

The books are handsomely bound in green cloth and are of convenient size, the publishers having done their part to make the works highly acceptable. *D. J. E.*

A Treatise on Mental Diseases. Based upon the Lecture Course at the Johns Hopkins University, 1899, and designed for the use of Practitioners and Students of Medicine. By Henry J. Berkley, M.D., Clinical Professor of Psychiatry. New York, D. Appleton & Co. 1900.

This work is one covering, in a very full and complete manner, the leading features of the different varieties of mental disease. It is one especially adapted to the needs of the practitioner. The first part, extending over 40 pages, is devoted to a very lucid description of the anatomy of the cerebrum, a subject that the author, from his well-known researches, is well qualified to deal with. The second part of the volume deals with the general pathology of the different types of insanity. The third part, after a general introduction on the causes, symptoms and general therapeutics, takes up the special forms of insanity. A special chapter is reserved for the psychoses of childhood.

The work is one thoroughly up to the most recent investigations, and

presents the whole subject of insanity in a way that no other work in the English language does.

The illustrations are very numerous and of a high-class order. The publishers have done their work in their usual finished style.

ATLAS OF THE NERVOUS SYSTEM, Including an Epitome of the Anatomy, Pathology and Treatment. By DR. C. JAKOB, of Erlangen. Translation from the second German edition. Edited by E. D. FISHER, M.D., New York. With 83 plates. Philadelphia and London, W. B. Saunders & Co. 1901. Canadian Agents, J. A. Carveth & Co., Toronto. Price, $3.50.

The beautiful plates in this volume cover practically all the more important parts of the central and peripheral nervous system. The text, although short, is sufficiently clear and definite to enable the reader to obtain a clear insight into the normal and pathological histology of the nervous system. The work, considering the numerous coloured illustrations, is wonderfully cheap, and will well repay the outlay.

NERVOUS AND MENTAL DISEASES. By ARCHIBALD CHURCH, M.D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and FREDERICK PETERSON, M.D., Chief of Clinic, Department of Nervous and Mental Diseases, and Clinical Lecturer on Psychiatry, College of Physicians and Surgeons, New York. Third Edition, revised and enlarged. Handsome octavo volume of 870 pages, with 322 illustrations. Philadelphia and London: W. B. Saunders & Co. 1901. Cloth, $5.00 net. Toronto: J. A. Carveth & Co.

This work has met with a most favorable reception from the profession at large, two editions having been exhausted in as many years. It fills a distinct want in medical literature, and is unique in that it furnishes in one volume practical treatises on the two great subjects of Neurology and Psychiatry.

In this edition the book has been thoroughly revised in every part, both by additions to the subject matter and by rearrangement wherever necessary, to make it more acceptable to the practitioner and the student. Several sections have been entirely rewritten, and there have been added a number of new illustrations, an increased amount of tabular matter, and a series of diagrams that have proved of assistance in the solution of diagnostic problems.

We reviewed at length the first edition which appeared only two

years ago, very favourably. The marked success of the work is a sufficient guarantee of its usefulness.

MEDICAL ELECTRICITY: A Practical Handbook for Students and Practitioners. By H. LEWIS JONES, M.A., M.D., Medical Officer in charge of the Electrical Department in St. Bartholomew's Hospital. With illustrations. London, H. K. Lewis, 136 Gower Street.

This work is the third edition of "Medical Electricity," by Drs. Steavenson and Jones. The subject is brought up to date, including a useful chapter on the utilization of current from the mains for medical and surgical purposes. The X-rays are referred to in a chapter, which gives one the essentials for the understanding of this subject. Static electricity is treated more fully than in previous editions. Altogether, the third edition is an improvement on a useful work. It is well illustrated and printed.

ATLAS AND EPITOME OF SPECIAL PATHOLOGIC HISTOLOGY. By Docent DR. HERMANN DURCK, of the Pathologic Institute of Munich. Edited by LUDVIG HEKTOEN, M.D., Professor of Pathology in Rush Medical College, Chicago. Vol. II. Philadelphia and London, W. B. Saunders & Co., 1901. Cloth, $3.00 net. Canadian Agents, J. A. Carveth & Co., Toronto, Ont.

We have already expressed our appreciation of the first volume of this work, published now some months ago, and this second part is fully up to the first in every respect, both in the precise, clear descriptions, and in the illustrations, which are the main features of this as of other volumes of this series of hand atlases. These illustrations are, with a few exceptions, worthy of the highest praise and render the work of peculiar value for reference. As in the previous volume, Professor Hektoen has added some most valuable notes which are incorporated in the text.

A LABORATORY COURSE IN BACTERIOLOGY. For the use of Medical, Agricultural, and Industrial Students. By FREDERIC P. GORHAM, A.M., Professor of Biology, Brown University; Bacteriologist to the Health Department, Providence, R.I. Philadelphia and London, W. B. Saunders & Co., 1901. Cloth, $1.25 net. Canadian Agents, J. A. Carveth & Co., Toronto, Ont.

Mr. Gorham, Bacteriologist to the Health Department of Rhode Island, has here published a most valuable little book upon bacteriological methods, valuable especially in that it places clearly and precisely before the student the methods which nowadays are recognized as being the most exact. He has for teaching purposes incorporated very

largely the Recommendations of the Committee of Bacteriologists of the American Public Health Association, with such modifications as have been proposed by Hills, Chester and others, to insure yet more perfect preparation of various standard media, and appears further, from a rapid review of the work, to have recommended those methods of staining and preparation of various pathogenic micro-organisms which are now recognized as being most satisfactory. We note especially that he follows Migula in his classification of bacteria, and Chester in his method of classification of bacteria by groups. Altogether, the work is well produced, and well up-to-date. We doubt, however, whether he is right in describing it as a laboratory course in bacteriology, for the arrangement is not such as permits easily the regular progressive study of bacteriology; rather it is a handbook for the laboratory worker in bacteriology, and as such is to be recommended.

PRINCIPLES OF SURGERY. By N. SENN, M.D., PH.D., LL.D., Professor of Surgery Rush Medical College, Chicago, etc. Third Edition, thoroughly revised. Philadelphia, F. A. Davis & Co., Publishers, 1901.

In this, as in all of Dr. Senn's writings, there is much that is suggestive, much that is valuable, much that is the result of personal observation, and at the same time, much that is irritating on account of obvious hurry and failure to thoroughly digest the abundant literature that has been gathered together by the author bearing upon this subject. The work, treating fully of such pathological subjects as Regeneration, Inflammation, and various infective diseases which especially interest the surgeon, has nothing upon the subject of tumours, this being treated by the author in a separate volume. With Nanerede, Dr. Senn still holds that inflammation is essentially the result of bacterial disturbance, and his views upon inflammation are based throughout upon this supposition. While the work is admittedly valuable we cannot but call attention to these defects which prevent it from taking position as a classic.

THE HYGIENE OF TRANSMISSIBLE DISEASES: Their Causation, Modes of Dessemination and Methods of Prevention. By A. C. ABBOTT, M.D., Professor of Hygiene and Bacteriology, University of Pennsylvania. Third Edition, Revised and Enlarged. Philadelphia and London, W. B. Saunders & Co., 1901. Canadian Agents, J. A. Carveth & Co., Toronto. Price, $2.50.

Only a short time ago we noticed in these pages the first edition of this book, yet in the interval since its appearance considerable advance has been made in matter of the modes of dessemination of several of

the infectious diseases, and many minor points have had to be altered to conform with the result of recent investigations. The general plan of the book is the same, and its size has not been increased, the whole book, however, has been thoroughly revised to include the latest knowledge. The author is not yet convinced that the mosquito has been definitely proved to be the medium through which yellow fever is communicated from man to man. In referring to the matter he writes in such a manner that one would conclude that he does not consider the agency of the mosquito yet as proven.

A Manual of Bacteriology. By Herbert U. Williams, M.D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. Second Edition, 1901, pp. 290. P. Blakiston's Sons & Co., Philadelphia.

Although but a short time has elapsed since the publication of the first edition of Dr. Williams' book, there has evidently been a considerable demand for the work which one would well imagine would be much appreciated by the students of bacteriology. As the author rightly suggests in the Preface to his work, "Many medical schools whether wisely or not, require their students to absorb an amount of knowledge that taxes the brain to the utmost." The object of most schools is, and indeed should be to enable the student to graduate with an all-round knowledge of the subjects mentioned in their curriculum. With nearly all the larger text-books on bacteriology, it is, to say the least, discouraging to the student to attempt to do more than follow out the lectures received from the Professor, and in this way it is impossible to use text-books as more than the merest books of reference. Dr. Williams has overcome this inconvenience by publishing a book, which, even though in its second edition, has not been so greatly enlarged as to be cumbersome. It is amply supplied with illustrations, all of which are on the whole executed well, and useful as demonstrations. We wonder, however, if the doctor really himself uses the model of the Schanze Microtome figured on p. 39. If so, we would like to commend to him the newer forms now some years in use on the plan of Dr. Minot. There are on the whole very few errors in the book, though we do not agree with the author that tuberculin is practically only employed for the diagnosis of tuberculosis in cattle; we hope that its value in the diagnosis of tuberculosis in the human subject is duly recognized. The book is one which should commend itself to every student, and to every lecturer in bacteriology.

E. W. A.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By DR. HERMAN EICHHORST, Professor of Special Pathology and Therapeutics and Director of the Medical Clinic in the University of Zurich. Translated and Edited by AUGUSTUS A. ESHNER, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. In 2 vols. Philadelphia and London, W. B. Saunders & Co., 1901. Canadian Agents, J. A. Carveth & Co., Toronto. Price, $6.00 per set.

Professor Eichhorst has recently published what is practically a condensed edition of his well known *Handbook on Special Pathology and Therapeutics,* and it is this smaller work which Dr. Eshner has translated into English. That it will meet with a ready sale in this country can be confidently predicted, as the original, although not long before the profession, is now recognized as one of the best German text-books on internal medicine, and is too well known to require any detailed notice here.

The publishers have been most happy in their selection of a translator, Dr. Eshner, who has accomplished a difficult task in a most satisfactory manner. In the make-up of the book, too, special attention has been given to bringing out the most important facts by the judicious use of italics and black leaded type, a feature which will appeal most favourably to the student. The publishers are to be congratulated in having placed within the reach of the English-speaking profession one of the most valuable of modern works on the practice of medicine.

PATHOLOGICAL TECHNIQUE. A Practical Manual for Workers in Pathological Histology, including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By FRANK P. MALLORY, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School; and JAMES H. WRIGHT, A.M., M.D., Instructor in Pathology, Harvard University Medical School. Second Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders & Co., 1901. Cloth, $3.00 net. Canadian Agents, J. A. Carveth & Co., Toronto, Ont.

"Mallory and Wright" has proved itself an invaluable handbook for the pathological laboratory and needs no recommendation. We can only express our pleasure that this new edition is an advance upon the first, in that it incorporates materially the advances which have been made in methods during the last year. We are glad, for example, to find here, Wright's own method for the cultivation of anaërobic bacteria and the descriptions of the new staining methods by Mallory, for connective tissue by Weigert, for bone by Schmorl, together with Wright's

observations upon the parasite of Madura foot. We doubt whether Wright is correct, however, in suggesting that the pale variety of Madura foot is identical with actinomycosis. Certainly the organism is one of the ray fungi, but the identity of the ray fungi with human actinomycosis has not yet been determined. We cannot close with this criticism without expressing our appreciation for the admirable reproduction of various bacteria, reproductions of new photomicrographs made by Dr. Wright and Mr. Ellis Brown in the Pathological Laboratory of the Massachusetts General Hospital; these magnified, many of them, 2,000 times, give singularly true impressions of the appearance of these microbes, and are an advance upon the illustrations so far afforded in textbooks.

A System of Physiologic Therapeutics. Edited by Solomon Solis Cohen, M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic, etc. Volume I., Electrotherapy. By George W. Jacoby, M.D., Consulting Neurologist to the German Hospital, New York City, etc. In two books, Book I. Philadelphia, P. Blakiston's Son & Co., 1901. Canadian Agents, Chandler & Massey, Toronto and Montreal. Price, $2.00 per volume.

An introductory chapter to the whole system is written by the editor, Dr. Solis Cohen, entitled "Therapeutics Without Drugs," and in it the plan of the entire series of eleven volumes is set forth. It was judged wiser to have the books of a convenient size for handling, and thus electrotherapy forms the subject of the first two.

The first book deals with electrophysics and the apparatus required for the therapeutic and diagnostic use of electricity, while the practical application of the subject is treated in the second volume. The language used is simple, and within the understanding of anyone having the least rudimentary knowledge of physics, and the debatable points are in a great measure omitted, so that the reader is not needlessly confused. At the same time, the author endeavours to give the student a good general idea of the laws governing electricity by use of the old familiar comparison of the units of electricity with those of hydrostatics and hydraulics. Illustrations are freely used to show the experiments from which the science has been studied, and the apparatus used in medical electricity is depicted and explained. While the book contains a great deal that the physician making use of electricity as a therapeutic agent in his daily practice can do without, there is no question but that an understanding of its contents will enable him to use it more intelligently and take better care of his apparatus. Then, too, it will enable him to choose between the good and worthless in-

struments, with both of which the market is at the present time flooded.

Book II., Diagnosis; Therapeutics.

This volume, in addition to a very full description of general electrotherapeutics, contains several chapters dealing with the use of electricity in a number of the special departments of medicine. We note the following special articles:—On the use of electricity in diseases of the eye, by Dr. Jackson, of Denver; in diseases of the ear, nose and throat, by Dr. Scheppegrell, of New Orleans; in general surgery, by Dr. J. Chalmers DaCosta, of Philadelphia; in gynæcology, by Dr. F. H. Martin, of Chicago; in diseases of the skin, by Dr. A. H. Ohmann-Dumesnil, of St. Louis. The work is thoroughly illustrated and well printed.

ON PARALYSIS AGITANS. With an account of the Clinical Features of Other Forms of Tremor. By R. J. WILLIAMSON, M.D., Assistant Lecturer on Medicine, Owen's College, Manchester. Sherratt & Hughes, 1901.

This is a work of about 70 pages, containing a very complete description of the symptoms of paralysis agitans. The work is noteworthy for a very good account of the most trustworthy palliative measures for one of the most distressing of all diseases.

Dr. Williamson places much reliance on hyoscine. It appears to give in many cases a degree of relief. We have, however, found veratrina more effective and much less likely to give rise to untoward symptoms.

The clinical distinction between paralysis agitans and other forms of tremor is well described.

A TEXT-BOOK OF THE MEDICAL TREATMENT OF DISEASES AND SYMPTOMS. By NESTOR TIRARD, M.D., London, F.R.C.P., Professor of the Principles and Practice of Medicine, King's College, London, etc. Adapted to the United States Pharmacopœia, by E. QUIN THORNTON, M.D. Lea Brothers & Co., Philadelphia and New York, 1900.

We have in this one volume of convenient size a thoroughly practical work on the medical treatment of disease. Most of the text-books of medicine of the present time are deficient in their consideration of this most important part of the physician's art, and the works on practical therapeutics are either extremely voluminous or add that part of the subject to materia medica and pharmacology, in such a way that one has to pick out what one wants. Tirard's book deals solely with treatment, except occasionally, where reference must ne-

cessarily be made to etiology and pathology in order to explain the reason of the methods described.

Besides taking up seriatum the various diseases in an anatomical order the author has devoted space to many of the more prominent symptoms, such as constipation, hæmoptysis, vomiting, etc., which often require to be dealt with apart from the treatment of the causative disease. Altogether, the book cannot fail to be of great use to every practitioner having a large general practice, and who does not wish to rely entirely upon the routine methods of treatment.

THE PRACTICE OF MEDICINE : A Text-Book for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By JAMES TYSON, M.D. Second edition. P. Blakiston, Son & Co., Philadelphia, 1900.

We can warmly recommend the second edition of this work as a reliable guide to the practice of medicine. The book has been thoroughly revised, and numerous additions have been made especially to the sections on the diseases of the nervous system and to those on the infectious diseases. The author has had the advantage of the assistance of Dr. W. G. Spiller in the first-named subject.

In the treatment of typhoid fever the writer considers a liquid diet, especially milk, to be the safest form of nourishment, and although reference is made to the more liberal diet allowed by Shattuck, yet it is regarded as seldom necessary. The Brand treatment is warmly commended.

Reference is made to the work of Manson and Ross in the part played by the mosquito in the transmission of malaria, whilst Koplik's spots are described and illustrated with coloured plates borrowed from that writer.

The diagnostic technique in the examination of stomach contents is fully described, and we believe will be appreciated by many readers.

A useful chapter on general symptomatology has been introduced in the nervous system, and the illustrative cuts have been well selected.

The whole work is clearly written, and the various articles show a due sense of proportion. As a text-book this work is in the first rank, and whilst embodying the more recent methods of treatment, yet shows a wise conservatism in their adoption. The type is clear and the publishers' work leaves nothing to be desired.

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, October 4th, 1901.

JAS. PERRIGO, M.D., PRESIDENT, IN THE CHAIR.

Congenital Absence of the Uterus.

DR. A. MACKENZIE FORBES presented this specimen which he had obtained in the dissecting room at McGill University. See page 848.

In reply to questions from several of the members, Dr. Forbes stated that the Wolffian ducts and ureters were present, and there was no sign of any scarring or evidence of an operation having been performed upon the body of the subject.

Pathological Specimens.

DR. J. MACRAE presented a *Liver* which was extremely lobulated and irregular: it resembled grossly a syphilitic liver, but a reversal of the usual condition was present, the raised, lumpy, light-coloured parts proving to be liver tissue, and the depressed, darker parts, scar tissue. The patient had died of typhoid fever at the age of 26 and additional proof of syphilis was not determined.

Dr. Macrae also presented a *Congenital Tumour of the Toe.* This was a case of some interest clinically, as its appearance left some doubt of its nature. It proved to be a hæmangeioma of congenital origin, and during the last few months it had grown rapidly.

DR. ADAMI considered that the liver shown had certainly not the appearance of the ordinary syphilitic liver with old gummata, in that the general appearance was not so much that of hob nails as of depressed scars. Here the large areas of fibrous tissue with the apparent compensatory overgrowth of liver tissue would point to some previous condition resulting in extensive destruction of liver tissue with the replacement of the dead portions by fibrous tissue and compensatory hypertrophy of the sound liver tissue. He doubted whether this could properly be regarded as a syphilitic liver.

DR. ARMSTRONG stated that the correct diagnosis of the tumour of the toe had only been made by the pathologist. The growth had begun as a little red spot involving chiefly one toe, but also extending to an adjoining one. In removing the tumour he had been able to secure the leading vessels going to the adjoining toe, and so it had only been necessary to sacrifice one.

Sclerotic Endocarditis.

DR. MACRAE also exhibited in conjunction with Dr. Gordon Campbell, the heart from a case reported at the meeting of the society, when the patient had been shown. See page 841.

DR. ADAMI enquired whether there had been any atheroma of the vessels or adhesions of the auricles, and Dr. McCrae replied that neither was present.

DR. W. F. HAMILTON pointed out the great disproportion between the size of the aorta and the pulmonary artery, the aorta being much smaller. The orifices of the two coronary arteries were also very unequal in size.

DR. MARTIN had not understood whether the extension of the dulness above had been explained. With regard to the difference in size of the coronaries, he thought that it was very common to have one much smaller than the other.

DR. LAFLEUR stated, in explanation of the apparent competency of the pulmonary valves post-mortem, that he had often observed that in arterio-sclerotic cases where there was great cardiac hypertrophy, murmurs were present during life from the stretching of the aorta at the valves, and after death the orifices and measurements would be found entirely normal.

Congenital Hypertrophy of the Pylorus.

DR. W. F. HAMILTON reported this case, which is published in the October number of the Journal, page 754.

DR. EVANS said that while Dr. Hamilton called his case Congenital hypertrophy of the Pylorus, he had not gathered from the report that there had been any record indicating an abnormal condition of the organ in childhood.

DR. ELDER asked if any attempt had been made to examine the patient under ether, and suggested as a possible explanation of the case that it was one of hour-glass contraction of the stomach, in which case the portion called by Dr. Hamilton the diverticulum would be the first portion of the hour-glass.

DR. ANDERSON asked whether there had been any adhesions of the posterior portion of the pylorus to the peritoneum, which might account in part for the condition.

DR. J. C. CAMERON, under whose care the patient had formerly been for nearly twenty years, gave some particulars of his past history. He had never been seriously ill except for an attack of typhoid fever five years previously, and had had no symptoms referable to the stomach at the time. He had looked and called himself a dyspeptic, but, beyond that, there had really never been anything ever noticeable. Dr.

Cameron's own feeling at first had been that the trouble was malignant. With regard to the patient's habits, he had worked regularly, never been laid up, and seemed to enjoy a fair amount of health. He was of a nervous disposition and complained of rheumatic pains.

Dr. A. E. Vipond referred to a child three months old, that he had seen in St. Thomas' Hospital in London with a history of persistent vomiting, and in which the post mortem had revealed a stomach of diminished size with extremely thickened walls. Lately, several cases had been reported in which operation had been performed for a similar condition with favorable results up to the present.

Dr. Hamilton, in reply to Dr. Elder, said that he had hardly felt justified in calling the case congenital hypertrophy, but at the same time it was not possible to give any definite name to the condition. He thought Dr. Elder had been under a misapprehension regarding the part described as a diverticulum; it was a small pouch measuring 3 cm. in width, into which one could only get the index finger.

With regard to the presence of adhesions, as referred to by Dr. Anderson, he was quite aware that adhesions had been recognized as a cause of such conditions. He had no recollection of any adhesions whatever, and there were no signs of peritonitis, recent or chronic.

With regard to Dr. Vipond's contention that the case could hardly have been congenital on account of the patient's age, he did not think would hold, as the duration of life depended upon the degree of pyloric obstruction. The cases that had terminated in a few months had been the most decided cases.

Endothelioma of Brain.

Dr. D. A. Shirres read a paper on a case of endothelial tumour of the cerebrum, which he thought was especially interesting since it seemed to indicate the etiology of some forms of cerebral growths, and to give corroborative evidence of certain cerebral localizations already known to us. From the case, also, could be determined a seemingly probable centre of the sixth nerve about the position of which little is as yet known. The same case also demonstrated what a few pathologists and experimentalists have stated, viz., that motor and sensory cortical areas are very closely related if not intermingled one with the other.

The history of the case was as follows:—The patient suffered from epileptic fits for two or three years which later became somewhat Jacksonian in type. He entered the Royal Victoria Hospital under the care of Dr. Stewart, some six years after the beginning of the fits with symptoms which pointed to cerebral tumour, headache, vomiting, optic

atrophy, paresis of the right hand and wrist, with disturbance of sensation of these parts, and paralysis of the left sixth nerve.

The autopsy revealed a conical bony exostosis on the under surface of the right parietal bone measuring about 2.5 cm. in each direction, and about 1 cm. in depth, probably the result of an injury (fracture of the inner table) due to a fall, while suffering from an epileptic fit. Corresponding to this exostosis was found a deep depression in the dura and the cortex of the brain in the region of the arm and the wrist centre. Immediately beneath the exostosis and adherent to the dura and pia arachnoid was a tumour consisting of a nodular somewhat cauliflower-like mass, lying in a distinct socket in the brain substance, which it pushed aside, but did not infiltrate. The surrounding brain substance, internal capsule, etc., was found intact. The cortical area of the sixth nerve seemed to be situated in the neighborhood of the hand and wrist centre. The paresis of the nerve was not thought to be due to pressure on the nerve root on its way to the orbit as frequently occurred, for no lesion could be detected macroscopically or microscopically to that effect.

Dr. Adami recalled the fact that some two or three years ago in the Society a discussion had taken place upon the relationship of the motor and sensory areas of the cortex, and at that time two or three of the members present had upheld the view which had just been so well illustrated by Dr. Shirres, namely, that these areas practically coincided. With regard to the localization of the sixth nerve, he did not think that Dr. Shirres, while he had brought forward a fair amount of evidence in favour of his view, had proved absolutely the location of this cortical centre. The growth having been centrifugal in every direction, if the sixth nerve had not been at first affected and then subsequently become paralysed, the conclusion was that the growth was situated somewhere upon a belt or circle at the periphery of the tumour which had the starting point of the tumour as its centre. One could even go further than this and state that as the centres for the arm and hand were situated in front of the tumour, while no motor centres were situated behind, therefore, the sixth nerve centre was situated somewhere along the anterior half of this zone or circle. Further than this could not be safely affirmed.

Dr. Martin, referring to what Dr. Shirres had said about operations being done to relieve pressure, said that he did not think that it was always necessary to open the skull to relieve fluid pressure, as it could often be accomplished by lumbar puncture.

Dr. Shirres, commenting on Dr. Adami's remarks with regard to the location of the centre for the sixth nerve, said it was difficult to

locate it with any degree of precision, yet it seemed to him to be around the arm and hand centres.

He thought that Dr. Martin was right in believing that lumbar puncture should be undertaken more often than it was in connection with such cases as he mentioned. This man was suffering from a cerebral growth, the location of which was very obscure. He had certainly optic neuritis with headache and vomiting, but he had one symptom wanting, in that his knee jerks were absent. In the fifteen cases of brain tumour which had come under his notice every one showed increased knee-jerks. Dr. Stewart had suggested as a possible explanation, that the tumour might involve the frontal region.

It was pretty hard to tell at autopsy whether cerebral fluid was abundant or not, but he thought it certainly had been before death, and there was a distinct trace of degeneration in the posterior columns at the top of the cervical cord. In a recent number of *Brain* there was an article on this point, showing that one might have the cerebro-spinal fluid lodging at the top of the cord, and then degeneration. Whether in the present case the degeneration involved also the dorsal and lumbar portions of the cord he was unable to say, not having this portion to examine, but if so, it might account for the absence of knee jerks.

Stated Meeting, October 18, 1901.

JAMES PERRIGO, M.D., PRESIDENT, IN THE CHAIR.

Drs. W. H. Dalpé and E. M. von Eberts, of Montreal, were elected resident members.

Gangrenous Cellulitis Resembling Extravasation of Urine.

DR. A. E. GARROW read the report of this case.

DR. ADAMI said that looking into the similar cases in Welch and Howard's reports, there was only one similar to this, where the condition had been caused by traumatic rupture 4 cm. above the anus, and the process then extended through the right sciatic notch down to the gluteal region and thence down the thigh. Quite a large proportion of Welch's cases had originated from ulcers and similar conditions in connection with the intestines, but he also mentioned two cases in which the condition had occurred in connection with ulceration of the stomach.

DR. ENGLAND thought the condition described by Dr. Adami of these peculiar small mulberry hæmorrhoids, just at the beginning of the anus, was not an infrequent one and often the cause of fistula. That the infection should start from this point and extend to the scrotum and

groin was peculiar and interesting. He wished to know if there was anything in the patient's history, such as alcoholism or diabetes, which would render him more liable to suffer from severe infection from a slight cause. Another point he would like to hear something about was how a gangrenous condition of the scrotum could lead to orchitis, which he understood this patient had had. The ordinary anal fistula, as a rule, ruptured externally and the external opening persisted, while in this one the external opening did not form, but the pus passed beneath the skin and extended upwards over the groin.

Dr. Elder was much interested in the case, showing as it did that a lesion beginning in the rectum could follow clinically the course of extravasated urine and give practically the same clinical appearance, except that the infection was more violent and the destruction of the surrounding parts of a greater degree. One could easily understand how, if the opening of the fistula took place between the superficial and deep fascia, it had travelled exactly in the line that it did. Such a thing might happen more often than one was accustomed to meet with. It was fortunate for science that the case had come to autopsy and the course of the infection had been thus definitely determined.

As regards the course of temperature he was of the opinion that these cases and those of extravasation of urine were usually associated with low temperature, and were also liable to sudden death. The methods of treatment adopted by Dr. Garrow, he thought the best that could have been done under the circumstances, as it would have required a very fine examination to detect the source of the fistula and, even if it could have been detected, the result would not have been different. The important point to be learnt from the report was that these cases were liable to come on insidiously, and this fact should put men on their guard.

Dr. Garrow replying to Dr. England, stated that there was no special idiosyncracy in the patient which would render him more than usually susceptible to infection. He had already pointed out the chief features of the case ; one was the enlarged testicle pointing to a deep urinary infection which, however, had not the hard nodular feeling so characteristic of orchitis ; the other point was the travelling of the infection, which was not in accord with that of urine extravasation. The clinical history and appearances differed from urinary extravasation in that there was slight inflammation of the testicle, and then without any other event the formation of two fawn-coloured spots; in this case there was a selection of infection, the course followed being along the lymph channels, a periorchitis appearing first and the structures of the cord and of the testicle not being invaded. The serous membranes were

absolutely intact and did not show the presence of any acute hydrocele. While he had not discovered the internal fistula, he had made a careful examination of the case with that possibility in view, as was his invariable rule when a patient complained of piles. He had never yet seen a case of internal or blind fistula which could not be detected by palpation, as when such a condition existed one could detect it by the firm fibrous cord. Again, at no time would the patient admit of having had any swelling or tenderness, or having passed any matter or blood per rectum. He complained of piles, and Mr. Reginald Harrison, under whose care he had been, regarded him as a gouty patient, although, if excess of lithic acid was any criterion, it had not been present, neither was there any definite evidence in the kidneys post-mortem.

Dr. Adami said that it was interesting, in regard to the connection between the history and the clinical evidence, that this man had had indefinite, obscure pain at the anus, which he had put down to piles, that he had been treated as if for piles, and that there were no marked piles present, but at most a slight elevated swelling. Another interesting point was that these cases of emphysematous gangrene were probably never in themselves primary, the usual sequence of events being, first, some slight suppurative disturbance, and then the infection by the Bacillus capsulatus. Indeed, the B. capsulatus was a anaërobic organism, and consequently in a large number of cases we have an aërobic organism first present, taking away the oxygen and so preparing the ground for the development of the other organism. An ordinary fistula going on slowly would prepare the ground for the B. capsulatus.

Tuberculin as an Aid to Diagnosis in Surgical Affections.

Dr. J. M. Elder read this paper, which will be found at page 759 of the October number.

Dr. Garrow looked upon the question of employing tuberculin in the diagnosis of early tuberculous lesions from a surgical point of view, as one of great import. He had been employing it more or less regularly for a year or so and, practically, in all cases in which the tuberculin reaction had been obtained prior to operation, operative interference had proved the case to be tuberculous. This was particularly so in regard to gland cases, but he had had no experience with tuberculous peritonitis. He was perfectly satisfied that it was of value in early bone lesions, and cited a case of disease of the right tibia near the condyle, in which the reaction had been found present twice, and which, after two months, had returned to hospital with a well-marked myeloid sarcoma, and tuberculin failed to give a reaction.

He also related a case in a young girl with pain in the carpus, wrist joint, tendon sheaths, and extending up to the elbow, presenting much

the appearance of gonorrhœal arthritis except for great tenderness and swelling all over the tarsus. Careful examination failed to reveal the presence of gonococci, and small doses of tuberculin had also failed. He had been in the habit of using only ½ or 1 mg., but now would wait a few days and try larger doses as Dr. Elder had done.

DR. W. E. DEEKS had a word or two to say with regard to tuberculin, on general principles. Dr. Elder had stated that there were practically no local or constitutional results following the use of tuberculin, but he would like to know whether the patients had been under observation sufficiently long to determine whether or not this was so. An encapsulated focus in the glands or any part of the body might give rise to no trouble and be practically safe to the patient until tuberculin was given, and this might result in the breaking down of the barrier that existed and the setting free of the toxines into the system, followed by a reactionary temperature; and further, by possible absorption of the bacilli themselves and the setting up of new foci, and, in some cases, of general tuberculosis at no distant date. In his opinion we were not justified in taking this risk. If, within a couple of days at most after the reaction the surgeon operated and removed the diseased tissue, no harm would result, but in a deep-seated condition, he thought tuberculin, as used at present, was a dangerous proceeding.

DR. MORROW suggested that there was probably some difference in the tuberculin as prepared by Dr. Trudeau and the original Koch's tuberculin.

DR. E. R. BROWN asked if Dr. Elder had had any experience with throat cases. When tuberculin was first introduced laryngologists believed that they had in it a means of deciding the nature of doubtful cases, but experience had shown that the use of this means in tuberculous cases frequently resulted in the production of new foci in the larynx, followed by general tuberculosis.

DR. E. A. ROBERTSON wished to know if Dr. Elder had any explanation to offer for the non-reaction in tuberculous peritonitis. He had seen this means of diagnosis used in animals, and had been struck with the remarkable accuracy of the results obtained as verified by post-mortem.

DR. MACPHAIL had examined specimens of tuberculin from different sources, and found that some contained the live bacilli and some did not. He thought that one should be very particular about testing this material before using it.

DR. ELDER, in reply, thought that one should begin with a small dose and gradually work up, not proceeding to the larger doses when a reaction was obtained with smaller ones. Still, in some cases, it was not until the dose had been increased to 3 m.g. that the typical reaction

appeared, and even here there were no signs of constitutional or local trouble beyond the mere elevation of temperature.

In reply to Dr. Decks, he could only state that he was simply looking at these cases from a surgeon's point of view. Where one had a sleeping internal condition, he thought all were agreed that it was better not to run the risk of waking it up. So far as his experience went, he had seen no constitutional disturbance whatever. He would judge that if the patient was to develop tuberculosis in the way mentioned by Dr. Decks, that two years would be necessary to establish it, and he had not observed his patients for two years after the injections were given. He agreed that all tuberculin should be tested before use. As to the explanation for the absence of a reaction in tuberculous peritonitis, he was unable to give it.

Dr. Elder also stated that he had had no experience with throat cases. He had undertaken the work purely to satisfy himself of the value of the test and because of the scarcity of literature bearing upon the subject.

Stated Meeting, November 1, 1901.

J. W. STIRLING, M.B., VICE-PRESIDENT, IN THE CHAIR.

Drs. H. B. Cushing and F. B. Jones, of Montreal, were elected resident members.

Carcinomata of the Body of the Uterus and of the Cervix.

DR. WILLIAM GARDNER gave the following account of this case.

The first specimen is one of *carcinoma of the body of the uterus*, and as I considered it an exquisite specimen of the kind, I have brought it forward to-night. The person from whom it was removed presented a perfectly characteristic history. She was unmarried, and suffered from a watery discharge for four months, and the scrapings from a curettage, on being submitted to an expert, showed the presence of carcinoma. The operation proved difficult on account of the very narrow vagina and the firm adhesions of the uterus to adjacent parts. After detaching the cervix the operation was completed through the abdomen. The patient was put to bed in a very bad condition from profuse hæmorrhage, but rallied.

The specimen is a good example of carcinoma of the body of the uterus, which usually occurred in women who had passed the so-called change of life, in a few after many years. In my experience the symptoms which this woman presented, namely, hæmorrhages and watery discharge, indicate carcinoma in the majority of cases. The solitary excep-

tion is the slight hæmorrhage of chronic, cicatricial vaginitis, which might possibly simulate and suggest carcinoma. In these cases, however, the hæmorrhage is excessively small in quantity and is not associated with watery discharges. Singularly enough, I have met with a number of cases in which women long past the menopause, some of them married and the mothers of children, have suspected that the discharge of blood was the return of menstruation.

The other specimen is a *carcinoma of the cervix*, and perhaps I owe an apology to the members for presenting a specimen of such a common disease, so infinitely common as compared with carcinoma of the body.

The patient was a married woman of 35 years, admitted to the hospital for symptoms of rather subacute pelvic inflammation, and not for any symptoms suggesting carcinoma. On examination, the condition of the cervix was so suspicious that I excised a wedge-shaped portion and had specimens made, and these amply confirmed my suspicions. Extirpation was then performed. The uterus and cervix give clear evidence of laceration and relatively slight evidence, so far as the eye goes, of the nature of the disease. The specimens made before operation are a most exquisite example, in my opinion, of carcinoma of the cervix uteri grafted upon a laceration. This operation, from the extensive adhesions, was also rather difficult.

Dr. Chas. E. Gurd said that the first specimen was a typical adeno-carcinoma of the uterus. On the surface there had been more or less ulceration, then going inwards towards the muscle, one got the adeno-carcinoma, in which the carcinoma had kept the glandular type, but the lining cells appeared to be more of the squamous epithelial type, and in several layers. Going further in again, the muscle seemed to be separated by the carcinomatous tissue. In all the sections cut the muscle was infiltrated.

The second specimen was of great interest on account of the very early malignancy, showing in one part practically normal squamous epithelium, in another, down growth of the squamous epithelium into the normal tissue of the cervix, and further on, actual nests with small celled infiltration around them. The clinical diagnosis was most brilliant in a case like this.

Dr. A. Lapthorn Smith had listened with great interest to the reports of these cases, especially to the first one on account of its rarity. He had not seen a case since one seen ten years ago, in which the whole of the body of the uterus was a mass of adeno-carcinoma, and the cervix was almost entirely free up to the internal os. He considered the prognosis of the first case much more favourable than that of the second. From the researches made at Johns Hopkins Hospital, it was shown

that in only one case out of twenty were the glands infected in cancer of the body, while the reverse was true of cancer of the cervix. Out of thirteen cases which had come under his notice, the duration of life had varied between six years and eleven months.

Another point brought out was the value of microscopical examination of the curettings. He felt sure that many more cases would be detected if this procedure was adopted. He believed that when a woman past the menopause had a discharge of any kind with hæmorrhage, she should be considered as having cancer of the uterus until it was proved to the contrary.

Dr. F. A. Lockhart thought the first case was of great interest, as showing how one could have such a grave disease present with such little disturbance. He referred to a case of his own, a woman aged 60 and weighing 200 pounds, who had been sent to him on account of hæmorrhages. The history was that two years previously she had had some pulmonary trouble and from that time on she had had periodical discharges of blood from the uterus at intervals of about a month. The menopause had come on at 48, in the usual manner, and her previous sexual history had been normal. A slight leucorrhœal discharge present had some faint odour. He had decided to do a diagnostic curetting, but, on dilating the cervix, found such a condition present, that he removed the uterus at once; and the pathological report showed that malignant disease had been present for some time. The disease was adeno-carcinoma of the uterus, affecting all parts of the endometrium and adjacent muscle, the fundus being most involved, the cervix next, and the tissue between these least of all. It looked as if the disease had begun in the fundus, dipped down beneath the endometrium, and cropped out again at the cervix.

Dr. Gardner, in reply, spoke in reference to the prospects in these cases. It was undoubtedly true that those past the menopause ran the better chance, and yet sometimes they were very disappointing. One of his own cases had now lived 12 or 13 years, another 7 years, and a third 5 or 6 years. One reason why extirpation of the uterus was more favourable after the menopause, was that the nutrition of the organ was then relatively low and the growth of the disease relatively slow.

Missed Abortion.

Dr. F. R. England presented the specimen and read the report of this case. See page 848.

Dr. Buller enquired if all these cases were due to the same cause.

Dr. England did not think he could say anything about that, further than that the cause was not well understood.

Dr. D. F. Gurd said that in some of the cases the cause lay in mal-

formation of the fœtus. He had shown a case before the Society in which the fœtus had four arms and four legs, and evidently their inability to develop had had something to do with its death.

Dr. A. Lapthorn Smith, from the fact that the fœtus had not been expelled until the full period of nine months of gestation had passed, argued that the uterus was more concerned than the fœtus in retention of the dead ovum.

Dr. England asked for an expression of opinion on the course to pursue when such cases were recognized. His own practice had been not to interfere but to keep the patient under observation until the ovum was expelled naturally, or, in the event of any complications occurring, to give an anæsthetic and empty the uterus.

Dr. W. Gardner thought that this case of Dr. England's presented extreme delay in expulsion of the ovum. In a large number of cases of abortion, where the fœtus had died from various reasons, it was recognized that it is usually not expelled for a period of from ten days to some months. He would advise treatment only when the presence of symptoms called for them. Here, where there was no hæmorrhage or pain, the case had been best left to nature.

Dr. Garrow asked if there had been any evidence of syphilis, and Dr. England replied that there had been none.

Drs. Wyatt Johnston and Chas. Gurd examined the ovum and reported it to be that of the third month but did not discover any evidence to show why it had died. There was also no evidence of disease in the placenta or membranes.

Clinical Notes on the Use of Suprarenal Extract in Cardiac Conditions.

Dr. W. E. Deeks read this paper, which is published in full at page 845.

Dr. W. S. Morrow had seen the first patient mentioned by Dr. Deeks during the latter's absence from the city, and corroborated what he had said about the inefficacy of the usual cardiac tonics in this case.

The speaker had used suprarenal extract himself considerably, and cited several cases in evidence of its value both as a styptic and cardiac tonic. He had failed, however, to get a good result with it as an intra-uterine douche in a case of menorrhagia.

The Diagnostic Value of Hæmoglobin in Syphilis (Justus).

Dr. Andrew Macphail read a paper with the above title. See page 843.

Dr. Gordon Campbell said that he had some slight experience with the Justus reaction for syphilis. He thought that Dr. Macphail's con-

ception of the test, as described by Justus, was not entirely correct. Justus stated that when the symptoms of syphilis relapsed, the reaction would be absent; and when the symptoms returned, the reaction would reappear. In order that one should get the reaction in cases of general paresis, one would have to include the symptoms of general paresis as symptoms of syphilis. It was well known that in all cases of syphilis, early or late, mercury and iodide of potassium were specifics, or at least always influenced the symptoms. Neither mercury or the iodides had any effect upon the course of general paresis, and for this reason, taking Justus' own description of his reaction, he did not think one ought to expect to obtain any reaction in this class of cases.

With regard to his own experience, he had used it on five or six cases, four of which were undoubtedly syphilitic, showing active symptoms which yielded to mercury or iodide of potassium. Of these four, only one gave a reaction, and it was most decided, the hæmoglobin falling from 70 per cent. to 50 per cent. within the first few days of treatment, and gradually returning to 70 per cent. and above this, as the signs of syphilis disappeared. The patient was a woman, aged 23, who had never been under treatment for syphilis. Two cases of marked anæmia, without any evidence of syphilis, had failed to give any reaction. The speaker thought that, from the reports which had appeared since Justus published his work, that the test was obtained in from 70 to 80 per cent. of undoubted syphilitics.

DR. MACPHAIL stated, in reply, that the examinations had been carried out under the six propositions made by Justus.

Administration of the Civic Board of Health in connection with Contagious Diseases.

DR. J. E. LABERGE set forth in a short paper the recent changes made in the Montreal Board of Health, with regard to the administration of contagious diseases. This paper will appear in the December number.

DR. JOHNSTON said that one point which arose in connection with this paper was the question of the need of greater care in making an examination after diphtheria to see if the infection still existed in the patient's throat. The older view that one examination was sufficient was now pretty well abandoned, and boards of health were now asking for two successive negative examinations, and were finding it very important in this matter to inoculate two swabs, one from the nose and one from the throat, in order to be sure that infection had not escaped observation. Dr. Johnston thought that it would help very much if the city had a board of medical men co-operating with them, as in New York it was found that this plan of having physicians act as medical inspectors at a comparatively small salary was very efficient. The

public, being brought into contact with the medical department of the board, appreciated it more than if it were merely the sanitary or health officials.

DR. ENGLAND said that when one telephoned to the health department to make an examination of the drains in a house where typhoid, scarlet fever, or diphtheria had occurred, the department invariably replied that this would be done after disinfection. He thought that if the drains were the cause of the malady the other inmates of the house were exposed to infection while the department was waiting for the disinfection of the premises.

DR. LOCKHART thought an important part of the department's duty was to educate the public regarding the danger of infection to themselves and others. There were a large number of families in the city in which this danger was ignored, and no precautions were taken to prevent the spread of disease. He was glad to see that two physicians had been summoned for failing to notify infectious disease in their practice. The nurses, too, in some cases were either ignorant or failed to take proper precautions after nursing cases of infectious disease.

DR. GIRDWOOD drew attention to the need of an ordinance prohibiting spitting in the streets, or at least on the sidewalks. This Society, some years ago, had sent a communication to the street railway showing the danger of spitting in the cars, and the result was that they had put a stop to it.

DR. LABERGE, in reply, said that there were many things mentioned in his paper which it was desirable should be carried out but which they had been unable to enforce as yet. He suggested that, if the Society thought wise, a committee might be named by the Society to co-operate with the health department; the French medical society were doing this. In reply to Dr. England, he stated that the drain inspector was not under his control, but he believed the facts stated to be correct, and that the inspection was not done until after the house had been disinfected.

THE

Montreal Medical Journal.

A Monthly Record of the Progress of Medical and Surgical Science.

VOL. XXX. NOVEMBER, 1901. No. 11.

SMALLPOX.

During the past few years smallpox has been epidemic in many States of the Union, and there have also been several centres of the disease in Canada. Epidemics have broken out in the West, in Ontario and Quebec, and, judging from the reports from neighboring municipalities, there would seem to be a very real danger of much further extension in the near future.

Fortunately, the type of disease at present prevalent, is, for the most part, of a remarkably mild variety. So mild indeed is it, that its true nature has not been recognized in some localities for months after its appearance. It has been mistaken for chicken-pox, or it has been termed Cuban or Philippino itch. There seems to be no proof that the disease has been imported from either of these countries, where the type of disease is not the mild form which has spread over so many districts of the North American continent.

The malady is ushered in by fever which is sometimes as high as in the ordinary form of the disease; vomiting and backache are as a rule not very pronounced, and may be completely absent. The cutaneous lesions come out on the third day, or exceptionally, as late

as the fifth or sixth day. They appear in the same sites, and in the same order as in ordinary variola. The number of papules may vary from ten or twelve to many thousands, they differ, however, from the ordinary form of variola in passing through their stages of evolution more rapidly, and in involving only the superficial portions of the skin. Hence, in the healing process, they leave no permanent scars, and there is seldom any secondary septic fever. After the rash appears the patient feels well, and frequently goes about forming a continuous centre of infection.

That the disease is a true form of smallpox has been admitted by all who have had an extensive experience of this disease. Welsh, for instance, is emphatic in his opinion that the disease in question is true smallpox, and this view has been recently reaffirmed by the American Medical Association. The remarkable manner in which the unvaccinated are picked out is perhaps the strongest proof of the true nature of the malady.

Although so mild in its manifestations there are some well marked instances in which severe and fatal forms of the disease have arisen from contact with the milder cases, and doubtless, those who have seen much of the affection could readily multiply such instances.

The very mildness of the disease is, from a public health standpoint, the most dangerous feature of the epidemic. Patients suffering from the malady have been repeatedly been observed walking about, working, or travelling in public conveyances, and should the disease at any time assume a virulent type, it is appalling to contemplate the ravages it would make in an unvaccinated community. The only safeguard against such a contingency is thorough vaccination and revaccination. Much prejudice has existed against this measure among certain classes of this province, a prejudice which has had some foundation in the septic and erysipelatous arms so often seen in the 1885 epidemic, and resulting from the use of impure vaccine. The lessons of that epidemic have, however, not been lost, and the public belief in the efficacy of vaccination has been greatly strengthened by the mortality amongst the unvaccinated at that time. Mothers often object to more than a single vaccine insertion, but a little pressure and explanation on the part of the medical practitioner is usually sufficient to overcome this opposition.

The Provincial Board of Health is acting promptly for the good of the community in issuing an order to all municipalities to insist on vaccination in industrial and educational establishments, a measure which will meet with the hearty approval and support of the entire medical profession, and one which will go far to prevent the affection from assuming extensive proportions.

At the recent election of the College of Physicians and Surgeons of the Province of Quebec the following were chosen to represent the profession for the next three years:—

District of Montreal :—

1. Drs. A. R. Marsolais and R. C. Laurier, Montreal.
2. Drs. R. Boulet and J. H. Cartier, Montreal.
3. Drs. J. A. Macdonald and G. A. Brown, Montreal.
4. Dr. J. G. Beaudry, St. Jacques d'Achigan.
5. Dr. L. A. Fortier, St. Vincent de Paul.
6. Dr. E. L. Quirk, Aylmer.
7. Chas. Marshall, Huntington.
8. Dr. J. D. Pagé, Waterloo.
9. Hon. Dr. Jean Girouard, Longueuil.
10. Dr. Ern. Choquette, St. Hilaire.
11. Dr. E. H. Prevost, Sorel.
12. Dr. Théo. Cypihot, St. Cunegonde.

District of Quebec :—

1. Drs. A. Vallée, M.D., Brochu, and C. R. Paquin, Quebec.
2. Drs. A. Jobin, F. X. Dorion, and J. Marcoux, Quebec.
3. Dr. J. E. Ladriere, Levis.
4. Dr. M. Brophy, Ste. Foye.
5. Dr. L. E. Beauchamp, Chicoutimi.
6. Dr. Tan. Fortier, Ste. Marie de Beauce.
7. Dr. L. M. Moreau, l'Islet.
8. Dr. F. J. Langlais, Trois Pistoles.
9. Hon. Dr. J. B. R. Fiset, Rimouski.

District of Three Rivers :—

1. Dr. L. J. O. Sirois, St. Ferdinand d'Halifax.
2. Dr. L. P. Normand, Three Rivers.
3. Dr. L. A. Plante, Louiseville.

District of St. Francis:—

1. Drs. P. Pelletier and J. O. Camirand, Sherbrooke.
2. Dr. F. McMorine, Richmond.

Universities :—

McGill University—Drs. Robert Craik and H. A. Lafleur.

Bishop's Universoty of Bishop's College—Dr. S. F. W. Campbell and J. C. McConnell.

Laval University, Montreal—Drs. E. P. Lachapelle and Demers.

Laval University, Quebec—Drs. L. J. Simard and Catellier.

MEDICAL LIBRARY, McGILL MEDICAL COLLEGE.

The library of the McGill Medical College, which has been closed for the last two months is again open to readers. In addition to the alterations in reading rooms, a handsome stack room has been added, which very much increases the capacity of the library.

Among the recent gifts to the library some very rare and interesting works have been presented by Dr. Osler, Dr. Morrow, and Dr. Dawson. Dr. Osler, who is known as a collector of rare editions of the old masters in medicine, while in Europe this summer secured some of these editions, and most generously presented them to the McGill Medical Library. These are:—Page's facsimile reprint of Linacres' Edition of Galen's de Temperamentis, and Jebbs' edition of Some of the Rare Works of Caius (the original of which are practically out of reach. Boyle's Natural Philosophy, 1667, of which a good idea of the state of medicine about the middle of the 17th century can be obtained, and also Harvey's Degeneratione Animalium, and Harvey's Anatomical Exercitations Concerning the Generation of Living Creatures, 1653.

Among the volumes presented by Dr. Morrow is one which will be of interest to Canadians in having the signature of a former Governor of Canada, Sir George Prevost. He has also presented the following: Swain's Panacea, the Nouveau Dictionaire de Médécine, de Chirurgie et de l'art Vétérinaire Tome, 1—4 and 6, 1772: the History of Mineral Waters of Ireland, 1757; Histories of Various Cases, by C. Mortimer, M.S., 1745, and the Medical Register of New York, 1868-69.

These recent gifts will be a welcome addition to the already valuable collection of old books in the library.

FOR QUARTER ENDING APRIL 30, 1901.

Books and Journals Presented by:—

Aberdeen University.
Proceedings of the Anatomical and Anthropological Society, 1899-1900.

Adami, J. G., M.D.
Lyon Medicale, 5 Vols., 1885-98.
Information Concerning the Angora Goat, U.S.D.A., 1901.
Medical Chronicle, 1899-1900.

Admiralty, London, Eng., Statistical Report of the Health of the Navy, 1898.

Allbutt, T. C., M.D.
Science and Mediæval Thought, 1901.

American Academy of Railway Surgeons, Trans., 4 Vols., 1896-99.

American Medical Association, Journal, 1900.

American Climatological Association, 3 Vols., 1895-99.

American Association of Physio-medical Physicians and Surgeons, Pro., 1897.

American Medico-Psychological Association. Trans., 1900.

American Orthopedic Association. Trans., 1900.
Association of American Physicians. Trans., 1900.
Association of New York Life Insurance Medical Directors, 2 Vols.
Association (L') Française d'Uralogie, 1899.
Bacon, G., A.B., M.D.
Manual of Otology, 1900.
Ballantyne, J. W., M.D.
Teratologie, 1895.
Berliner Klin. Woch., Editors.
Blackader, A. D., M.D.
Archives of Pediatrics, 1899.
Textbook of Pharmacology and Therapeutics, by A. R. Cushny, M.D., 1899.
Practical Therapeutics, by H. A. Hare, M.D., 1898.
Boston City Hospital, Medical and Surgical Reports, 1900.
Bristol Medico-Chirurgical Library. 13 Vols., 1885-1899.
Brooklyn Engineers' Club, 1900.
Brooklyn Medical Journal, Editors.
Brussels University, 1 Vol., 1900.
Cameron, J. C., M.D.
American Public Health Association Reports, 1901.
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Bristol Medical Journal, 2 Vols., 1899.
Clinical Society of London. Trans. Vol. 33, 1900.
Cameron, K., M.D.
Canadian Medical Review, 1898.
Chicago Medical Recorder, Vol. 1-11, 1891-1896.
Columbia University, College of Physicians and Surgeons.
Studies from Dept. of Pathology, 1899-1900.
Columbus Medical Journal, Editors, Vol. 23, 1899.
Curtis, W. J., B.S., M.D.
Essentials of Practical Bacteriology, 1900.
Dominion Medical Journal, Editors. 3 Vols.
Dürck, H., M.D.
Atlas and Epitome of special Histology. 1900.
Dawson, R., M.A., M.D.
Fifty years of Work in Canada. Biographical Notes by Sir Wm. Dawson, C.M.G., LL.D., 1901.
Evans, D. J., M.D.
American Journal of Obstetrics, 1900.
Obstetrics, by D. J. Evans, M.D., 1901.
Finley, F. G., M.A., M.D.
Progressive Medicine, 2 Vols., 1900.
Fisher, H., M.D.
Vade Mecum de Therapeutique Chirurgicale des Medecine-Praticians.
France (La), Editors, 1898.
Günther, M. D.
Thirty-first Jahresbericht des Landes Medecinal Collegium über das Medicinalwesen im Konigreiche Sachsen auf das Jahr., 1900.
Harvard Medical Alumni Association, 2 Vols, 1900.

Hektoen, L., M.D.
Atlas and Epitome of Special Pathological Histology by H. Dürck, M.D.. Translat. by L. Hektoen, M.D., 1900.
Huxley, Leonard, Esq.
Life and Letters of Thomas Henry Huxley, 2 Vols., 1900.
Indian Government Reports, 2 Vols., 1900.
Jenson, J. G. J.
House Drainage and Sanitary Fitments, 1900.
International Medical Magazine, Editors, 1899.
Johns Hopkins Hospital Library.
Journal of Comparative Neurology, 2 Vols.
Johnston, W., M.D.
Missouri State Board of Health, 1899.
Practical Hygiene, by Harrington, 1901.
Pathological Anatomy and Pathogenesis, Zeigler, 1884.
Pathologischen Mytologie, Baumgarten 11, 1890.
Materia Medica, Cullen 2 Vols., 1789.
Journal of the American Medical Assoc., 1900.
Journal of Inebriety, Editors, 1898.
Journal of Applied Microscopy, 1898.
Lafleur, H. A., M.D.
Vaccination, its Natural History and Pathology, by S. M. Copeman, M.D., 1899.
Lawford, J. B., M.D.
Ophthalmic Review, 5 Vols., 1889-92.
London School of Tropical Medicine.
Reports 1899-1900.
Louisiana State Board of Health, 9 Vols., 1872-1900.
Louisiana State Medical Society, Trans. 3 Vols., 1894-98, 1900.
Luzerne County Medical Society, Trans., 5 Vols., 1895-1900.
Manhattan Eye and Ear Hospital Reports, 3 Vols., 1894-1897.
Maryland Agricultural Experiment Station, 2 Vols., 1898-1900.
Massachusetts State Board of Health, 1900.
Melbourne University, 1900-1901.
Merck's Archives.
Medical Librarian's Association.
Annals of Ophthalmology, 1899.
Berliner Kl. Woch, Vol. 37.
Michigan Registration Report, 1898.
Middlesex Hospital Report, 1899.
Montreal Medical Journal, Editors.
Albany Medical Annals, 1900.
Montreal Medical Journal, 1900.
Congress International de Medecine, 1900.
Nancrede, C. B., M.D.
Lectures upon the Principles of Surgery, 1899.
Essentials of Anatomy and Manual of Practical Dissections, 1895.
Newberry Library.
New York Medical Journal, 7 Vols.
New Hampshire Medical Society, Trans., 1900.

New Jersey State Agricultural Experiment Station, 4 Vols., 1880-1889.
New York Academy of Medicine.
Fortschritte der Medicine, 2 Vols.
New York Agricultural Experiment Station, 7 Vols., 1893-1900.
New York Eye and Ear Infirmary Reports, Vol. 1-5, 1893-97.
New York State Board of Health, 2 Vols., 1899.
Nottingham, City of, Health Report, 1899.
Ontario, Report of Registrar-General, 1899.
Ophthalmological Society of London, Trans., 1900.
Ophthalmological Society of Great Britain, 3 Vols., 1881-93.
Ophthalmological Society Catalogue, 1899.
Ottawa Government, 4 Vols.
Pennsylvania State Board of Health, 4 Vols.
Pharmaceutical Journal, 1900.
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Registration Report, 29 * 45, 1881-97.
Ruddeme, M.D.
Incompatabilities in Prescriptions, 1900.
Ruttan, R. F., M.D.
La Province de Québec, 1900.
Yearbook of Newfoundland, 1901.
Royal College of Surgeons, England.
Descriptive and Illustrated Catalogue of Physiological Series of Comparative Anatomy contained in the Museum, Vol. 1, 1900.
Pathological Report, 1900.
Royal Academy of Medicine in Ireland, Trans., 1900.
St. Paul Medical Journal, 1900.
Shepherd, F. J., M.D.
Memaria de la Cara Hospital de Son Lazare, 1890, 1899, 1900.
Associations de depentientes des Comercio de la Habana, 1900.
Dominion Medical Monthly, 2 Vols.
Experimental Study of Children, by Dr. Macdonald, 1899.
Smith, M.D.
Lectures on Medical Jurisprudence and Toxicology, 1900.
Stewart, J., M.D.
Mind, 3 Vols.
Sutton, B. J., M.D.
Diseases on Women, 1900.
U. S. Department of Agriculture, 2 Vols., 1900 and 1901.

United States, Report of the Surgeon-General of the Army, 11 Vols., 1886-99.
United States Surgeon-General's Library.
Index Catalogue, Vol. 5.
Woody, S. E., M.D.
Essentials of Medical Chemistry. 1900.

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Cyclopædia of the Diseases of Children. Keating, 1899.
Edinburgh Medical Journal, 1901.
Handbuch der Hygiene, Bds. 5-9, 1899-1900.
Introduction to the Study of Chemistry, Remsen, 1900.
New York Medical Journal, 1900.
Revue de Chirurgie, 2 Vols., 1899-1900.
Revue de Medicine, 2 Vols., 1899-1900.
Textbook of Histology. Böhm & VonDavidoff, 1900.

BULLETINS, PAMPHLETS, CALENDARS, REPORTS, ETC.

Presented by:—

Anderson's College, Glasgow, 1.
Adami, J. G., M.D., 1.
Breslau, 1.
Berlin-Friedrich-Wilhelme Universtat, 1.
College of Physicians and Surgeons of Quebec, 1.
Fletcher Free Library, Burlington, 1.
Guy's Hospital Medical School, 2.
Georgia Agricultural Experiment Station, 3.
Harvard Medical School, 1.
Heidelberg University, 1.
Hatch Experiment Station, 2.
Jackson, F. S., M.D., 1.
Johns Hopkins Medical School, 1.
London Hospital and Medical College, 2.
Montreal Medical Journal, Editors, 22.
Maryland Agricultural Experiment Station, 17.
Massachusetts General Hospital, 1.
Nottingham, City, 1.
New Jersey Agricultural Experiment Station, 80.
Protestant Hospital for Insane, 1.
Royal College of Edinburgh, 1.
Royal College of Physicians of Ireland, 1.
Russell, W. W., M.D., 1.
Sherwell, S. S., M.D., 1.
Society of Apothecaries of London, 1.
State of Connecticut, 1.
Sherperd, F. J., M.D., 82.
Smithsonian Institution, 3.
St. Francis Hospital, 1.
University College, London, 1.
University College, Bristol, 1.
United States Dept. of Agriculture, 29.
University of Vermont and State Agricultural College, 4.

Proceedings of the McGill Medical Society of Undergraduates.

The McGill Medical Society held its first meeting of the session 1901-02, on Friday, October 18th, when it entered on the twenty-fifth year of its existence.

Judging by the number of the students present, the high class of the papers read, and the interest taken in the organization by the Honorary President and the professoriate in general, a most successful and prosperous year is in sight.

The officers for the year are:—

Hon. President—Dr. C. F. Martin.

President—R. C. Paterson, '02.

Vice-President—S. Evans, '92.

Secretary—S. St. J. McDonald, '03.

Treasurer—W. E. Nelson, '03.

The officers, realizing the mistake that has been made in past years of having the papers presented of such a character that they appealed only to senior men, and failed to interest the juniors, have so arranged their schedule for the present year that not more than one senior subject shall be presented at each meeting. The balance of the papers will deal with subjects of interest to all, such as the history of the various branches of medicine and of the allied sciences. Thus, it is hoped that for two nights at least in each month, the men will be lifted out of the rut of study, and have their attention called to that class of reading, which will tend to broaden their minds and make the study of medicine something more than mere cramming and working for examinations. By this arrangement, too, it is hoped to bring in the members of the first and second years, and, from the beginning, interest them in the work of the society, which the officers aim at making one of the best institutions of its kind not only in the University, but in Canada.

COCAINE ANALGESIA BY LUMBAR PUNCTURE.

BY

ROBT. C. PATERSON.

Ever since the earliest days of surgery, surgeons have been looking for some means by which the patient could be freed from the pain of the operation, primarily for the sake of the patient himself, and secondly so that the operation might be more skilfully and successfully performed, thus greatly increasing the chances of speedy and satisfactory recovery. Before the days of anæsthetics, the most brilliant and skilful surgeon was he who could operate most rapidly.

In those days surgery was not the complicated subject that it now

is, for as the patient was conscious and sensible of even the slightest pain, only the simplest operation could be performed.

Imagine the joy with which the world received the announcement that on October 16th, 1846, in the Massachusetts General Hospital, in Boston, Dr. Morton had employed ether, a liquid whose fumes had rendered a young man unconscious and insensible to pain while an operation for the removal of a lipoma from his neck, was being performed.

The recognition of the anæsthetic properties of chloroform soon followed, and these two rapidly gained in favor and popularity, until now the discovery of anæsthetics vies with that of antiseptics for first place among those discoveries that have done most to alleviate human sufferings.

The slight dangers and unpleasant after-effects, immediate and remote, of the general narcotics, have led investigators to seek some other means of abolishing or lessening pain, especially in minor operations.

The result was that in the early 80's, cocaine came to be used as a local anæsthetic. At first it was employed to anæsthetize mucous membranes by direct application to the surface; then subcutaneous injection was tried; later, Oberst used it by injecting it around or into large nerve trunks, thus rendering insensible to pain the parts supplied by these nerves.

Schleich then introduced his Infiltration Anæsthesia, by which considerable areas of the skin and muscles are made anæsthetic by infiltrating the tissues to the point of œdema with very dilute solutions of cocaine, the strengths of his three solutions, which are used for different purposes, being 1 in 500, 1 in 1,000 and 1 in 10,000.

Lastly has come into use the method with which this paper has more particularly to deal, namely the injection of cocaine directly into the spinal canal.

There seems but little doubt that this method was first discovered by Dr. Leonard Corning, of New York, who published in 1885, (*N. Y. Med. Journal, October 31, 1885*) the results of his experiments with the spinal injection of cocaine, first on a dog and then on one of his patients. He did not, however, think it necessary to penetrate the spinal membranes, but thought that the blood vessels would carry the drug to the nervous structure.

He also, a couple of years later suggested that painful diseases of the spinal cord could be treated in this manner (*N.Y. Med. Rec.*, March 17, 1888). The next person to invade the spinal canal was Quincke of Kiel, who introduced what is now known as Quincke's Lumbar Puncture for diagnostic and therapeutic purposes.

It rested with Prof. August Bier, also of Kiel, to first utilize the analgesia produced by the introduction of cocaine into the spinal canal for surgical purposes. His first operation under this form of anæsthesia was performed on August 16th, 1898, on a man æt. 34, with a tuberculous ankle joint (*Deutches Zeit. f. Chir.* Band LI., p. 361.) Shortly after, he and his assistant, Dr. Hildebrandt, cocainized each other so as to be able to give a scientific statement of the resulting phenomena.

Next Seldowitsch (*Centrallblat f. Chir.*, October 14, 1899) reported four cases of operation on the lower extremities in which he had used this method.

It was Tuffier, of Paris, however, who brought the method into prominence by reporting. at the 13th International Medical Congress at Paris, in 1900, 125 cases operated on, and practically demonstrating the method to the visitors at that congress. Since then many surgeons in Europe and America have experimented, some with greater and some with less success. The method is not difficult, and as that used by Tuffier is the basis of all operators, I will quote from his article (*La Semaine Médicale*, May 16, 1900) "A syringe that can be completely sterilized is used. The needle must be sufficiently long to penetrate easily the space between the skin and the subarachnoid space. This interval varies in length according to the obesity and muscular development of the patient. The needle should be of platinum. It must be easily sterilized, and about 9 cm. long. External diameter, 1 mm., internal, 8 mm. It must be firm, so as not to bend when it comes in contact with the vertebral column. Its end must have a short bevel. I employ a 2 per cent. solution of cocaine. This solution must be sterile and recent; old solutions must be discarded. This is important. I prepare my solution as follows:—The solution is exposed to a temperature of 80°C. in a water bath for 15 minutes; then it is kept at a temperature of 38°C. for 3 hours. This operation is repeated 5 or 6 times in succession. It assures a perfect sterilization, and the analgesic properties of the cocaine are not altered. The operative technique is as follows:—

"The patient is in the sitting posture, both arms being carried forwards. The field of injection is thoroughly ascepticized. Locate the iliac crests. An imaginary line connecting these two passes through the fourth lumbar vertebra. By injecting beneath that line you penetrate the medullary canal. As soon as you have located with the left index finger this process, tell the patient to bend forward. Then it is always wise to tell the patient, "I am going to stick you with a needle; you will feel some pain, but do not move."

"Make the injection with the right hand. I insert the needle to the

right of the spinous process, about 1 cm. The needle goes through the skin, the subcutaneous tissue, the lumbar aponeurosis, the muscles of the sacro-lumbar region and penetrates the spinal canal. As soon as the needle is in the subarachnoid space it meets no resistance, and from it escapes, drop by drop, a clear yellowish fluid, the cerebro-spinal fluid. The surgeon must never inject the cocaine before he has seen this escape from the needle. After he has seen this, he attaches to the needle a syringe containing 1 cc. of the cocaine solution. The injection is made slowly; it should never be completed in less than 1 minute."

The technique has been modified in some of its details by different surgeons. Some prefer glass syringes, others those made of metal. The needles used are variously made of platinum or steel, and by one man an alloy of gold is employed. The solutions injected may also vary in their preparation and methods of sterilization, but all agree that the cocaine solution must not be heated above 80°C., as above that temperature its analgesic properties are destroyed. Rudolph Matas, of New Orleans, adds 1-40 gr. morphine to each dose, and says it acts as a sedative. (*Phil. Med. Journal*, November 3, 1900.)

All operators insist that the back must be as carefully sterilized as is the field of operation, for there is danger of infecting the spinal canal unless this precaution be taken. The results following the injection are about the same in each case, and, as the notes of Hildebrandt's case are probably as correctly and fully taken as possible, I will give Bier's report of this case. Bier's own case was a failure owing to the great loss of cerebro-spinal fluid through a misfitting syringe, and also by a probable leaking of the cocaine there was no analgesia produced. He thus describes Hildebrandt's case (*Deutsches Zeit. f. Chir.*, Band LI., p. 361) "I introduced in the usual manner the needle under Schleich's anæsthesia. This was felt as a pressure, not as a pain. At 7.38 p.m. I injected ½ cm. of a 1 per cent. solution of cocaine. He had a feeling of warmth in both legs. Pulse, 75. After 7 minutes, pricks with a needle were felt in the upper thigh as a pressure and tickling the sole of the foot was scarcely felt at all. After 8 minutes, cutting the skin of the upper thigh was felt as pressure, and drawing a blunt and crooked needle deeply through the fleshy part was not felt at all as a pain. After 10 minutes, a large needle with a handle was pushed down to the femur without causing the least pain. Hard pinching of the skin and squeezing with forceps was felt only as pressure. After 11 minutes, in the arm the sense of pain was greatly diminished. After 13 minutes, a burning cigar was felt as heat, but not as pain; ether produced a feeling of cold. After 15 minutes, tickling of the sole of the foot was felt only as a touch.

Pinching the leg was felt as slight pressure, in the upper part of the chest as severe pain. After 18 minutes, from the nipples down, pinching was scarcely felt any more. After 20 minutes, pulling out the hairs of the pupenda was felt as raising the skin, but the breast hairs above the nipple as severe pain. Extreme bending of the toes was not unpleasant. After 23 minutes, a knock with a hammer against the shin does not hurt. After 25 minutes, hard pressing and pulling of the testicles was not painful. In 40 minutes, profuse perspiration broke out all over the body. After 45 minutes, the sense of pain commenced to return and gradually became normal. The pulse, which had been 75 at the beginning of the experiment, fluctuated between 72 and 75. During the whole experiment the feeling of touch was never lost. The knee jerks were likewise retained."

Both Hildebrandt and Bier ate dinner after the experiment, and drank wine and smoked cigars. Shortly after, severe headache set in, accompanied by dizziness, and these lasted for several days. Bier kept to his bed for nine days, but Hildebrandt was able to attend to his work, going to bed only for half of the day following the injection. However, he was unwell for two or three days and felt weak for a couple of weeks after.

From this account you can see that it is only the sensation of pain that is lost. Touch, the perception of heat and cold, and motion are all retained. The general effects of such an injection may be nausea, vomiting, dizziness, headache, profuse perspiration, chilly sensation or actual chills, some rise in temperature, not accounted for by the surgical operation itself, some respiratory disturbance and involuntary evacuation of the bowels. Of course, all these are not seen as a rule in any one case, but there are few, if any, who escape without one or more. The most common and annoying symptom is the headache, which is of a very severe character, and lasts usually 12 to 24 hours. This may be partially relieved by the use of the bromides, hyoscine hydrobromide, nitroglycerine or caffeine, and the coal tar derivatives.

Several theories as to the cause of these symptoms have been advanced, but so far no one has been proved to be correct. They may result, and some probably do, from the poisonous action of the cocaine itself. On the other hand, it may be from an alteration in the pressure of the cerebro-spinal fluid in the canal and in the ventricles of the brain. Others say that the mere introduction of a foreign substance into the spinal canal causes this series of symptoms. It is true that the introduction of normal saline and solutions of other drugs cause similar symptoms of nausea, headache and vertigo. S. Ormond Goldan, of New York (*Phil. Med. Journal*, November 3, '00), reports that in one case where he dissolved the cocaine in cerebro-spinal fluid ob-

tained from the patient no symptoms whatever occurred; these facts would seem to show that alteration in pressure, and the introduction of a fluid of different specific gravity are the causative factors.

I have been able to collect reports of 173 cases, operated on under this form of anæsthesia by different surgeons and under almost all conditions possible. The results I have roughly summarized as follows:—

In 10 cases, no analgesia was produced; severe headache was reported in 79; nausea in 71; vomiting in 74; involuntary defæcation occurred in 9 cases, and urination in 4; profuse perspiration, 26 times; rise in temperature of two or more degrees, 55 cases; 12 patients had chills, and I showed distinct signs of collapse.

A. W. Morton, of San Francisco, states (*American Med.*, August 3, 1901) that by injecting the solution as rapidly as possible the analgesia may be extended to all parts of the body, and reports 8 cases in support of this statement. The following is an example:—

Male, æt. 62, Carcinoma of tongue. Injected rapidly 20 m. 2 per cent. cocaine into third lumbar space. Analgesia complete in 5 minutes. Lingual arteries ligated; the glands in the neck, and the entire tongue removed. Operation lasted 2 hours. No after effects and recovery uninterrupted.

A similar fact was noted by Brainbridge, of New York, but not with intention of producing general analgesia. In his case, a girl æt. 11, the conjunctivæ, mouth, tongue and posterior pharyngeal wall were tested, and found insensible to pain (*Med. News*, May 4, 1901, Case IX.)

Let us now look at the dangers or disadvantages and the advantages of this method over others. There is always a certain amount of danger from infection of the canal, causing a septic meningitis, a disease from which cases of recovery are very doubtful. Of course, rigid aseptic precautions render this danger almost nil, but the difficulty of completely sterilizing the patient's skin, and the ease with which the puncture is made, make it in the hands of a person who is not excessively strict, a very real danger. Another drawback is one which applies to lumbar puncture in general, and that is the ill effects produced by interference with the pressure, and with the contents of the cerebro-spinal canal.

In the majority of individuals there seem to be no effects from the aspiration of a few drops of liquor cerebro-spinalis, nevertheless Gumprecht (*Deutsche Med. Woch.*, XXVI., June 14, 1900) has collected 17 cases of lumbar puncture for diagnostic purposes, in which death followed quickly after the puncture, and in which the fatal termination could be attributed to no other cause than this trivial operation. Another danger lies in the analgesic drug itself. In the cases of which I

have examined reports, no deaths could be attributed to the cocaine, although in one or two there were alarming symptoms.

Goldan, of New York, reports the following case (*Phil. Med. Journal*, November 3, 1900), Mrs. L., in labour. Normal presentation. Analgesia to buttocks shortly after puncture. There soon followed vomiting, retching, profuse perspiration, dry mouth and muscular tremors. Pulse rose to 140, respirations to 60. She had every symptom of shock for about 10 minutes. After the placenta was delivered she went into collapse, was blanched and pulse imperceptible. She was inverted, and a hot saline enema given, after which she gradually improved. For two days she had severe headache, which was not relieved by medication.

Hopkins, of Brooklyn, reports another case (*Phil. Med. Journal*, November 3, 1900) in which there was no analgesia produced by the cocaine, and ether was administered, but had to be stopped owing to the condition of the patient. Pulse, 160, respiration feeble, pupils dilated, tremulousness of body and vomiting. At times the heart almost stopped. Three pints of saline solution were injected into the brachial vein, and two pints into the rectum. Strychnine and nitroglycerine were given hypodermically. It took six hours work to bring the patient around, and for ten days she had frequent sinking spells with general depression.

Carrière and Vanverts report a case in which no analgesia was produced, but toxic symptoms with violent headache, vertigo and vomiting came on, gradually disappearing in ten days (*L'Echo Med. du Nord*, May 19, 1901) W. G. Macdonald, of Albany, N.Y., gives the following report (*Med. Rec.*, December 1, 1900.) Patient a hard drinker. Under cocaine became cyanotic, profuse cold perspiration, respiration 60 to 80. pupils dilated, no pulse at wrist, involuntary evacuations. Recovery after two hours. One out of the first 125 cases reported by Tuffier, died with symptoms of asphyxia.

Racoviceanu-Pitesci, of Bucharest, says that three of his cases, out of 125, showed signs of intoxication that endangered life, and that necessitated artificial respiration and subcutaneous injections of ether, and that he knows of two deaths in Roumania following the lumbar injection of cocaine (*La Semaine Médicale*, August 8, 1900.)

It is well known that some people have an idiosyncrasy for cocaine, and it is impossible to tell who those people are before using it, so that what is a sufficient dose to produce a safe analgesia in one person is enough to endanger another's life. Many dangerous symptoms, and some deaths have occurred from the subcutaneous injection of cocaine. Another fact to remember is that when once the cocaine is

injected into the spinal canal, it is out of our reach and cannot be withdrawn if toxic symptoms develop.

The action of the cocaine is not constant, and in some cases there is no analgesia produced.

E. H. Gradin, of New York, (*Med. Rec.*, December 22, 1900) reports two failures after fluid was obtained through the needle. His solutions were tested and found active. In ten of the above mentioned cases no analgesia appeared. This, of course, is a minor disadvantage, as Tuffier claims that there is no contra-indication to the use of ether or chloroform in such cases.

A rather interesting case is given by Laplace, of Philadelphia, (*Phil. Med. Journal*, November 3, 1900) in which spinal fluid could not be obtained, 12 punctures being made, although the spinal cord was certainly reached the last time, as the patient in his own words experienced "a terrific electric shock."

Another objection which may be purely theoretical is the danger of permanent nerve lesions from the cocaine or from touching the cord or nerves.

Nicoletti, of Naples, (*La Semaine Med.*, August 8, 1900) experimented with dogs and rabbits, and found no histo-pathological changes in the cord, and Wm. Browning, Neurologist to the German and Brooklyn Hospitals, New York, examined 11 cases one week after injection with negative results.

It must be remembered, however, that nerve lesions are insidious, and may not appear for some time after the exciting cause has ceased to act. Corning himself says that he is not a surgeen, "but as a neurolgist I tremble for the cord." (*Med. Rec.*, October 20, 1900.) On the other hand, Tuffier says that there are no dangers, immediate or remote, to the nervous system. (*Semaine Med.*, December 22, 1900.)

The unpleasant after effects, especially the headache, are a decided drawback to the method, and are admitted by most surgeons to be at least as unpleasant as those induced by chloroform or ether.

One fact, that some claim as an advantage, and others as a disadvantage is the consciousness of the patient. To a person unaccustomed to operations, the operating room, the instruments and the sight of blood, it must be a severe nervous strain to know what is going on, and so true is this, that many operators insist on having the eyes of the patient blindfolded, and his ears stuffed with cotton. Of course, it is of advantage to be able to consult the patient if any change is necessitated by the condition of things found, and have his or her consent before going further. The following is a case in point:—W. W. Keen, of Philadelphia, being the surgeon. (*Phil. Med. Journal*, November 3, 1900.)

Man, æt. 51. Large left sided scrotal hernia of 23 years standing distending the scrotum nearly to the knee. It was reducible, but when reduced caused discomfort in breathing. Eucaine anæsthesia, Bassini operation performed. Keen did not want to use general narcosis on account of the embarrassment caused by the reduction of the hernia, and which might have gone so far as to endanger life were the patient unconscious. If he were conscious of the discomfort he could have told of it, and had the hernia re-established before dangerous symptoms developed.

In many cases the patient can aid the surgeon by holding himself in the position most convenient for the carrying out of the operation, whereas, if unconscious he has to be literally bolstered into the position desired. In one case reported, that of an amputation of the thigh, the patient held up the stump, while the surgeon treated the bleeding vessels.

The fact that the muscles retain their tonus must be a disadvantage, especially in abdominal work. Under general narcosis, the muscles are relaxed and flaccid, but only become so after very large doses of cocaine. In abdominal operations the retching and vomiting are also likely to interfere with the operator.

Probably the chief advantage that this method can claim is that it does not have the same injurious effects on the heart, lungs and kidneys, as do the old anæsthetics. Many operators who have employed it go so far as to say that there are no contra-indications to its use. Thus, for example, cases of diabetic gangrene have been operated on without ill effects; others suffering from renal inflammations have been anæsthetized by cocaine and been none the worse. Even severe cardiac lesions, and cases of advanced pulmonary tuberculosis are not harmed by the injection or analgesia. As an example; you are called to see a man with a septic peritonitis or a strangulated hernia, but the patient also suffers from Bright's disease. This is a case of certain death without operative interference and almost as certain if chloroform or ether are administered. With cocaine the operation can be performed without further injury to the kidneys.

In the majority of cases there is not the same amount of depression as follows general narcosis, and there is less liability to shock, so that the patient leaves the table in a better condition, and is better prepared for convalescence. I have not been able to find any figures to show whether or not the convalescence is shorter or more satisfactory than under the old methods. Old persons are said to show no ill effects, and to stand cocaine better than chloroform.

Another fact greatly in favor of cocaine is the ease of its adminis-

tration, and the fact that once the patient is anæsthetized the operator can put all his attention on the operation, and does not have to watch the anæsthetic. It would thus be of great value where the physician is alone, and experimenters say that there is no reason why cocaine analgesia cannot be as well employed in private practice as in the hospitals. The expense saved would be considerable, as a physician's ether and chloroform bill, especially one who does much operating, is a very considerable item, and then, too, the services of an anæsthetist can be dispensed with.

What vomiting there is, the patient is conscious of, and there is not the danger that occurs in ether and chloroform narcosis of the trachea or larynx becoming blocked by the vomitus.

What is known as inhalation or ether pneumonia, is by the use of cocaine done away with, and thus another remote effect of the old anæsthetics removed.

Finally, there is the testimony of many patients who have been operated on under both ether and cocaine that the latter is much the less disagreeable of the two.

Summing up, then, the general consensus of opinion seems to be, as Bier says in his latest paper on this subject (*Centrallblatt f. Chir.*, July 20, 1901), that it is at least as dangerous as the general narcotics, and perhaps even more so, and in its results even more unpleasant. And, again, that spinal analgesia is not yet perfected, and needs improving and further investigation, before being generally adopted. Nevertheless, he believes that it has a future. Tuffier, perhaps its strongest advocate, says (*Semaine Med.*, December 12, 1900.) Analgesia by this means bears comparison with general anæsthesia. Whether it should replace it, the future will show.

Phelps, of New York, (*Phil. Med. Journal*, November 3, 1900) admonishes the profession to advance with great caution, and says that only when it can be shown that death from this form of anæsthesia is less than 1 in 75,000, will we be justified in abandoning ether for cocaine.

He also states as his opinion, that if a 2 per cent. solution of cocaine were injected into the spinal canals of 1,000 persons, taken indiscriminately, the mortality would be greater than 1 per cent.

In some cases there can be no doubt but that it is indicated, as in operable cases, where ether and chloroform are absolutely contraindicated.

An editorial in the *Medical News* for October 13, 1900, says that it should be our object, not to employ medullary narcosis as first described, but using this as our starting point, to take means to render it harmless and to extend its action to all parts of the body.

For the present we must regard it not as an accepted fact, but as something still in its chrysalis stage.

McGILL MEDICAL SOCIETY OF UNDERGRADUATES.

The first meeting of the society for the present session was held in No. III. lecture theatre, on October 18, 1901, at 8 p.m., the President, R. C. Paterson in the chair.

After routine business had been disposed of, the first paper of the evening, "Lumbar Puncture Anæsthesia" was read by Mr. R. C. Patterson, '02. The advantages and disadvantages of this method of anæsthesia was discussed in an able manner.

The second paper was entitled, "Primitive Medicine," read by F. E. Stowell, '03, and was well received.

The Honorary President, Dr. C. F. Martin, then delivered an address illustrated by stereoptican views on the Continental Schools and Men who have been Prominent in Medical Science.

The second regular meeting was held in No. III. lecture theatre on the evening of November 1st, 1901, President Paterson in the chair.

A very interesting and instructive paper on "The History of Syphilis" was read by W. A. Gardner, '02, and one on Hypnotism, by N. W. Strong.

Professor Wesley Mills then gave a demonstration on the Nervous System, treating his subject in such a manner that not only those who had already finished their course in physiology, but the students of the freshmen year were equally able to profit by it.

OUR GRADUATES.

C. B. Trites, Med., '99, is located at Liverpool, N.S., where he has succeeded in building up a very lucrative practice.

E. L. Robidoux, M.D., '01, has taken up practice in his native town, Shediac, N.B.

T. H. Lunney, M.D., '01, is Senior Resident Physician of the St. John General Hospital, St. John, N.B., and has for his assistant, T. F. Bayfield, M.D., '01.

J. E. Carnath, M.D., '00, is practicing at his home, Riverside, N.B., and has already won some fame as a surgeon.

H. W. Coates, M.D., '00, who upheld McGill's prowess on campus and battlefield is now practicing his profession at Alma, N.B.

H. A. Jones, M.D., '00, is practicing at Sydney, Cape Breton, and meeting with success.

F. J. White, M.D., '86, after practicing for a number of years at Shediac, N.B., has removed to Moncton. Dr. White is an enthusiast in militia matters and has attained the rank of Surgeon-Captain.