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THE INTERNAL TREATMENT OF LUPUS ERYTHE-
MATOSUS WITH PHOSPHORUS.*

BY L. DUNCAN BULKLEY, A.M., M.D.,

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Hospital; Physician to the New York Skin and Cancer Hospital, etc.

Lupus erythematosus is recognized as one of the most rebellious of the diseases of the skin, and any substantial addition to its therapeutics must be as welcome to others as it has been to the writer.

Having employed the treatment about to be recommended for about ten years, and in perhaps fifty cases, I take pleasure in calling attention to the same, feeling confident that, if rightly used, others will find the same excellent results which I have obtained in a considerable proportion of the cases.

Before detailing the method of treatment advocated, I will very briefly present a table of the cases which have come under my observation in private practice, and in the clinics of the New York Hospital, the New York Skin and Cancer Hospital, and the clinic of the Post-Graduate Medical School. The records¹ of the cases treated in earlier clinics are not now readily accessible, but would considerably increase the number of the cases.

The number of cases here collected amounts to 97, seen in a total of 20,798 cases of miscellaneous diseases of the skin; in

* Read before the Canadian Medical Association, September 21, 1892.

the same number of general cases were seen 73 cases of lupus vulgaris, showing that in New York the affection under consideration is more common than true lupus, with which it is associated in name, without having any other relationship. I do not recall having ever seen the two associated in the same individual, or having seen the one transformed into the other; in specimens of lupus erythematosus which I have had examined by competent authority, the bacillus of lupus has never been found. In one very severe case of lupus erythematosus, which has been under my observation and care for many years, injections of tuberculin were tried faithfully for a long period, in the hands of a colleague, not only with no benefit, but with ultimate injury.

The following table presents the ages and sex of the cases referred to:

TABLE I.—LUPUS ERYTHEMATOSUS.

Ages of Patients.	Private practice. 7573 cases.			Public practice. 13,225 cases.			Grand total.
	Male.	Female	Total.	Male.	Female	Total.	
1 to 10 years	0	0	0	0	0	0	0
10 " 20 "	1	2	3	1	5	6	9
20 " 30 "	4	11	15	3	18	21	36
30 " 40 "	3	7	10	6	4	10	20
40 " 50 "	3	7	10	2	7	9	19
50 " 60 "	0	7	7	2	1	3	10
Over 60 "	0	1	1	2	0	2	3
Total	11	35	46	16	35	51	97

It is here seen that lupus erythematosus is very much more common among females than among males, the former comprising over 72 per cent. of the whole; that it did not occur once under the age of ten years; and that over one-third of the cases were observed between the ages of twenty and thirty years.

It may be interesting to present in connection with this the data relating to the cases of lupus vulgaris which occurred in

the same number of miscellaneous skin cases, and which are exhibited in the following table :

TABLE II.—LUPUS VULGARIS.

Ages of patients.	Private practice. 7573 cases.			Public practice. 18,225 cases.			Grand total.
	Male.	Female	Total.	Male.	Female	Total.	
1 to 10 years	0	1	1	0	1	1	2
10 " 20 "	3	2	5	2	8	10	15
20 " 30 "	2	4	6	3	9	12	18
30 " 40 "	3	4	7	3	3	6	13
40 " 50 "	1	7	8	1	3	4	12
50 " 60 "	2	2	4	0	4	4	8
Over 60 "	1	2	3	2	0	2	5
Total	12	22	34	11	28	39	73

It is unnecessary here to enter at all into the subject of the nature of the lupus erythematosus, of which we know so little, or to attempt any consideration of its clinical features, which have been so well presented by many writers, as well as its microscopic anatomy. The cases here analyzed represented various phases and degrees of the eruption, from a relatively small patch of recent origin, to a very extensive and severe eruption of many years' duration. It has never, however, fallen to my lot to see any of the cases of very acute, rapidly developing, multiple, discoid, erythematous lupus, terminating fatally, such as have been described, especially by Kaposi.

One of the most acute and severe cases which I have ever met with has recently been under my care, in a man aged 43, in whom within six months a large share of the face was covered with patches of the eruption, developing from small points; this case yielded well to the treatment to be described, with no local remedies, so that within two months there were but few traces of the eruption; although some small patches have still resisted for considerable length of time. In another very acute case, a girl aged 20, almost the entire face became covered in a

very short time ; and in this case, also, the disease was controlled almost at once in the same manner ; in two or three months all the active process had disappeared, leaving only depressed and slightly reddened scars ; the girl has remained as a servant in the Skin and Cancer Hospital, and continues quite free from the eruption now for nearly two years, though the face shows still the superficial scars left by the former lesions.

In a number of chronic cases, where the eruption had existed for a long period, even some years, the improvement was also almost as rapid under a free use of the phosphorus ; so that, in the light of other experience, and in the sudden checking of the eruption and its rapid subsidence in these acute cases, and the increase of the eruption once or twice when the remedy was stopped, I am quite satisfied that the results were obtained from the treatment, and had not to do with the spontaneous improvement which we sometimes see occurring in this disease.

The longest period during which I have watched a case is in that of a young woman now under treatment at the age of 25 years. She first came under my care some thirteen years ago, when 12 years of age ; the eruption had then been of about two years' duration and affected the nose, ears and fingers. The disease continued and increased under various forms of treatment, until the phosphorus was used, about ten years ago, when it yielded, and within some months there were only scars left. She then ceased treatment for a while and there was some relapse, which again disappeared under the same treatment. After this she remained well for a number of years, until, being married at 19 years of age, the eruption re-appeared after the birth of her first child, within a year after marriage. She then fell into other hands and received a variety of treatment with constant increase of the eruption up to the time when she again came under my care some months since ; this was the patient already referred to as having received the treatment with tuberculin.

When I again took charge of her there was a very large amount of eruption on the face, ears and scalp, with many scars left by former lesions and the severe local measures which had

been adopted. There were both chronic patches and those of more acute, somewhat inflammatory character, attended with considerable heat and burning. During the past few months she has been under full doses of the phosphorus, with again happy effects. There has been almost immediate cessation of all acute symptoms, and many of the lesions have almost disappeared, there having been no local applications made. Many of the other lesions have also shrunk, and some have completely cicatrized. I have repeatedly shown and lectured upon this patient, and the marked and steady improvement has been strongly commented upon by the physicians attending the Post-Graduate Medical School.

It is not wise to attempt to present data or statistics in regard to the cure of such an eruption by any special line of treatment; we all know how unreliable such statements may be in a special and consultation practice, and I will not attempt it on the present occasion. I may state, however, that in a very considerable number of cases I have seen the lesions of lupus erythematosus subside and entirely disappear under the treatment proposed, and in a number of instances I have had the patients under observation, in one way or another, for a length of time after treatment.

In reference now to the particular plan of treatment recommended, I wish first to state that I do not by any means claim priority in the use of phosphorus in lupus erythematosus, for I believe it has been mentioned in some of the older books, and I do not know where I first found the suggestion which led to its employment.

But I have searched in vain in the more recent works for any mention of its use, except such as I have myself occasionally thrown out from time to time; these latter, however, do not appear to have attracted attention—in!eed, this treatment was mentioned only casually in connection with other subjects. In the light of my experience, therefore, I wish now to bring forward this remedy as a most valuable addition to our internal treatment of this disease, for the therapeutics of lupus erythematosus is certainly far from satisfactory, as may be judged

from the meagre presentation of the subject in our recent textbooks.

Some considerable care is necessary in employing phosphorus internally, but if it is properly administered and due precautions are exercised, I believe it to be perfectly safe; some of my patients have taken it continuously for months, not only without harm, but in some instances with marked improvement to their general health.

While it is the phosphorus that is of service in the disease under consideration, there is a great difference, both in regard to its immediate and later effects, as to the form and method in which it is administered. In my earlier trials with the remedy I gave it, as is often recommended, in oily solutions, and in the form of pills; but with these I had on several occasions such severe digestive and liver disturbances, and occasionally accompanied with violent jaundice, that I was led to adopt wholly the form of administration about to be recommended, and to exercise other precautions, so that now for a number of years past I have had no single instance of disturbance from the remedy which could cause uneasiness.

The form in which I now administer the phosphorus is in a solution, which was first suggested, I believe, by Dr. Ashburton Thompson, primarily for employment in nervous conditions. I give here the formula which I have long used, and which is known in my clinics as "Thompson's solution of phosphorus":

℞.—Phosphorus gr. vj.
 Absolute alcohol ℥xxx.

To be dissolved with the aid of heat and agitation, and then mixed, while still warm, with the following mixture, also warmed:

Glycerin ℥i℥ss.
 Alcohol ℥jss.
 Essence peppermint ℥ss.

Each drachm contains $\frac{1}{20}$ grain of phosphorus.

In most cases I begin with fifteen drops, in water, three times daily after meals. It is well to have the water added quickly after the liquid has been dropped out in an empty glass, and

the dose should be taken at once, as I believe that the presence of water changes somewhat the taste of the free phosphorus; if exposed to the air the phosphorus oxidizes, and the less efficient phosphoric acid is formed. Commonly the dose may be increased by one or two drops daily until thirty are taken three times daily; the dose is then increased more slowly, one drop every other day, until forty or forty-five are taken each time, and in rare cases, if it agrees, even a larger amount may be given; but seldom have I given as much as sixty drops to a dose. As the disease yields the dosage is still continued, if well borne, even until the lesions have quite disappeared and superficial cicatrization has taken place.

It is well to watch patients very carefully while taking this remedy, noting the condition of the tongue and of the digestion, and with the least disturbance the drops should be stopped for the time, and proper measures instituted to restore the deranged functions. if there is any constipation or signs of liver disturbance I always give a mild dose of blue-mass, colocynth, and ipecac, repeated on the second night after; if then the bowel discharge has been free and the tongue is not coated the drops may be resumed at a smaller dose than when stopped, and the amount again increased, yet more slowly and cautiously.

In many instances the greatest benefit will result from the administration of full doses of nitric acid after each meal, well diluted, in the interval of cessation of the drops, say for a week, when they may be returned to as before. This course of nitric acid may be repeated from time to time with advantage.

When there is much heat and flushing in the eruption, it will often be better to give, in place of the nitric acid, the acetate of potassium, in doses of fifteen grains, with the fluid extract of rumex, and nux vomica, well diluted, half an hour before meals, as in acne rosacea. This I have sometimes seen to have a most beneficial effect upon the eruption, and when the phosphorus has seemed to have lost its effect on the lesions, I have observed it to take hold of them strongly after a course of a week or so of the acetate and rumex mixture.

In many instances, however, there has been little or no diffi-

culty in taking the phosphorus, when the dose was not pushed too actively, and some patients have required little or no assistance from the measures mentioned. But I must insist that the remedy here advocated is to be given most carefully, and claim that, when rightly administered, it is harmless and of great benefit to the disease in question.

Knowing so little as we do in regard to the real nature and causation of lupus erythematosus, I cannot attempt any definite explanation of the mode of action of the remedy in this disease. But in my judgment, arguing from the effects of phosphorus in certain nervous conditions, I think we must look for its action through the agency of the nervous system. There are many elements, which I cannot consider now, which point to a probability that the eruption is of angio-neurotic origin, and these are confirmed, in a measure, by the results obtained from phosphorus employed in the method above described.

I have not attempted any consideration of the local treatment of lupus erythematosus, as I wished to present only the single point which has been emphasized in this paper. In many of my cases I have found decided results from the methods commonly described; but their frequent failure to check the spread of the disease has led me to persist in the use of the internal remedy here advocated, which will, I trust, meet with favour also in the hands of my *confrères*.

DISCUSSION.

Dr. STRANGE.—It is almost too good to be true. We have all been looking out for some treatment of this disease. Anyone who is familiar with skin diseases knows that this is the most intractable that we are acquainted with. The trouble is to prevent a recurrence of the disease. I shall be very glad to try this treatment in the hospital. I cannot see why, in the practice of so many years, there has not been more progress made. I think the proposed treatment will be widely tried, and in a year or two we should be in a position to give an opinion on it.

Dr. GRAHAM —With regard to phosphorus itself, I understand Dr. Bulkley to say that he attributes the value of phos-

phorus to its action on the nervous system. If so, would it not be as well to use the phosphate of zinc? Speaking as a practitioner, I should find it difficult to get a patient to put a few drops into a glass, dash in the water, and drink it immediately. I should give phosphate of zinc pills with the greatest confidence, and ask the patient to see me at stated intervals.

Dr. J. E. GRAHAM.—I have seen phosphorus with carbolic acid applied externally; I have seen that tried two or three times. In one case I tried phosphorus. I have not seen the patient since, but I have been told that she is considerably improved. I have usually given phosphorus in the form of phosphate of zinc, or in capsules, or dissolved in oil. I do not think I have ever found them disagree with the stomach. It is generally conceded that phosphorus given in that way is of very much more benefit than given in any other form—that is, either given in solution with oil or alcohol, or something of that kind. I have certainly found it a very great benefit indeed. I am very much pleased to hear the paper of Dr. Bulkley's, and I shall persevere in the treatment with a good deal more confidence than I have done previously, and I hope the result will be good.

Dr. WRIGHT.—Is it necessary to give phosphorus in the case of lupus erythematosus after meals? Dr. Bulkley emphasized this somewhat. I ask the question because it seems to me that possibly the administration of the phosphorus at that time may have something to do with the changes he has indicated. Not long ago a patient of mine, who had been under treatment in New York, came here, and I received a letter from her physician strongly recommending a certain preparation of phosphorus, very much the same as Dr. Thompson's, and he recommended its administration with hot water half an hour before meals. It struck me that that was a good way to take it, and that it would be quickly absorbed in that way, whereas taking it after meals it might change to phosphoric acid, and in that way its therapeutic effect be altered.

Dr. BULKLEY.—Dr. Strange's remark that it is almost too good to be true has struck me. I did not read all my paper

giving cases. I do not say it cures all cases, but I have found it so effective in my own practice that I think I have evidence now to show that it is of some value. Do not be afraid of it. I have never seen complication from the use of the solution. I did earlier with the oil and pills, and had several cases of jaundice. Phosphate of zinc might be useful. I have given four drops before meals. I do not notice any difference in taking it before or after meals.

SIX MONTHS' MEDICAL EVIDENCE IN THE CORONER'S COURT OF MONTREAL (JANUARY TO JUNE, 1893).*

By WYATT JOHNSTON, M.D.,
MONTREAL.

AND GEORGE VILLENEUVE, M.D.,
MONTREAL.

At the commencement of the present year, when, on account of his long experience in criminal matters, our present energetic and capable coroner was appointed, it was intended that his duties were to be purely judicial, and that medical questions in connection with coroners' inquests were to be investigated by a physician specially appointed for that purpose, whose duties should correspond with those of the "coroners' physicians" or "medico-legal experts" of other countries.

These duties having been entrusted to one of the writers since the beginning of the year, or, in case of absence, to the other, we think it well now to review the medical evidence given before the Coroner's Court during the past six months under the new system.†

We wish first to express our thanks to the members of this Society, and to the medical profession in general, for the cordial support they have given, from first to last, in effecting some much needed changes in connection with Coroners' Court inquests. We also wish to thank the members of the Provincial Government for the great interest they have taken in the matter and the uniform courtesy with which all suggestions concerning it have been received.

* Read before the Montreal Medico-Chirurgical Society, June 23, 1893.

† As the present paper is chiefly of a general nature it seemed preferable to make our communication a joint one, although most of the evidence has hitherto been given by one of us (Dr. Johnston).

A beginning has already been made in the direction of placing matters concerning medical testimony at inquests on a different footing, but owing to some technical difficulties in arranging the duties of this new medico-legal office, we have only been consulted in a relatively small proportion of the total inquests. For this reason a communication limited to our own personal observations would not be fairly representative of the evidence in the Coroner's Court, so we have, in addition, supplemented our own observations by studying the testimony given by medical witnesses in cases where we were not consulted. All internal post-mortem examinations ordered by the coroner or jury were made by the expert, but as autopsies are only called for in a small number of cases, many of the inspections of the body, which constitute the majority of the examinations, were made by other medical men. A radical change has not yet been found feasible under the present law, though I may state that the present coroner is strongly of opinion that autopsies should be performed in every case where it is necessary to hold an inquest. Our information as to medical testimony given at inquests where we were not present has been obtained from the records of inquests deposited at the Crown and Peace Office.* These documents are at all times accessible to any one who may wish to see them, and therefore the information obtained from them is not of a privileged or secret nature.

During the six months ending June 30th, 1893, 202 inquests have been held in the Montreal district, out of which we have been called to give testimony in 70. During the same period 26 autopsies have been ordered, all of which have been entrusted to us.† In the remaining inquests, 130 in number, the examinations were made by 68 different medical men. Except in specially important cases the expert does not examine the bodies of those who have been seen during life by other medical men.

It seemed expedient in the present paper to treat the medi-

* We have to thank Mr. C. Doucet, Clerk of the Crown and Peace Office, for kindly aiding us in consulting the records.

† We take this opportunity of thanking Coroner McMahon for the uniform courtesy and consideration which he has shown us in our capacity of experts, which has made our work under him specially agreeable.

cal evidence in a general statistical way only, reserving for future and more scientific papers the details of the cases.

Comparing the work of the Coroner's Court with that of two years ago, in 1890 and 1891, we find that then about 240 inquests were annually held in the district of Montreal, and in these 12 autopsies were made, so that at present the number of inquests is nearly twice as great, and that of autopsies is about four times as great as under the old system.

Taking the population of the district of Montreal as 300,000 (which is well below the mark), we find that 0.8 inquests were then held per year for every 1,000 inhabitants. In Philadelphia 2 per 1,000 are held annually, and in Liverpool 1.7 public inquests per 1,000, and as many more coroner's private inquiries, so that the number of inquests in Montreal is relatively small as compared with other large cities, the frequency for the past half year being at the rate of 1.32 per annum.

Here, as elsewhere, of all the cases brought to the notice of the coroner, only a few finally prove to be medico legal. In Liverpool, of 900 inquests held in 1892, only 4 verdicts of murder and 8 of manslaughter were found, or in other words, less than 1.3 per cent. of the suspicious deaths were found to be due to criminal violence or negligence.* In South-west London, out of 20,000 inquests during 20 years, there were 8 verdicts of murder, 14 of manslaughter, and 59 of infanticide, or 0.4 per cent. of criminality.†

That so much material must be sifted in order to detect criminal cases affords an explanation of the fact that we have no startling or sensational tragedies to report to you to-night. Possibly if more autopsies had been held more crime would have been detected, and certainly in two cases the circumstances seemed sufficiently suspicious to warrant us, as medical men, in suspecting foul play, although as the juries did not think it necessary to order autopsies in either of them no positive statement can be made on this point.

In the Province of Quebec, as we know, except in exceptional cases, it is the practice only to hold autopsies with the consent

* F. W. Lowndes' evidence before committee on death certification, 1893.—*British Med. Journal*, May 6, 1893, p. 962.

† Braxton Hicks— i

of a majority of the jury. Why a jurymen should be supposed to know better than the coroner or the medical witness where an autopsy is needed is a matter which we cannot pretend to explain, but, such being the law, there is at present apparently no remedy but patience.

In Montreal to hold 240 inquests annually meant that 2,880 jurymen must be empanelled each year to consider the evidence. Were the coroner permitted to order an autopsy when necessary to establish the cause of death, not only would the entire medical evidence be ready for the jury at its first session, but as in three-fourths of the suspicious deaths natural causes of death could be demonstrated, three-fourths of the inquests would be prevented. in other words, 2,160 of the citizens of Montreal would annually escape the annoyance of having to sit on juries in order to bring in verdicts of death from natural causes, and the attention of the coroner and his juries would be concentrated on the few really criminal cases. Unfortunately we learn from the very highest authority that the holding of autopsies in order to prevent inquests is illegal and contrary to the spirit of the British criminal law. This is a matter to be regretted, as it causes much loss of time and unnecessary expense.

The British Coroners' Act of 1887, however, empowers the coroner to order an autopsy to be performed before the jury is summoned: were this the case here much of the jurors' valuable time would be saved in the minor cases.

Education of Jurymen.—Out of 1,200 jurymen empanelled for a series of 100 consecutive inquests 879 signed their names and 321 made their marks. The percentage that signed is 73.2, and I am informed by Mr. Biron, Coroner's Clerk, that a number more were able to write but refrained from doing so; some from modesty, others for fear of soiling the paper. We may assume that about 80 per cent. of the jurymen were able to write, but from the appearance of the signatures I should judge that less than 50 per cent. were persons who had written sufficiently often to give any character to the handwriting. Some of the most sensible verdicts were rendered by jurors, none of whom could write, and some of the most absurd ones bore the autographs of all twelve jurors.

Inquests in past Six Months.—In the 202 inquests held from January to June, 1893, the following verdicts were returned. We have placed in separate columns the cases in which we were consulted as experts, and also those in which autopsies were made.

In 88 cases out of 202 (that is to say, 43 per cent.), the investigations were what is known as *ex-parte*, or held by the coroner without summoning a jury. In these cases the suspicions of crime were either very slight or shown to be groundless upon preliminary inquiry.

The regular fees were not paid to medical witnesses in these cases, except in three instances where the medical expert was consulted; in the remainder the testimony was informal and not taken under oath. The practice of holding these *ex-parte* inquests appears to have been discontinued, none being recorded in the month of June. In other words, public records are not kept of the cases in which, upon inquiry, the coroner does not find cause for summoning a jury.

Table showing relative frequency of inquests before coroners, of coroner's inquiries without juries, and of autopsies, for the half-year from January to June, 1893. The percentage of inquests in which autopsies were ordered is also given for each month. This has increased from 7.3 per cent. in the first quarter to 14.6 per cent. in the second.

MONTHS, 1893.	Inquests before Jury.	Inquiries without Jury.	Total number of deaths investigated by coroner.	Autopsies.
January.....	9	14	23	3 (13 per cent.)
February.....	11	24	35	2 (6 per cent.)
March.....	14	21	35	1 (3 per cent.)
April.....	13	15	28	6 (21 per cent.)
May*.....	22*	14	36	4 (11 per cent.)
June.....	44	0†	44	10 (22 per cent.)
Total.....	113 (57 per cent.)	88 (43 per cent.)	201	26 (12.9 per cent.)

* One inquest in a case of arson is omitted, as having no bearing upon medical evidence.

† Since the 1st of June no public record is made of the facts elicited by coroner's inquiry in the cases where it is not necessary to summon a jury.

Table showing the verdicts of the Coroner's Court for the District of Montreal from January to June, 1893, including the conclusions arrived at in *ex-parte* inquests held without jury in minor cases; these are also placed in a separate column:—

VERDICTS.	Ex-parte. No Jury.	Expert called.	Expert not called.	Total.	Autopsies.
I.—HOMICIDAL DEATHS.					
Manslaughter.....	..	1	1	2	1
Jury undecided—Manslaughter or Justifiable Homicide.....	..	1	..	1	1
Infanticide.....	..	1	..	1	1
Total.....	0	3	1	4	3
II.—SUICIDAL DEATHS.					
By Paris Green.....	..	2	3	5	2
Rough on Rats.....	..	1	..	1	1
Sulphate of Copper.....	..	1	..	1	..
Cutting Throat.....	..	..	2	2	..
Hanging.....	..	1	..	1	..
Drowning.....	..	1	..	1	1
Firearm.....	..	1	..	1	0
Total.....	0	7	5	12	5
III.—ACCIDENTAL DEATHS.					
Fall into Hold of Ship.....	..	1	..	1	..
Railway Accident.....	..	7	3	10	1
Street Car.....	..	1	3	4	..
Elevator ".....	..	3	..	3	..
Carriage ".....	..	1	2	3	1
Runaway Horse Accident.....	..	2	..	2	..
Tobogganing ".....	..	1	..	1	..
Machinery ".....	..	..	1	1	..
Firemen on Duty.....	..	1	2	3	..
Others Suffocated by Smoke.....	..	..	1	1	..
Fall of Building.....	..	2	..	2	..
Fall of Derrick.....	..	2	..	2	..
Fall down Stairs.....	1	..	2	2	..
Explosion of Gas.....	..	1	..	1	..
Blasting Accident.....	..	..	1	1	..
Explosion of Water Pipe.....	1	..	1	1	..
Burning.....	4	4	5	9	..
Scalding.....	..	..	1	1	..
Inhalation of Gas.....	..	1	3	4	..
Choked by Food.....	2	1	2	3	..
Hæmorrhage Umbilical Cord.....	..	1	..	1	1
Over-Laying (Suffocation of Infant in Bed).....	1	..	1	1	..
Accidental Drowning.....	1	7	4	11	1
Administration of Chloroform.....	..	1	..	1	1
Sudden Death from Lead Colic.....	..	..	1	1	..
Poisoning by Morphia.....	..	..	1	1	..
" Soothing Syrup.....	1	..	1	1	..
" Chlorodyne (Anticholérique).....	1	..	1	1	..
Insolation (Sunstroke).....	..	..	1	1	..
Exposure.....	..	1	..	1	..
Paralysis from Exposure & Intemperance.....	..	1	..	1	..
Total.....	12	39	57	76	5

VERDICTS.	Ex-parti. No. jury.	Expert called.	Expert not called.	Total.	Autopsies.
IV.—DEATHS FROM NATURAL CAUSES.					
1. Nervous System:—					
Apoplexy	3	..	3	3	..
Cerebral Hæmorrhage .....	..	2	..	2	2
Abscess of Brain .....	..	..	..	1	1
Congestion of Brain	1	..	1	1	..
Meningitis .....	..	..	1	1	..
Paralysis	1	..	2	2	..
2. Circulatory System:—					
Heart Disease	16	1	18	19	..
Fatty Degeneration of Heart	1	..	1	1	..
Aneurism	1	..	1	1	..
Syncope of Heart	1	..	1	1	..
Heart Disease aggravated by Intemperance ..	..	..	1	1	..
Syncope of Heart caused by Intemperance ..	..	..	1	1	..
Cardiac Asthma	1	..	1	1	..
3. Respiratory System:—					
Asphyxia	1	..	1	1	..
Pneumonia	3	4	3	7	3
Congestion of Lungs	1	..	2	2	..
Pneumonia or Heart Disease	1	..	1	1	..
Inflammation of Lungs	1	..	1	1	..
Pulmonary Embolism .....	..	..	..	1	1
Hæmoptysis, Phthisis	1	..	..	1	..
Consumption, Phthisis	8	..	9	9	1
Capillary Bronchitis .....	..	..	1	1	..
Pulmonary Apoplexy caused by Emotion ..	..	..	1	1	..
4. Digestive System:—					
Inflammation of Bowels	1	..	1	1	..
Cholera Morbus	1	..	1	1	..
Diarrhœa .....	..	..	1	1	..
Peritonitis	2	..	2	2	..
Cancer of Liver	1	..	1	1	..
Hepatic Colic	1	..	1	1	..
Jaundice	1	..	1	1	..
5. Urinary System:—					
Urethral Fever	2	..	2	2	..
6. Genesive System:—					
Puerperal Fever	1	..	1	1	..
Metropéritonitis	1	..	1	1	..
7. Other Diseases:—					
Purpura	1	..	1	1	..
Dropsy	1	..	1	1	..
Infantile Debility .....	..	1	1	1	..
Senile	2	..	3	3	..
Stillborn .....	..	3	..	3	3
Sudden Death from Lead Colic .....	..	..	1	1	..
Tumour	1	..	1	1	..
Incurable Disease	1	..	1	1	..
Intemperance .....	..	1	..	1	..
Total.....	59	15	70	85	11

VERDICTS.	Ex-parte. No Jury.	Expert called.	Expert not called.	Total.	Autopsies.
V.—OPEN VERDICTS.					
Sudden Death—No cause assigned.....	3	..	3	3	..
Unknown Causes.....	9	..	8	6	..
Natural Causes.....	5	..	6	3	..
Unknown Natural Causes.....	..	1	1	1	1
Canadian Cholera or Poisoning.....	..	1	..	3	1
Found Drowned.....	..	3	..	3	1
Total.....	16	5	18	24	3
SUMMARY.					
Homicides.....	0	1	1	4	3
Suicides.....	0	7	5	12	5
Accidents.....	12	39	37	76	5
Natural Death.....	59	15	70	85	11
Open Verdicts.....	16	6	18	24	2
Total.....	85	70	131	201	26

Inquests without Medical Evidence.—In 22 of the cases, or nearly 11 per cent., no medical testimony at all is recorded, the verdicts being as follows:—

ACCIDENTS.	NATURAL CAUSES.	OPEN VERDICTS.
Burned.....	1 Consumption.....	2 Sudden Death.....
Railway Accident.....	1 Pneumonia.....	2 Natural Causes.....
Accidentally Drowned.....	2 Heart Disease.....	2 Unknown Causes.....
Inhalation of Gas.....	1 Pneumonia or Heart Disease.....	1 Unknown Natural Causes.....
	1 Debility.....	
5	8	9
		Total..... 22

The advisability of saving physician's fees in these cases, if any grounds existed for making an enquiry at all, appears questionable; certainly, in those cases where death was not due to accidents attested to by reliable eye-witnesses, it hardly seems prudent to act entirely without medical testimony. The fact that in 53 per cent. of these cases open verdicts were the result, speaks for itself.

Upon looking at the *ex-parte* inquiries it will be seen that out of a total of 88, 59 (*i.e.*, 67 per cent.) were in connection with cases where death appeared to be due to natural causes. In other words, two-thirds of these cases were essentially of a

medical nature. If we exclude the 12 accidents where, of course, the nature of the violence was obvious and only the question of responsibility remained to be decided, we find that out of the 66 remaining cases 89 per cent. were assumed to be due to particular diseases. As the remaining open verdicts in 16 cases were probably also of a medical nature, we find only 12 cases out of the whole 88, or less than one-seventh, were what might be called non-medical. No better proof of the necessity of expert medical work in minor cases in the Coroner's Court could be afforded than is shown by this analysis of the material.

Taking the entire number of cases dealt with, 202, and deducting 24 open verdicts, 1 case of arson and 76 accidents where the nature of the violence which had caused death was obvious in almost every case, we have 100 cases left. In these, 85 verdicts of death from natural causes were returned, making it evident that of 100 deaths under circumstances arousing the coroner's suspicions, 85 per cent. were essentially medical in nature, and therefore required skilled medical investigation to decide their real nature, in addition to the medico-legal study of the 15 really medico-legal cases remaining.

In several of the suicides, autopsies were ordered to establish whether the patient was of unsound mind, and in one case fairly positive proof of this was obtained, large symmetrical cystic spots of softening being found in the brain.

In the cases of suspected infanticide autopsies were invariably performed, the coroner rightly deciding that the proof of the child having breathed was indispensable. Under the old régime of a few years ago autopsies were never held in these cases, and frequently even the inquest was omitted.

In one case of death after a private surgical operation professional questions of a sufficiently delicate nature threatened to arise, but the friends having come to the conclusion that the surgeon had acted for the best withdrew their demand for an investigation, much to our relief.

Pneumonia was found to be a frequent cause of death under suspicious circumstances. In one case where a verdict of death

from alcoholism had been rendered, and in consequence burial in consecrated ground was denied, a private autopsy showed that pneumonia was the cause and the restriction was withdrawn.

We do not think it well that private autopsies should be held in such cases, as it would appear to be only just that the Government should investigate the matter fully if the friends are not satisfied with the verdict, even if there is no crime. This would be decidedly more dignified than having the finding of the jury repeatedly shown to be wrong by the results of private autopsies afterwards made. In France an appeal of this kind always receives careful official consideration.

In one of our cases classed as debility and one of pneumonia, both in children, very clear evidence was forthcoming of neglect on the part of the parents. A number of other instances of this have come under the notice of the coroner. In these cases it is impossible to proceed in the absence of the evidence given by autopsies, as if the child really suffers from an incurable organic disease, and the life could not have been saved by ordinary medical and other care, criminal negligence could hardly be proved.

It may be remarked in this connection that our present law, which makes parental neglect amount either to manslaughter or nothing, makes it impossible to get incriminating verdicts from the juries. In England offences of this kind may be dealt with as misdemeanors and a moderate fine or short imprisonment inflicted after a summary trial. Such a change in our criminal law would be the means of saving many young lives, and we would commend it to the attention of the Society for the Protection of Women and Children, or to our Citizens' League. We are glad to learn that a society is being formed to deal with this matter.

It will be noticed that no cases of criminal abortion were brought to light, although we know that they are frequently performed in Montreal. We have been told on reliable authority that competition has reduced the charge for this operation in certain quarters to ten dollars. Were an autopsy performed in all cases of suspicious death it is not unlikely that some deaths

now assigned to natural causes would prove to be cases of this character. One of us knows of a case which happened some years ago and where a woman died of severe uterine hæmorrhage under most suspicious circumstances. In this case heart disease was stated to be the cause, upon the strength of an external examination.

In none of the cases of poisoning by gas was any proof of the presence of carbon monoxide asked for. One of the favourite verdicts still continues to be death from exposure. We have examined two of these externally and reported the absence of external signs of fatal disease and the necessity of an autopsy being held, but none was ordered in either case.

Coming finally to 20 verdicts of "natural causes" and "unknown causes" these might equally well have been rendered in at least 50 other cases, so far as can be learned from the records. We see no objection to the verdict of unknown causes being rendered, but how, when the cause is unknown, it can be stated to be natural, is a matter of which the explanation must be left to the juries who have found this verdict. A fine instance of the perspicacity of a jury was recently given in a case where everything pointed to poisoning by arsenic or corrosive sublimate. After the inquest was over, a private analysis found evidences of the presence of arsenic in this case, and the possibility of cholera morbus as a cause was definitely excluded at the autopsy. The jury found, "that the deceased came to his death either by cholera morbus or by poisoning. It is not possible, without making a chemical analysis, to determine which of these causes is the true one, and in the present case is of no consequence." In the words of Ruddigore, "It really doesn't matter!"

In another recent case where an individual had disappeared for two days, at the end of that time his dead body being found locked up in a cottage, with the furniture strewn about and overturned and with marks of violence about his face, the verdict returned on the strength of the medical evidence was death from a convulsion due to chronic lead poisoning. This was one of the cases in which we were not summoned to examine the body.

In the case of bodies which have lain some time in water, putrefaction sets in with extreme rapidity. We have seen bodies freshly removed from water, and in which much could be made out by an examination made at once, putrify so rapidly that in a couple of hours they had become quite unrecognizable. Our only inconclusive autopsies were held upon drowned bodies which had thus putrefied.

The only satisfactory means of preventing this is by having a refrigerating chamber similar to that in use at the Paris Morgue, where bodies are promptly placed in a dry, cold atmosphere of about 5° Fahrenheit for 24 hours, and afterwards preserved indefinitely in a cold chamber kept at about 25° to 35°. This latter is furnished with a glass front and placed in a passage accessible at all times to the public. If necessary the bodies may be kept years in this manner, and may not only be identified at the end of that time, but if gradually thawed out an autopsy may be performed, with results almost as conclusive as on the fresh cadaver. In this way there is no nuisance or danger to health.

Comparing the results of the past six months with a period of six months in 1890, we find that then in a half-year, out of 123 inquests, in 16 cases the verdict was simply "found dead," and in not one of these was an autopsy made; out of 7 cases of cerebral apoplexy no autopsies were made, and for one verdict of "cerebral congestion" no medical testimony was taken. "Synecopy" of the heart was responsible for 7 deaths, no autopsies being ordered, and pulmonary congestion for 4 cases, of which 3 were in the case of unknown persons found dead—no autopsies. One case died of a "broken heart," and one of "angelis pectoris," 9 were found drowned, 4 accidentally drowned, and in 8 cases medical testimony was not called for.

To a certain extent, "*nous avons changé tout cela*," but even during the past six months some medical opinions have been given which is sufficiently remarkable. I mention a few only. "Sudden death from hepatic colic" in a child three days old, and without jaundice, is odd, to say the least. "Congestion of the brain caused by fatty degeneration of the heart"

is also an original idea, and worthy of a niche in history. Sudden death from "metro-peritonitis" in a patient who seemed to be in perfect health up to the moment of her death, is an observation which it falls to the lot of very few to make. In one case, when the patient complained of pains in the region of the stomach for several days before death, and had a considerable hæmorrhage on the night of his death, we find the statement that death "must have been due to heart disease or pneumonia." In half of the cases where death is stated to have been due to heart disease, the medical men had never seen the cases during life. In no heart cases is any attempt made to note whether any objective signs of heart failure, *e.g.*, dropsy, clubbed nails, etc., were to be seen on the body. In one case, "congestion of the lungs" was diagnosed post-mortem from external examination by a physician who had never seen the man alive, but the secret of the process is not imparted.

In one case, where a death occurred in a public institution, and the patient had been ill several days without the doctor having seen him, the jury are careful to state that "no blame is to be attached to the authorities, but, on the contrary, they deserve praise for the good care they took of the deceased." (*"Au contraire, des louages pour leur bon procédés à l'égard du défunt."*) This was certainly very considerate of the jury, but politeness may be carried too far.

In the case of a woman who died suddenly, death should hardly have been put down to heart disease when nothing more definite than "oppression" had been complained of during life, although a doctor called in after death "had no objection to believe" that she died of this favourite lethal agent of coroners' courts. The only reason seems to be that the family were respectable people (*des braves gens*.) Something more tangible should be forthcoming as a proof of the cause of death when the imposing machinery of a Coroner's Court has once been set in motion, even in the case of the most respectable families. The same physician had equally little objection to believe the same thing in another case on equally slender grounds.

In this matter of determining the cause of death, coroners are placed in a very difficult position, because the law does not require them to find out the exact cause, but merely to see if a crime has been committed. To incur expense which does not lead to the detection of crime is considered one of the cardinal sins. That neighbours' testimony as to the character and habits of the suddenly deceased is of great value in affording what in law is called a "presumption" against crime there can be no doubt, and from study of the records I can testify to the great pains which our own coroner always takes to investigate this side of the question. In all the records the following points are carefully covered by the non-medical testimony:—

1. Marks of violence absent.
2. No external signs of poisoning.
3. Deceased stated to have eaten and drank only those things taken without ill effect by others.
4. Deceased did not, from conversation or behaviour, lead the friends to suppose that suicide was contemplated.
5. Deceased not known to have enemies.

Now, these points, important as they are, do not prove a natural death. The utmost interpretation which could be put upon them is "death from unknown causes, without suspicion of crime." This is better than attributing the death to unspecified "natural causes," and much better than ascribing it to an imaginary heart disease which probably does not exist in the majority of cases.

The laity always suspect poison when death is sudden, but the medical profession knows that but very few poisons exist which can cause people to drop dead. The external evidence of poisoning is usually absent, or at least has not been present in any of the four cases we have examined. Absence of statements as to intended suicide would not seem to be of much value, judging from the fact that in only one of the 12 cases of suicide which have been investigated had any statement been made by the victims of their intention. People who *talk* suicide seldom commit suicide. The great disadvantage of all this sort of evidence is that it is mostly obtained from those who may be

interested. As Coroner McMahon has often pointed out, people in large cities know very little about the doings of their neighbors, the conditions being quite different from those obtaining in country places. When death from unknown causes satisfies the ends of justice, well and good; but for any more explicit cause of death it would be simpler, instead of trying to exclude the many possible causes which are absent, to find out the one real cause.

We have a great admiration for juries in general, and admire the spirit of fairness invariably shown by our Canadian juries in particular, when human interests are really at stake. Their sympathy for the wronged and unfortunate is worthy of all praise, and they stand in no awe of the corporations which oppress us, but as an institution for finding out causes of death they are not an unqualified success.

When the cause of death is not clear without an autopsy we have made it our practice simply to state that fact. This has had the result, not of an increased number of autopsies, but in an increased number of deaths from unknown causes—presumably, visitation of God. We live in hopes that these numerous “visitations of God” may tend to hasten a millenium when autopsies will be more frequent.

The first and most important duty of the medical witness is to ascertain the cause of death, and it is satisfactory to know that of the 26 autopsies held the cause of death could be definitely stated in every case except three, two where the bodies had remained a long time in the water and become greatly decomposed, and one shown to be due to poison. Even in these unpromising cases, however, the important medico-legal points could be determined at the autopsy. Presuming that the same precision as to the cause of death would have been attained in the remaining cases, we may assume that had autopsies been made at all the inquests about 180 deaths out of 201 would have been satisfactorily explained.

In 14 accidents, where external examinations only were allowed, the cause of death could only be made out satisfactorily in 6, 2 having broken necks, and 4 having the skulls completely

crushed in. In the remainder we confined our statement to the fact that sufficiently severe external injuries existed to be compatible with the presence of fatal internal injuries not evident from external examination.

When no accident had taken place the external examination gave almost uniformly negative results. In 15 such cases we confined ourselves to the statement that it was impossible to state the cause of death from the external examination, and that if the determination of the cause of death was necessary an autopsy would have to be made. In no case did we make any attempt to guess at the probable cause.

In following strictly this rule we were guided by the principles laid down by Brouardel, probably the greatest of all living medico-legal experts, that the duty of the expert in medico-legal cases is to state either that a certain fact is proved, or that it is not proved, and to show sufficient facts in support of any conclusion drawn to make the testimony amount to a demonstration. Demonstrations, not opinions, are what is wanted. In no case is a witness in medico-legal cases justified in giving his opinion unless he can support it by statements of acts which establish its correctness. The great reputation now enjoyed by the French school of legal medicine is as much due to their strict adherence to this principle as to the brilliancy of their methods and the clearness of their logic.

Unfortunately the necessity for this scientific attitude is not yet appreciated by many of those who give evidence before coroners. If they do not know the cause of death they feel bound to hazard a guess and appear to know all about it. Much of the loose medical evidence given before coroners is due to the pertinacity with which juries will persist in asking whether the cause of death may not probably or possibly be due to such and such a thing. If the least admission is made they will promptly render a verdict to that effect, for which the medical witness becomes virtually responsible, though fully aware that there are a dozen other causes, any one of which may be the right one. The only resource of the medical witness is to refuse to say more than is established by the facts which have come

under his notice. He is under no obligation to say what *might have been*, but only what *was* the case, if he can. "Of all sad words, the saddest are these—'it might have been,'"² when they form part of medical evidence before coroners; and to this and unfounded medical testimony rather than neglect of juries must be held responsible for much that is regrettable in the past six months' evidence.

We have wondered not a little in reading the records of inquests why it is that medical witnesses so seldom make a written statement of the facts which they observe, and of the conclusions which they have drawn from them. In the past six months, apart from our own testimony, this does not appear to have been done in a single instance; and yet it would form the greatest safeguard a medical man could have against any future charge of giving a wrong opinion, as at any future time by consulting the record it could be shown why that particular opinion was given. This is the universal practice in other countries, and witnesses are obliged by law to state the facts upon which they form their opinions. There is no need for any reserve or hesitation in stating facts. Personally, in following this system we have found that time is saved and cross-examination shortened if a written report is submitted. We can confidently recommend this plan to others.

We constantly find that too little time is given to prepare a report, because the jury has to meet at a certain time. In France a physician charged with an "expertise", is given as a rule a week in which to prepare his report, unless the matter is specially urgent, and a clear 24 hours should certainly be allowed.

It should be borne in mind that the medical opinion in an ordinary death certificate, where no grounds for suspicion existed, is only needed for general statistical purposes, and therefore *approximate* accuracy in a large number of cases suffices. Where, on the other hand, suspicion of a crime exists, what is wanted is, as nearly as possible, absolute accuracy in the one particular case. Slight inaccuracies in a mass of general statistical information tend to correct themselves. Serious inaccuracy in a single important criminal matter is quite inexcusable.

Great inconvenience is caused by the absence of an official clerk or secretary to take notes of the autopsy, so that the physician could always describe appearances while they were before his eyes. In other countries this is always attended to by a special official. Apart from the physical labour of writing out a long report, there is great danger that facts will be forgotten and error creep in if the memory is trusted to. Besides this, in the act of description new points are suggested for investigation which otherwise may be forgotten till it is too late.

Another defect is the absence of any system by which written instructions as to the nature of the information wanted is furnished the expert. In France and Germany a definite series of questions are asked the expert, and he thus knows what is expected of him and can give full information upon the vital points of the case. Official regulations are also greatly needed as to the technique to be followed in making an autopsy. Were there any instructions as to the advisability of some of the clothes of the deceased being removed before the autopsy is considered finished, we should not recently have heard of undertakers discovering bullet wounds unnoticed by the medical experts during their post-mortem.

Another important matter is that arrangements should be made by which the expert shall see the body before it has been disturbed. In six months' work we have hardly seen a single body in the state and with the conditions and surroundings which existed at the time of death. It is almost always transported, undressed, placed in a coffin, or otherwise interfered with. In some instances embalming had even been done by the undertaker.

The chief complaint against the Coroner's Court in the past has been in regard to want of precision respecting the causes of death assigned. We have seen that in the past six months a material improvement in this respect has taken place, and a larger number of the causes of death are supported by some tangible evidence. This improvement, however, has been limited to those cases where autopsies have been performed, and until this is done in every case where inquests are held it

is not likely that the verdicts of coroners' juries will be taken as representing the truth, the whole truth and nothing but the truth, about the deaths which they investigate. Apart from accidents attested to by eye-witnesses, about 90 per cent. of all the cases coming before the coroner are cases of natural death, and without the control afforded by the results of post-mortems and the counsel of a medical expert, it is not reasonable to expect a coroner having a legal training only to estimate the amount of credence to be attached to all the diverse medical evidence given in these cases. Taylor wrote, over thirty years ago: "As a general rule, it may be stated that inquests in which there is no medical examination of the body are a vain mockery, and the sooner the public becomes imbued with that idea the better it will be for society." Whether this still holds good of Montreal inquests may be judged from the results we have given of the past six months' work.

It is our experience that where an external or partial examination only is made the results are nearly or quite valueless. Hence, in cases where no autopsy is performed the investigation cannot be regarded as a serious one from a medical standpoint.

Although the number of autopsies held shows an increase as compared with former years, yet, even now, in 200 inquests only 26 autopsies were held, or, in other words, only 12 per cent. of the cases of suspicious deaths received serious medical investigation, although nominally over 200 examinations of the body were made (and paid for.)

It may be stated that in 76 cases of accident, forming 38 per cent. of the total, the death was obviously due to an accident attested to by eye-witnesses, and that a medical examination was superfluous. If it was superfluous, why was it made at all? If it was necessary, why was it not ordered to be made thoroughly? Why is it that autopsies are often hurriedly done, "while you wait," because the jury are in a hurry?

It appears that further reform in this matter is urgently necessary, and we may conclude by mentioning briefly the directions in which it should be made:—

1. Autopsies should be performed in all cases of suspicious or sudden death where the cause of death is doubtful.

2. The coroner should be allowed to decide whether an autopsy is necessary, and to order it to be performed, if advisable, before the jury meet. (English coroners, under Vic. 50 and 51, cap. 71, are allowed full discretion as to the ordering of autopsies and the time when they shall be held.)

3. In medical testimony, the observed facts upon which opinions are based should always be stated, preferably in writing.

The improvement which has been effected already is a hopeful indication for the future, and we hope in the report of the next six months' work to be able to show a decided advance over that of the past half year, which may be regarded in the light of an experiment.

GASTRIC NEURASTHENIA.*

By N. D. GUNN, M. D.

The subject which I have chosen is one that can be but very imperfectly handled in one paper, so that instead of attempting to go completely over the ground, I select cases representing two or three of the commoner forms of this interesting malady, and hope, with the permission of the Society, to supplement later on this small contribution.

To fully appreciate the importance of our subject it is necessary to remember the gross and minute anatomy of the stomach, with special reference to the nerve supply. This hollow muscular bag is suspended in the abdomen in such a way that it is capable of great movement, so that each change in posture of body has a corresponding change in the stomach.

Besides these extraordinary movements, the stomach has others which are mainly peristaltic; the wave passing from the pyloric end along the greater curvature to the cardiac. There is also a small return wave along the lesser curvature.

It is by these complex motions that the food is brought into contact with the mucosa, and it is quite probable that the movements are for the most part specific and not originated by

* Read before the Montreal Medico-Chirurgical Society, April 14th, 1893.

impulses entering by the nerves,—the latter acting only to bring the stomach into concerted action with the rest of the body.

The nerve supply consists of the two vagi, numerous fibres of the splanchnic branches of sympathetic. Intrinsic ganglionic cells belonging to Meissner's and Auerbach's plexuses, and possessing the same arrangement as that found in small intestines, are of much interest and importance; the more so as Jurgens, of Berlin, has lately demonstrated degeneration in these ganglionic plexuses in certain neuroses of stomach.

Experiment shows that the sympathetic has nothing to do with the movements, as section and stimulation are equally disregarded by this viscus.

When the vagi are cut, the movements still go on, but in a more or less eccentric manner; thus it seems that the vagi merely preside over the rhythm, without actually carrying the impulses that set the mechanism in motion.

Need it be wondered at, then, that in an organ so independent as the stomach, with a nerve arrangement so complex, that we have nervous disturbances dependent on, and sometimes confined to this viscus. The great wonder is that for many decades after the renaissance in medicine, no thought was given to the possible relation of digestive disturbances to the nervous system. Catarrh and inflammation were then the *sine qua non*, the beginning and the end of all disorders, and when it was impossible to relegate the disorders to either of these categories, the physician satisfied himself and the patient by the most vague of terms "acute or chronic indigestion."

I wonder how many physicians of to-day look at the tongue, inquire about the bowels, diagnose dyspepsia and lean back satisfied with himself and the impression he makes on the patient. It is a fact that too many in all the sciences are looking too much at effect and not enough at cause. How many in our profession can prescribe a tasty and finely coloured mixture who have not yet learned the amount of solid and liquid food necessary to maintain the functions of body in health for twenty-four hours.

As late as 1878 Leube, who is father of the advances made in this line, concluded that many disturbances, found especially in women, which heretofore were called catarrh, are truly of nervous origin, and to substantiate his contention he gave the ordinary test breakfast, and after digestion began he examined the contents and found that in many of these cases digestion proceeded and continued perfectly normal. Yet, accompanying this act, certain symptoms developed, as headache, dizziness, palpitation, and others referable to the digestive tract, such as belching, eructations, yawning, hiccough, gaping, griping, etc. Leube argued that there must either be a poison generated and absorbed, or the nerves of the stomach must be hyperæsthetic.

As the disturbances began almost immediately food was taken he concluded, rightly enough, that the poison theory was untenable and that hypersensibility was the only sensible explanation.

It is somewhat difficult to understand that these disturbances, coming often without any apparent cause, should affect the stomach, but few, if any, have a perfectly balanced nervous system, and vulnerable points are to be found if sought in every individual—points that respond too fully or too feebly. No resistance, no inhibitory power,—nerve storms sweep over them like the wind over the high seas. Weak by nature, weakened perhaps by excesses, what wonder that the stomach may, like other organs, call to us aloud. To-day it is admitted by all who have studied gastric diseases, that there exists a well marked neurasthenia which admits of classification according to the function disturbed—so that we may distinguish motor, sensory, secretory, and perhaps vaso-motor disturbances, the latter because it is possible theoretically, though no cases have been reported so far as I know, and would no doubt be very difficult to diagnose, unless cases which are characterized by great faintness and pallor be put in this class.

I will now give a history of two cases as taken from note book, the first being a type of what is known as *Anorexia Nervosa*.

Mrs. R., aged 36, came to office complaining of pain, as she

called it, behind the eyes. I examined and found no impairment of vision. I then went into the case more fully, which is as follows :

Patient tall, angular and fair complexion ; never was strong and since marriage worked unceasingly ; bad family history—father, mother, two brothers, one sister, an uncle and aunt dying of pulmonary tuberculosis.

She was mother of six children, all showing more or less scrofulous habit, one being sorely afflicted with tubercular adenitis.

Physical examination showed a poorly nourished woman with long chest, projecting scapulæ, soft bloodless skin and flabby muscles, areolæ about the eyes, pinched lips, etc. She looked as if she longed for a transition to some happier clime. To a casual observer would seem as one ready to lie down and die but for duty to husband and family. Lungs and heart normal, urine pale, no albumin, no sugar ; bowels regular as a rule, some times a slight diarrhoea ; tongue pale, clean and flabby. Appetite was entirely absent, never eating anything except when forced to by the family. Many days she worked without anything more than a cup of tea. She had not tasted meat for two years, bread and potatoes being her chief diet. She was not hysterical and by no means verbose, in fact, were it not for the pain about the eyes she would not think of consulting a physician. Rest with forced feeding effected a cure without medicine.

I have here detailed the history of a case who from birth was weak, and whose surroundings were not of the pleasantest.

J. Matthews Duncan says, " A good example of this trouble is one of the most ghastly spectacles you will meet with in practice, but the sadness of the picture is relieved by the fact that they always get better."

There is no wish for sympathy, as is found among hysterical patients—*au contraire*, they seek seclusion and say very little. The mental faculties remain unimpaired, in fact it seems as if in some the perceptive faculties become more acute and the reasoning more incisive.

Physically the case is still more wonderful, for the amount of exertion these patients are able to undergo is simply astonishing. They delight in long walks in lonely places, away from the annoyance of sympathizers and friends. If engaged in household duties they pay strict attention to every detail. They sleep well and are not melancholic as a rule; and when forced into company are not by any means disagreeable companions, for they never burden you with woes and heart-rending stories of misery and wretchedness.

This distressing condition must have an end, and often suddenly. The collapse comes, the tension is relaxed, the nerve-storm has spent itself and kind nature, ever ready to assert itself, comes to the rescue. Inviting dishes prepared by solicitous friends and forced upon a submissive patient; rest, the greatest of all therapeutic agents; the change in habits which illness often brings, always succeeds, in spite of the nauseating mixtures prescribed, in restoring the health.

CASE II.—This is another sensory disturbance, but I mention it as showing that a sensory neurasthenia may be preceded by a motor, pathological equivalent, so to speak. Mr. G., aged 45, book-keeper, complains of severe pain in stomach about, as he expresses, two hours before meal time or three to four hours after eating. Especially liable to these attacks after any worry, and they usually persisted for some days.

Family history good; personal history interesting. From puberty up to time he had left England for a sea-faring life at age of 22 he was troubled for two hours after eating with regurgitation of food, which he chewed again and swallowed, this being a true rumination. This stopped when he entered navy, and he never had any stomach trouble again until he left the sea.

Upon leaving the navy he changes his active for sedentary habits and assumes the responsibility of book-keeper in a large firm; soon he begins complaining of stomach pains, and I saw him first on April 10th, when he presented the following history:

Highly nervous temperament, dark sallow complexion, fair muscular development, but no subcutaneous fat; all organs normal, no tenderness over epigastrium; tongue clean, bowels regu-

lar, urine normal; gastric juice as taken after test breakfast about normal as to amount of hydrochloric acid, and digestion with this fluid seemed to go on very rapidly. This was clearly, then, not a case of hyperæsthesia, but rather of gastralgia. This is a unique case, so far as I know, for here we have a well marked example of two distinct neuroses in the one stomach at different times.

General Treatment—It is first always necessary to determine whether the case belongs to the irritative or depressant form of neurosis, also how far the general bodily health needs toning up. In the irritative forms, shown by pain, vomiting, etc., opium and its alkaloids are our sheet-anchors, belladonna, hyoscyamus, chloral and other sedatives acting sometimes very well.

Washing out the stomach, as first recommended at Kussmaul's clinic, often relieves when everything else fails, and it is advisable in all cases that resist for any length of time the influence of drugs to try the washing.

Change of air very often does well; going from a low to a higher altitude and *vice versa*, or from a warm to cooler climate; sea voyages, sea bathing; changes of occupation, as from a sedentary to active life.

In the depressant forms, stimulants and forced feeding. Forced feeding must very often be done by means of a tube, as the patient frequently loathes the sight of food. In such cases gavage, as recommended by Dujardin-Beaumetz, is best method. This is carried out by means of a short rubber tube reaching down œsophagus to a point opposite cricoid cartilage. Food should be liquid and introduced slowly to prevent vomiting. The amount of food per diem for an adult varies within wide limits, but it is always best to begin with a good deal and await developments. Wiessner recommends 100 grammes of albumin, 150 grammes of fat and 300 grammes of carbohydrates. This is represented by two quarts milk, two ounces butter, six eggs and three and a half ounces sugar. Feeding as a rule has not to be continued very long, for when patients find that digestion proceeds regularly they get encouraged and begin to eat of their own accord.

The argument first used and still used against forced feeding for weak stomachs seems hard to answer. But as a weak heart, weak lungs, weak muscles are aided and strengthened by exercise, why can not the same argument apply to the stomach?

Experience has proven that from forced feeding, and it alone, can we expect to get good results in the depressant forms. In the irritative forms, such as vomitus nervosa, forced feeding by the stomach is almost a fatal error, and we must rely on sedatives and enemata; so that care must be taken in our diagnosis.

Each group of cases has its own peculiarities, and must be treated accordingly, and the physician who sticks to the one rut and changes not will often meet with failure. It is in neurotic patients that individual idiosyncracies must be studied and treated. Patience, firmness and tact in the physician are most essential attributes in dealing with these cases.

DYSTOCIA DUE TO HYDROCEPHALUS.*

By D. J. EVANS, M.D., MONTREAL.

Mrs. B., aged 42, IX. para. General health has always been good. Married at 30 years of age. Previous pregnancies normal, with exception of last, which terminated in the seventh month. Labours easy. No abortions. No specific history on either side. Husband somewhat addicted to alcohol. Very early in present pregnancy the patient assisted a friend at her confinement, and was much startled at seeing the head of the child born. She gives this as a possible cause of the condition of her child's head in this instance. Patient, as she approached term, noticed herself to be far larger than she had ever been before, but suffered very little inconvenience otherwise. Labour pains began about 7 p.m., March 10th, 1893. Her physician reached her at 7.30 p.m., and states he found her enormously distended. Pains were frequent and strong. Diagnosed breech presentation. Membranes ruptured about 9 p.m., and a tremendous quantity of water flowed away. The body of the child was born without difficulty about 10.30 p.m.

* Read before the Montreal Medico-Chirurgical Society, March 17th, 1893.

The cord was pulsating, so the physician endeavoured to disengage the head as quickly as possible. No pains being now present, 5iii. tr. ergotæ were given within an hour. He attempted to apply the forceps, but without success; so he summoned assistance. I reached the case about midnight, and found the child born all but the head. The dystocia had been diagnosed as due to hydrocephalus. This I was able to establish by external palpation, the fluctuating sutures and the edges of the parital bones being easily distinguished. With the concurrence of my colleagues, I then adopted Tarnier's procedure. The vertebral canal of the child was opened in the dorsal region, and a No. 7 gum elastic catheter introduced through it into the cerebral cavity, and a large quantity of serum drained away. As soon as possible the head was drawn down and an opening made behind the left ear, which permitted a large quantity of fluid to rapidly escape, and the head was then easily delivered. The afterbirth was expressed in about twenty minutes, without difficulty, and came away entire. A uterine douch of hot creoline solution (Si. to Oi.) was then given, and after the patient had been cleaned, a little pulv. iodoform was dusted over the vulva and a vulvar pad and a binder applied. On the fourth day the temperature was $99\ 1\text{-}5^\circ$, so a vaginal douch was given, which brought it back to normal, where it has remained since.

The measurements of the child's head are as follows:—

<i>Circumferences.</i> —	O.F.	66	c.m.
	O.B.	67.4	"
<i>Diameters.</i> —	B.P.	21.0	"
	O.F.	20.1	"
	Sub. O.B.	19.8	"
<i>Length of Body.</i> —		67.4	"

Intra-uterine hydrocephalus is a very rare condition, occurring only once in 3,000 cases. Mdme. Lachapelle records only 15 in 43,555 births.

Hydrocephalus is due to the abnormal collection of serum in the lateral ventricles, which latter may become enormously distended, causing the cranial bones to become thinned and softened and the sutures widely dilated. The condition has been

attributed to syphilis, alcohol, cretinism and consanguinity. The mothers are, as a rule, past forty years of age. Hydramnios is frequent in these cases. The foeti are frequently the subjects of spina bifida and talipes equinus as well.

Spontaneous delivery only occurs in mild cases or where the fluid escapes into the subcutaneous tissue or into the pleural or peritoneal cavities of the child.

Diagnosis.—The diagnosis is not difficult in these cases, if abdominal palpation is carried out systematically. This is the second case I have been enabled to diagnose by this means. The first case I saw in the Clinic Baudelocque, under Pinard's care, in Paris. The large size of the head, the difficulty with which it can be pressed down into the pelvis where the latter is normal (Eindruckbarkeit, as the Germans call this procedure), the fluctuating sensation of the fontanelles and sutures, are all points to aid in diagnosis by palpation. In fat women, where this condition is suspected, the whole hand must be introduced into the uterus, if necessary, to complete the diagnosis.

Prognosis.—*For the Child.*—Chassainat's records show that in 60 cases of hydrocephalus, 41 died before or during labour. Only 4 out of 19 born alive lived for several years. Paultet, after diligent search, failed to find the record of a single case that, having caused dystocia, lived. *For the Mother.*—The great danger is rupture of the uterus. Kieller, of Edinburgh, records that in 74 cases rupture occurred 16 times. Charpentier stated that 17.79 per cent. of these cases die from uterine tearing. Paultet records that in 106 cases 21 mothers died.

Treatment.—As soon as diagnosis is established and dystocia threatens, in vertex cases, perforate with a trocar and drain off the fluid. In breech cases, which occur frequently in this condition (one in every five cases), the proceeding I adopted in this case, which was first employed by Tarnier in 1860, recommends itself by its simplicity, its effectiveness and its lack of danger to the mother.

The forceps are more than useless in this condition, as a hold cannot be obtained, and they are very apt to injure the soft parts by slipping.

Hospital Reports.

MONTREAL GENERAL HOSPITAL.

CONDENSED REPORT OF CASE IN DR. SHEPHERD'S WARDS.—
LIGATURE OF THE FEMORAL FOR POPLITEAL ANEURISM.—
SUBSEQUENT GANGRENE OF LEG—AMPUTATION
WITH SATISFACTORY RESULT.

(REPORTED BY DR. C. F. MARTIN, HOUSE SURGEON.)

W. H. R., aged 65, entered Montreal General Hospital June 23rd, 1892, complaining of a painful swelling behind the right knee.

Present illness had been first observed about six weeks prior to admission, as a slight swelling of the leg immediately above the ankle, and gradually progressing to such an extent that in two weeks from the onset his whole leg was greatly swollen, stiff, brawny and painful. This condition persisted with but little noticeable change, and in two weeks from onset patient for the first time observed a small pulsating swelling behind the knee joint on its inner side, in size somewhat larger than a marble, and very painful and tender. This rapidly increased, becoming daily more painful, but he attended to his usual duties up to a few days before admission, when the intensity of the affection obliged him to remain in bed, and a few days later to enter the Hospital, when the local condition was as follows:—The right leg, from the knee downwards, was greatly swollen and œdematous, being $3\frac{1}{2}$ inches greater in circumference at the calf than the left leg. Veins were very prominent, the parts brawny, stiff and painful, while pressure over the tibia caused intense pain. Behind the knee joint was a large, diffuse, pulsatile swelling, its most prominent part being on the inner side of the joint, where the growth was almost equal in size to a hen's egg. The pulsation was distinctly expansile, and could be readily stopped by pressure on the femoral in the groin. Auscultation revealed a loud bruit.

General Condition.—Patient fairly nourished, with no evidence of disease in any of his organs. Marked general arterial sclerosis.

Personal History—Is one of regular living, with no record of any venereal disease or intemperance.

Family History.—Negative.

Treatment.—After due consultation, Dr. Shepherd decided upon operative procedure by means of ligating the femoral in Scarpa's triangle. On June 24th patient was anæsthetized, ether being used, and when the preliminaries had been completed an incision was made over the artery, which was readily reached and isolated by two stout silk ligatures. These were securely tied in two places, and the artery cut through with scissors, whereupon the arterial walls were found greatly thickened and atheromatous. Parts were next thoroughly irrigated and the wound sewed up with silkworm gut, no drainage being used. Immediately after the ligation the pulsation in the aneurism ceased, nor did any sign of returning pulsation appear subsequently. Patient recovered well from the anæsthetic, while the wound itself made excellent progress, good union being found eight days later, when for the first time the wound was exposed and the stitches removed. The leg, however, below the ligatured artery, showed no evidence of the establishment of collateral circulation, the foot being quite cold and sensation about the toes diminished. Foot was wrapped in cotton wool and hot cloths applied to the leg. On the third day from operation, distinct evidences of gangrene appeared, there being a bluish-black discoloration for five or six inches above the ankle, while the limb itself was cold and insensible to pain in this region. Skin dry and cracking superficially, while about the toes small blebs formed in several places. Temperature 101°. Tongue coated. Patient suffering from headache and constipation.

The above condition progressively intensified, to such an extent that five days later the three inner toes were of a dark blue black color and covered with blebs; the remainder of the leg was discolored up to the junction of the upper and middle third, where an irregular serrated line marked off the living from the dead tissue.

On July 4th a second operation was performed, the leg being

amputated about four inches above the knee, by the circular method. Two rubber drains were inserted and the flaps sutured with silkworm gut. Drains were removed within 48 hours, and the stitches on the tenth day, no untoward symptoms mar-
ring the future progress of the case. Several weeks later patient walked about on crutches, and early in August left the Hospital, the stump being in excellent condition.

Reviews and Notices of Books.

What to Do in Cases of Poisoning. By WILLIAM MURRELL, M.D., F.R.C.P., Physician to and Lecturer on Pharmacology at the Westminster Hospital; late Examiner in Materia Medica in the University of Edinburgh, and to the Royal College of Physicians of London. Seventh edition. London: H. K. Lewis. 1893.

The seventh edition of this most useful little book has been enlarged and improved. The directions for treatment are brief and to the point, and the work is thoroughly practical. As an emergency work we know of none which we can recommend with greater confidence than this work of Dr. Murrell, and the number of editions published show that it is thoroughly appreciated.

The Anatomy of the Peritonæum. By FRANKLIN DEXTER, M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons (Columbia University), New York. With 38 illustrations. Price \$1.50. New York: D. Appleton & Co. Montreal: Wm. Foster Brown & Co., 233 St. James street.

As the author says, there is no part of anatomy which is quite so unsatisfactory or incomprehensible to the student as the peritonæum. By tracing the development of the abdominal organs from the time that the intestinal canal is a straight tube until the organs with their peritoneal investiture are fully formed, the writer shows how the changes are produced, and thus gives a clear idea of what the peritonæum is and how its anatomical condition is brought about. The book consists of a number of illustrations, more or less diagrammatic in char-

acter, with accompanying descriptions. In this way the steps in the development are easily understood and appreciated, and much help can be obtained by the student from a perusal of this pamphlet.

History of the Life of D. Hayes Agnew, M.D., LL.D.

By J. HOWE ADAMS, M.D. With 14 full-page portraits and other illustrations. In one large royal octavo volume, 376 pages, extra cloth, bevelled edges, \$2.50 net: half-Morocco, gilt top, \$3.50 net. Sold only by subscription. Philadelphia: The F. A. Davis Co., 1914 and 1916 Cherry street.

The history of a great man, who did what came to his hand to do, and of whom it may truly be said that he has left behind him "footprints on the sands of time." All his life he was the same unaggressive, hardworking surgeon, delighting more in the advancement of his friends and students than in any honour to himself. This is the picture given by Dr. Adams of this Christian gentleman, and no one can read the history of his life without profiting thereby and having his ideal standard raised. The author speaks of his task as a "labour of love," and from the way in which he has performed it it seems to have been so. The history of difficulties overcome and trials passed is a valuable lesson to all and will afford encouragement to many who are weary with the heat and burden of the day.

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Clinical Study and Analysis of 1000 Cases of Psoriasis. By L. DUNCAN BULKLEY, A.M., M.D., physician to the New York Skin and Cancer Hospital, etc. Reprint from the *Maryland Med. Jour.*, Sept. 26 and Oct. 4, 1891.

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- Free Incision of Abscess of Ostitis of Hip; and Closure Without Drainage.** By H. AUGUSTUS WILSON, M.D., Chir. Prof. of Orthopædic Surgery in the Jefferson. Med. College, etc. Reprint from *Trans. of the Phil. County Med. Soc.*, Jan. 11, 1893.
- Practical Details in the Preparation of Plaster of Paris Bandages.** By H. AUGUSTUS WILSON. Reprint from the *Philadelphia Polyclinic*, Feb. and March, 1893.
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- Diagnosis and some of the Clinical Aspects of Gyroma and Endothelioma of the Ovary.** By MARY A. DIXON JONES, M.D. Reprint from the *Buffalo Med. and Surg. Journal*, Nov., 1892.
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- Extraction of Steel from the Interior of the Eye with the Electro-Magnet.** By ALVIN A. HUBBELL, M.D., Buffalo, N. Y.; Professor of Diseases of the Eye and Ear in the Medical Department of Niagara University, etc. Reprint from Transactions of the New York State Medical Association.
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Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, March 3rd, 1893.

E. P. LACHAPPELLE, M. D., FIRST VICE-PRESIDENT. IN THE CHAIR.

Cor Bovinum; Cardiac Failure; Myocarditis; Infarct of Posterior Coronary; Sudden Death.—Dr. ADAMI brought before the Society a case of heart disease presenting certain unusual conditions.

The patient, A. H., aged 35 years, a powerfully built man, had been engaged at a brewery and had been accustomed to lift and carry about casks of great weight, and at the same time, after the manner of his kind, to consume large quantities of beer—for the last three years he had taken from five to eight quarts daily. In October, 1892, previous to which time he had enjoyed excellent health, he was seized with dyspnoea when at work, succeeded by palpitation and great weakness. He stopped off work for a week and on resuming the symptoms had disappeared completely. About December 15th, again while at work, a similar sudden attack of dyspnoea came on, and again he was obliged to discontinue. For two days he had almost continuous dyspnoea, and then palpitation and prostration supervened, with some oedema of the lower extremities, and he was forced to remain in bed. There he remained until January 26th, when feeling somewhat stronger he got up for the first time and walked to the General Hospital, where he was admitted under Dr. Stewart. There was a good family history, and the personal history revealed no previous rheumatism, syphilis, chorea or other disease predisposing to cardiac lesions. There was no complaint of palpitation while the patient was in the hospital; the pulse varied from 68 to 100 and was irregular in volume and in rhythm; the arteries were thickened and not easily compressed. The apex beat was in the sixth interspace, $5\frac{3}{4}$ inches from mid-sternum and the vertical dullness began at the lower border of the third rib, the transverse began at the right edge of the sternum and extended $6\frac{3}{4}$ inches to the left. There were no murmurs to be heard. The urine contained no albumin on admission, but before death was loaded with it.

A diagnosis of myocarditis was made and the patient appeared to be improving slowly for a time, but for two weeks before death the dyspnoea became more severe and more frequent, finally becoming Cheyne-Stokes in character, and upon the morning of February 24th the patient died suddenly.

At the autopsy performed upon the following day there was found some anasarca of the lower extremities and slight œdema below the eyes. The lungs were greatly congested and œdematous, so that they only just floated; there were, as so frequently is the case in Montreal, evidences of old pleurisy. The liver was enlarged, fatty and congested; the mucous membrane of the stomach was also moderately congested; there were evidences of old peritonitis in the shape of adhesions. The kidneys were congested, the cortex enlarged and fatty, the capsules peeled off with some difficulty and the surface of the organs showed well-marked granular change; in both kidneys were several white infarcts surrounded by inflammatory zones.

The heart, however, showed the greatest departure from the normal. Upon opening the thorax it could be seen to be of great size. The apex lay $\frac{1}{4}$ inch outside the left nipple line and 2 inches below; the left lung was pushed upwards and outwards. The pericardial cavity contained more than 250 c.c. of fluid having a very faintly reddish tinge, but there was no recognizable sign of recent pericarditis, though there was a slight old and loose adhesion close to the apex of the left ventricle. All the cavities were greatly dilated, those of the right side contained fairly solid clot, those of the left a softer, more tarry coagulum. The heart weighed 690 grm., or just about three times the normal. It was a true "cor bovinum." There was no acute and but little evidence of chronic valvular disease. The pulmonary orifice measured 8.4 centimetres in circumference, the aortic 7.5, and just above the orifice there was a little early fatty degeneration of the intima of the aorta; the segments of both pulmonary and aortic valves were normal. The tricuspid orifice admitted the tips of four fingers, the mitral those of three; and in connection with this last valve the papillary muscles were greatly hypertrophied, the chordæ somewhat short and thick, as were also the edges of the cusps. The endocardium of the ventricles presented no

inflammatory change recognizable by the naked eye. The walls of all the cavities were hypertrophied; at the junction of the upper and middle third the myocardium of the left ventricle was 2.3 cm. across. The muscle substance could not be described as other than firm, but here and there it was perhaps a little paler than normal. Upon dissecting up the coronaries no endarteritis was found, but in one branch of the right coronary passing over the hinder wall of the left ventricle there was at the commencement of the lower third of the organ a red clot about half an inch long, and beneath this the myocardium was red and suffused with blood.

Unfortunately by mischance the heart and kidneys, having been taken from the post-mortem room to demonstrate to Dr. Stewart's clinic, did not reach the laboratory until twenty-four hours later, and then were in a condition far from satisfactory for study of finer details, so that I am unable to make any further statement than that the myocardium around the seat of the lesion of this coronary vessel was necrosed, that here and there were evidences of fatty degeneration in the heart muscle and that the fibres of the left ventricle were in general thin and smaller than normal. Some of the finer branches of the right coronary coursing on the surface of the left ventricle showed evidences of both acute and chronic endarteritis. There was no marked interstitial fibrosis, nor could any small celled infiltration be recognized.

This case, while presenting features which if relatively uncommon are capable of explanation, is beset with several difficulties. It is easy to find in the hæmorrhagic infarct of the left ventricle the cause of the sudden death. But what brought about the condition of this branch of the coronary vessel? The endocardium of the left side of the heart showed no lesion; the lungs presented no septic foci, they were simply the congested lungs of heart failure. There is no origin to be found for any embolic mass which would at the same time explain the infarctous condition of the heart and the older infarcts of the kidneys, and this being the case I am led to hazard that both conditions originated *in situ*.

Turning for a moment to the general state of the heart, the hypertrophy, the great dilation and the cardiac weakness. Here, it seems to me, we have an interesting series of events

which have led to the condition found at the autopsy. The patient had evidently been a most powerful man and had been accustomed to frequent great muscular exertion. This alone, as has repeatedly been seen in athletes, blacksmiths and others engaged for long continued periods in progressively advancing feats of physical strength, will lead to great hypertrophy of the heart, in fact, to the condition of "cor bovinum," and the organ may continue to do its work perfectly well for long periods under the great strain to which it is regularly subjected, although the tendency is often seen to be towards eventual failure. In this case we have to deal with sudden failure, and the explanation is not far to seek. Great exertion alone at times suffices to bring on what Latham has termed "heartshock," in which it would seem that the condition of over-strain and using up of the reserve force of the organ is followed by incomplete power of the organ to perform its normal functions subsequently under normal conditions—it has become dilated and cannot contract to the usual volume again, and with this there are all the signs of cardiac failure. But in a case like this before us, where the patient has been used to great exertion, something more, I think, has to be invoked to explain the suddenness of the failure, and that something is found in the excessive abuse of alcohol. As Professor Roy and I have shown experimentally, sudden or acute dilation of the heart may be brought about by injecting alcohol into the venous circulation, and as Dr. Graham Steell first pointed out to me, this condition of acute alcoholic dilation has been recognized clinically for some years, although it is not yet mentioned in the text-books. Given these two factors, physical exertion and the consumption of unlimited beer, acute dilatation may be safely prophesied as waiting upon hypertrophy.

In this condition we have all the elements requisite to set up a vicious cycle. When the heart muscle is in so enfeebled a state that, even when the patient is at rest, it cannot contract with each systole sufficiently to return the ventricle to its capacity in health, then the arterial blood pressure becomes lowered, the coronary circulation is weakened, the heart muscle fails to receive sufficient nutrition, it becomes further enfeebled—the heart becomes increasingly dilated. And it

may be that in this case we have not to do with either infarct due to embolus or thrombus due to endocarditis of the coronary artery, though this latter is a not impossible explanation, but to rupture of the weakened vessel of a degenerated area at some moment of attempted increased cardiac exertion, and that to this rupture is due the infiltration of the muscle immediately surrounding the vessel, the coagulum that filled it, and the sudden death from disturbance of the functions of even a few fibres of the heart muscle. For here it would seem that, just as in Cohnheim's classical experiment, sudden death has been brought about by stoppage of the circulation through one small branch of the coronary artery.

Dr. Adami regretted that Dr. Stewart was not present to throw some light upon the clinical history of the case. Cases of myocarditis unaccompanied by pericarditis or endocarditis were very rare, and he was sorry that the condition of the organ prevented him from making an absolute statement as to whether there were clear signs of inflammation having preceded the degeneration met with in this specimen.

Dr. LAFLEUR had some knowledge of the case. The patient came to the out-door department complaining of shortness of breath and palpitation, which had been going on for several weeks. He had been in the Hospital before with an attack of the same nature, and was discharged sufficiently relieved to return to his occupation. He described himself as drinking to excess, and engaged in an occupation that entailed very heavy lifts. At the time a diagnosis was made of probable myocarditis; it was made from the facts that there was dilatation and hypertrophy, without anything to attract attention to valvular lesions, no organic murmur, no history of antecedent disease which might have given rise to such a condition. The condition of the heart found at the post-mortem was particularly interesting; and he would like to ask Dr. Adami if the condition of commencing necrosis was strictly limited to the part about the supposed hæmorrhagic infarct, or whether it was generally spread throughout the muscular substance of the heart.

Dr. ADAMI, in answer to Dr. Lafleur, regretted to say that he could not be sure of the condition in various parts. While there was what might be partial necrosis in other parts of the

heart, yet he could not arrive at an exact statement; and all that could be said was that the heart substance showed a certain amount of fatty change, a certain amount of degeneration.

Excision of the Tongue.—Dr. JAMES BELL brought before the Society a case upon whom he had recently operated for the removal of the tongue. The whole tongue was removed on December 22nd by Whitehead's operation, which method consists in simply snipping the organ off with scissors. The patient was discharged on January 8th.

Dr. Bell related the history of another case, who, after operation, developed a mild pyæmia; and, although now fully recovered, was unfortunately not well enough to bring before the Society. An interesting feature, however, about this case was the mildness of the pyæmia. Twenty-four hours after operation he developed a slight swelling at the angle of the jaw, and later on swelling about the right trochanter.

Dr. ADAM, exhibiting the specimens, said that both are well marked epithelioma. With regard to the second case, in addition to a perfectly typical epithelioma, it shows considerable infiltration and advancing condition into the surrounding muscle.

Removal of Pus Tube and Ovary with Adherent Vermiform Appendix.—Dr. DAPTHORN SMITH reported the following case: Mrs. S., age 35, married twelve years, no children, one miscarriage a year after marriage, since which she has never been well. She has had five attacks of pelvic peritonitis, which confined her to bed for several weeks each time. Her present attack came on one week before admission, when Dr. Reddy was called in and treated her with salines, with considerable benefit.

She entered the Hospital on the 2nd February, the temperature then being only 100.4° , but it fell to normal after a few days of the same treatment, with the addition of hot douches. The principal symptom was pain in the right ovarian region of a sharp and burning nature, the same as she had always had with these attacks. During the past eleven years, every menstrual period has been followed by severe pain across the lower part of the abdomen, coming on only in the morning, but disappearing towards evening. She has suffered from constipation as long as she can remember,

but she has never been troubled with her water an analysis, of which shows that it is normal.

By bi-manual palpation a hard swelling could be felt in the right inguinal region, which was firmly attached to the uterus about the region of the right cornu, and slightly movable with that organ. The induration extended all around the right half of the pelvis, but to a lesser degree; the whole of the swelling being very tender on pressure. The very hard mass was irregular in shape, consisting of several nodules, one of which was slightly fluctuating.

Diagnosis was made of pus tube and ovary matted together and bound down by old and recent pelvic peritonitis, the recurring attacks of which were probably due to leakage of pus from the tubes.

As no treatment would have been of any use unless it removed the source of the disease, namely, the pyo-salpinx, on the 25th February I performed coeliotomy, assisted by Drs. England and Geo. T. Ross, the patient being placed in Trendelenburg's posture. After the usual rigorous antiseptic precautions, the abdomen was opened by a four inch incision. The omentum was found to be adherent to the abdominal wall as high as the level of the superior spines of the ilium, but it was peeled off without great difficulty. The omentum was so firmly adherent to the pus tube that it was impossible to detach it; it was therefore tied in two segments and then *en masse*, and cut off. Great difficulty was experienced in enucleating the inflammatory mass from its bed of old adhesions, the process involving the rupture of the abscess cavity. From this about an ounce of ichorous fluid escaped, as well as about four ounces of straw-coloured liquid resembling urine, but which was found to have come from a portion of the peritoneal cavity walled off by adhesions. While enucleating, a portion of the mass broke off, and on withdrawing it I found adherent to it a long, thin, healthy looking cord, which could be drawn six inches from the abdomen. This cord was cut and held temporarily with a Pean forceps, to be examined and dealt with later on. The main mass, consisting of the tube and ovary, were then dug out, bringing with it a portion of the uterine peritoneum. The above mentioned cord-like tube was then carefully examined; it was found to be round, per-

fectly cylindrical, that is to say the same diameter at both ends, its interior lined with mucous membrane, but without any peritoneal covering. As it is quite common to find the vermiform appendix adherent to the right uterine appendages, I at once declared this to be the appendix, but on drawing firmly upon it, instead of being able to trace it towards the cœcum in the right inguinal region, it led directly up towards the right kidney, disappearing underneath the intestine, which was matted together. Some of the onlookers were convinced that this was the ureter. In order to make sure that the bladder had not been torn, it was tested by the injection into it of a half-pint of boiled water, which did not come through into the abdomen, and which, on the contrary, flowed out of the natural channel unstained. The left tube and ovary appeared healthy, and were not removed. While examining them, several large lumps the size of pigeons' eggs were felt on the anterior wall of the rectum, beneath the peritoneum. One of them was lifted up to the incision and inspected, when it was seen to be yellow in color, resembling very much an enlarged cancerous lymphatic gland. The enlargement may, however, have been benign, and merely due to infection from the pus tube, although I have never seen anything like them before in this situation. The abdominal cavity was carefully washed out with four or five gallons of sterilized water, as hot as could be borne, which was paddled about among the intestines until it returned quite clean. The question now arose as to what was to be done with the cord which I believed to be appendix, but which was thought by several to be ureter. The patient was apparently in extremis, so that very little time could be spared in dealing with it. In case that it might possibly be the ureter, I thought the safest thing to do was to attach it to the lower angle of the incision, where if it were the appendix, being healthy, it could do no harm, while if it should prove to be ureter it would avoid the destruction of the kidney by hydronephrosis. This was therefore done, and the abdomen was hastily closed with through and through silk-worm gut sutures. When placed in bed her prospects were not encouraging, but she soon rallied under enemata of beef tea and brandy. There was considerable abdominal distension, but this was relieved by repeated enemata of sulphate of magnesia and glycerine.

During the first twenty-four hours nothing whatever was given by the mouth; during the second twenty-four hours only a few teaspoonfuls of hot water; during the third twenty-four hours she was allowed two quarts of hot water, and during the fourth twenty-four hours three pints of milk and lime water, and so on in increasing quantities. The drainage tube was removed at the end of the third day. The further history of the case was uneventful. I show here the chart of the temperature, pulse and respiration. The highest temperature recorded was 99.45° , and the highest pulse 99, both on the fourth day.

The pleasure of seeing this patient making such a good recovery after so severe an operation compensates me for the anxiety I felt in the presence of so much doubt, caused by the unusual length and direction of the appendix. If I had been sure that this cord was the appendix, and if the patient's condition had warranted me in prolonging the operation, I would probably have removed it; but the leaving of the rest of the appendix which was healthy has not in any way interfered with the result of the operation, which effected its purpose, namely, the removal of a neglected pus tube and ovary, which had long been a menace to the patient's life and a barrier to her comfort.

The specimen was referred to Dr. Adami for a report upon its nature.

Two Cases of Appendicitis.—Dr. BELL showed two specimens which he had removed during the last ten days. One of these in itself answers a good many of Dr. Laphorn Smith's questions. The largest part is the apex, and the smallest that nearest the cæcum. The apex was near the liver, and as he pulled it out he thought that he was pulling something wonderfully long. It was near the apex that it was diseased, so he was not particular about removing it close to the cæcum. It was removed for recurrent attacks of appendicitis. The first attack was one year ago last January, another attack in November last, and a series of attacks since then, never fully recovering from any of them and lasting until Wednesday week, when he was operated upon. It was clearly one of those cases of catarrhal appendicitis. The patient at first declined operation, and it was not urged. He went away, but being unable

to work returned with a sausage-like mass in the line of the ascending colon. There was no pus, nothing but adhesions, which made it difficult to separate the swollen point of the appendix.

The other specimen was removed last night at 10 o'clock. It shows a gangrenous appendix. It is one of the earliest operations he had any knowledge of. The patient went to his work on Wednesday morning; some time during the morning was attacked with a pain in his side, but worked all day. He sent for a doctor during the night and was operated upon before 10 p.m. the following night—within 36 hours from the time of his first symptoms, and 24 hours after leaving his work. The middle portion of the appendix was quite gangrenous, but there was no pus about it, it was the separation of the adhesions that caused the gangrenous portion to give way. It lay curled up behind the ascending colon and was gangrenous in its middle portion. No concretions were found.

Both patients are doing well, but the patient from whom the first was removed contracted a pneumonia, from which he has recovered.

Dr. J. ALEX. HUTCHISON said that he had assisted Dr. Armstrong in an operation for appendicitis that was almost, if not quite, as early as Dr. Bell's second case. The first symptoms were on a Friday morning, and the operation was performed on Sunday at 7 a.m. A gangrenous section was removed, and the man died three hours afterwards.

Rapidly Growing Ovarian Cyst.—Dr. WM. GARDNER gave the following history: The patient, a woman between 40 and 50 years, some time past the menopause, had suffered from enlargement of the abdomen and pain for a year or so. The peritoneal cavity obviously contained fluid. The hand easily detected a very movable firm tumour easily recognizable as independent of the uterus. At the operation peritoneal fluid escaped, and the tumour was delivered with very little difficulty. The interest of the case is that it is a multilocular growth, of the nature of which Dr. Adami will tell us. It was at once obvious that the large anterior cyst had ruptured, and the fluid had escaped into the abdominal cavity. There was an attempt to repair on the part of the cyst, and parts of the edges were atheromatous. There was also a patch of ad-

ventitious membrane around this region. What excited his suspicion was the fact, which was insisted upon by the patient, of frequent variations in the size of the abdomen. The course of recovery was perfectly smooth.

Dr. ADAMI briefly described the tumour as a rapidly growing ovarian cyst. It varied in its density in various regions. There is a large anterior cyst which had burst. Besides this there is one region that contains a large number of completely recognizable cysts lined by epithelium with mucoid contents, and another region in which there are much smaller cysts recognized by the microscope, and which is a much more solid portion. It is characteristic of the multilocular ovarian cyst in its various appearances. There is not much evidence of papillomatous growth into the cyst cavities.

Masked Tuberculosis.—Dr. W. S. MORROW read a paper on this subject, which appeared in the May number of this journal.

DISCUSSION.

Dr. BLACKADER said that there was one fact that Dr. Morrow did not bring out, that is the association of anemia with tuberculosis. This was pointed out in a very careful paper read last year by Dr. Richford at Cincinnati. In a great number of careful enquiries among a large number of children, characterized by pallor and anemia, with lessening of the number of red blood corpuscles, he found that in the great majority this condition was associated with tuberculosis in the family. More than that, in a number of members of the same family quite a number might die of phthisis, yet one or two members of the family would be exposed all the time and they would not contract it, yet they were looking pallid, anemic, with evidence of what one would suppose might constitute them fit subjects for the disease. How was this? How is it that they resisted the invasion of tuberculosis? It was suggested that there was a certain amount of tubercular condition of the internal glands, which to a certain extent afforded immunity for the time being from tubercular affection in the pulmonary organs. How far this answer is correct is very uncertain, yet it appears worthy of consideration.

Dr. F. W. CAMPBELL said that he knew of no subject to-day so full of interest as tuberculosis. It is unfortunately an ex-

ceedingly common disease, and it is a good thing now that we have recognized the fact of its being a contagious disease. He pointed out that the great majority of tubercular people carry in their faces the signs of tuberculosis. Another point is the extraordinary prevalence of tuberculosis after accouchments. Those who have very large experience with life insurance will be able to appreciate this fact. When you get a history on a life insurance paper of one, two or more members having died in accouchment, an investigation will often reveal that these sudden deaths were due to tuberculosis, and this in spite of the absence of any trace of tuberculosis in the family.

Dr. LAFLEUR was pleased that Dr. MORROW had mentioned the Ehrlich's reaction of the urine. There is a general impression that it refers solely to typhoid. It had been his experience that it is very apt to be found in tubercular cases. There is one other little point in the paraphernalia of diagnosis that might have been touched upon, viz., the examination of the blood. In those cases where there are chills it is extremely important to exclude malaria by an examination of the blood. In tuberculosis the examination will show one thing very constantly, viz., increase of the white corpuscles. This is said not to occur in typhoid fever, and therefore it might serve to separate a case from that disease.

Dr. WM. GARDNER said that his experience in abdominal surgery bears out to some extent the points mentioned by Dr. MORROW. When one has not much experience, and sometimes when one has a great deal of experience, he will open the abdomen for something else and find tuberculosis; with increased experience he would be more ready to suspect such a condition, and one should always have in mind the possibility of tuberculosis.

Dr. H. S. BIRKETT very frequently has cases referred to him where the only symptom is a slight cough, and where the physician in attendance is quite sure there is no sign in the chest to account for it; yet these cases often afterwards develop the physical signs of pulmonary tuberculosis. Such cases may often be diagnosed at the very outset by an examination of the throat. The pharynx viewed under a bright light, something brighter than sunlight, will be seen to be quite anæmic, and it is found from experience that this

marked anæmia of the pharynx is often the only indication of an incipient phthisis.

Dr. J. B. McCONNELL asked if Dr. Morrow had examined the intensity of the heart sounds as an indication of disease of the lungs. He has noticed that in cases where the lungs gave no clue to the cause of the trouble an accentuation of the second pulmonary sound may be detected, and this should often lead us to suspect pulmonary tuberculosis where there were no other symptoms.

Dr. KIRKPATRICK related the history of a child eight years of age. There was a suppurating gland in the groin which was to have been scraped out. The operation was postponed for a few days. In the meantime resolution set in and the abscess disappeared. Very shortly afterwards tubercular meningitis set in, and the child died in about two weeks. Probably had the abscess been dealt with antiseptically in the first instance, as was intended, the child's life might have been saved.

Dr. MORROW, in answer to Dr. McConnell, said that he had no record of the nature of the pulmonary second sound in the cases he had reported.

Report of the Committee on Infectious Diseases.—Dr. J. C. CAMERON read the report (appeared on page 790 of this journal). Continuing, he said that the course recommended by the Committee was, if the report was adopted, that a deputation wait on the Mayor, who is thoroughly with us in this matter, and he will introduce the deputation to the Council, and the report will be presented. After this it is proposed to print the report and publish it through all possible channels, in order that public opinion may be awakened to the importance of the subject.

Dr. LACHAPPELLE, before putting the question, desired to say that he quite agreed with every part of this report, and that as a sanitarian he was glad to see this Society so actively alive to the interests of the public health. He wished that all physicians were actuated by the same public spirit, especially as to the reporting of cases of contagious disease, and this, he regretted to say, is not always done. If the Provincial or any other Board of Health is to do anything they must have

the information, the physicians must report their cases. Of course there are some prejudices against the practice, but the physician who knows better should not pander to them at the public cost. Moreover, if everyone reported his cases there would be no trouble; it would take but a very short time for the public to be reconciled to the inevitable, and everything would then run smoothly. So far as the appointment of a properly qualified person for bacteriological examination as an aid to diagnosis is concerned, he said that the Provincial Board of Health is fully aware of the importance of that step, and is willing and is now specially working to obtain from the Government the authority, the money, and especially the room for the establishment of such a laboratory. He said, further, that the Government seems very well disposed to do their duty in this respect.

The report was adopted, and the Vice-President requested the same committee to act as a deputation to the City Council.

Stated Meeting, March 17th, 1893.

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

E. C. Feilde, M.D., of Prescott, was elected an ordinary member.

Dystocia Due to Hydrocephalus—Dr. D. J. EVANS read, for Dr. Schmidt and himself, the report of the case, and exhibited the specimen. (Page 115).

A Case of Pernicious Anæmia.—Dr. ADAMI read the history of the case, as follows:—It is far from my intention to-night to detail fully the various points of interest in connection with the case of pernicious anæmia that I bring before you now; but it is necessary that I should recount the broad outlines of the history of the disease in the patient, and of the conditions found at the autopsy.

The patient, A. H. C., aged 52, was admitted into the General Hospital upon February 8th, 1893, under Dr. Stewart. In March, 1892, the patient noticed his increasing weakness. This was accompanied by numbness and tingling of the feet and slight swelling of the lower extremities. With this there was increasing pallor, and he entered the Montreal General Hospital in August of last year, the diagnosis then given

being pernicious anæmia. However, during the five weeks of his stay the patient improved in health to such an extent that some doubt was felt as to the correctness of the diagnosis; but even upon leaving the Hospital, in September, the number of red corpuscles per cubic millimeter was only 2,365,000. The patient neglected treatment after his departure, and after a few weeks fell back again in health.

On re-admission, in February, the number of the red corpuscles had sunk to 700,000; the percentage of hæmoglobin had fallen to nothing like the same extent, there being an actual increase of 23 per cent. per corpuscle. The patient now was very prostrate, and the progressive asthenia ended in death upon Feb. 21st. There had never been any hæmorrhage or diarrhœa, and vomiting only occurred twice, and on both occasions after taking arsenic. There was a soft blowing systolic apex murmur; the heart sounds, however, were strong.

At the autopsy, which was performed a very few hours after death, the cardinal appearances of pernicious anæmia were made out. There was the typical canary colour of the skin, and the persistence of subcutaneous fat in fair quantity, despite the extreme anæmia. The liver was rather enlarged, and of a more reddish or orange tinge than usual. The kidneys enlarged, pale and friable. The walls of the stomach were somewhat thinned and pale, while the bladder was distended, containing considerably over 500 cc. of dark, amber-coloured urine. The pancreas was firm and normal. The stomach was free from any ulceration or malignant growth, and the only noticeable point with regard the alimentary canal in general was its anæmic condition and the thinness of its walls, but the thinness was not extreme. The lungs were anæmic, but otherwise normal. There was an increase in reddish-purple bone marrow in the sternum and lower vertebræ. The condition of the heart was worthy of note. All the cavities were in a state of extreme dilatation. The right auricle was filled partly with a thin fluid blood and partly with a soft clot. From this cavity more than 300 cc. of the fluid blood was removed for future examination. The aortic and pulmonary valves were competent; the tricuspid and the mitral somewhat thickened at the edges, the latter the more so.

Portions of the spinal cord were removed, but are not as

yet sufficiently hardened to be examined microscopically. This was done in view of the recent observations that have been made regarding certain changes in the cord in connection with pernicious anæmia. Some blood taken from the heart was submitted to Dr. Ruttan for chemical analysis. In this case an analysis of the serum has been made for the first time in pernicious anæmia, and it is interesting to note that the proteids of the plasma have been altered in their relative proportions.

Chemical Analysis of the Blood Serum, by Dr. Ruttan.—The clear, almost colourless serum from this case of pernicious anæmia had a specific gravity of 1026.1, and carried only 5.2 per cent. of proteids by weight. These proteids consisted of 2.3 per cent. of globulins, precipitated by saturating with magnesium sulphate, and 2.9 per cent. of serum albumen proper. There was 0.875 per cent. of ash. It will thus be seen that not only are the total proteids reduced about 40 per cent. below the average normal quantity, but the normal ratio of the globulin to serum albumen is considerably altered. The ash is also about 20 per cent. above normal.

Determination of the Iron Contained in the Liver Tissue.—The total quantity of iron found in the liver was 0.2423 per cent. by weight, calculated to the fresh undried tissue. This was found to be equivalent to about 0.72 per cent. to the dried tissue.

In connection with these analyses, I would point out the fact that we have here very evidently a considerable change in the blood serum going hand and hand with the change in the red corpuscles. If this case can be taken as typical (which certainly it was in its progress, although the distended condition of the heart at the autopsy was unusual), then we learn that in this disease the serum becomes much thinner, containing more than one-third less proteids, and that in this diminution of the proteid constituents the serum albumen sinks rather more than does the globulin, for in 100 parts of normal blood there are 8 or 9 parts of proteid, and of these 3 to 4 consist of globulins, the rest being serum albumen. With reference to the iron in the liver, I may say that normal dried liver tissue, freed from blood, contains about 0.1 per cent. of iron. Here we have seven times that amount. This is in

keeping with the results of Quincke and others, who in advanced cases of this disease found 0.6 to 1.0 per cent. present.

Dr. BLACKADER wished to know if there is any record of the results of the microscopical examination of the blood during the patient's stay in the Hospital.

The PRESIDENT, in answer to Dr. Blackader, said that the usual changes had been present and observed. Arsenic had at first a marked beneficial effect. When admitted in August, a diagnosis of pernicious anæmia had been made from the man's appearance, examinations of blood, etc. He was put on arsenic, and in a few weeks his condition had so far improved that the diagnosis was doubted. He (Dr. Stewart) thought the man was well, and as such had him discharged from the Hospital. A few weeks afterwards he returned with undoubted symptoms of the disease again manifesting themselves, and there was little or no improvement following treatment on this second occasion. Still, the clinical symptoms on the first admission were quite as characteristic of pernicious anæmia as on the second. This shows that clinically there are no characteristic symptoms of the disease. The usual changes in the blood corpuscles which are described are not really characteristic, as they can be found in other conditions. In fact, it is doubtful whether there is any definite change in the blood which can be considered diagnostic of disease.

Dr. MILLS considered it fortunate that this case has been reported on chemically. From regarding, as we once did, the blood as the source of all evil, we have gone to the opposite extreme of attributing too little power to it as being the seat of disease. The plasma itself has been too long left out of account as a factor in the pathology of the blood, and yet it is very questionable if there is ever any very great modification of the cells without a corresponding modification in the plasma. The attention of clinicians is so drawn to the corpuscles that this part is neglected. He asked if there had been any microscopic examination made of the cells and tubules of the stomach, for in a discussion reported some time ago from Philadelphia, in regard to pernicious anæmia, some cases were cited in which the glandular portions of the stomach had actually atrophied, so that gastric digestion was necessarily very much interfered with.

Dr. SMITH wished to know if in this case there was very much enlargement of the spleen.

Dr. ELDER asked if evidence of malignant disease of the intestines had been present, would the case still be called one of pernicious anæmia? He further wished an explanation as to the quantity of blood found in the heart. Usually there is very little blood found in the heart after death from this disease, but in this case there seems to have been a good deal.

Dr. F. W. CAMPBELL asked what was the general condition of the arterial system, for narrowing is supposed to be one of the causes of this disease.

Dr. GURD inquired if the unusually large amount of iron found in the liver in such cases had been proven to be due to the large destruction of corpuscles, or if it might not be due to the practice of administering iron in anæmia.

Dr. ADAMI, in reply, said that there was a certain amount of atrophy found on examination of the stomach tubes, but the change was a very slight one, nothing like that usually met with. The spleen is never very much enlarged in pernicious anæmia. There are some cases in which the iron has been found to be increased in the spleen, but there is never that heaping up of it found in the liver.

The question of connection between pernicious anæmia and cancer is often a really difficult one to answer. The greatest authorities include a large number of cases of cancer in pernicious anæmia. Here comes the difficulty, whether we ought to speak of the cancerous cachexia as a pernicious anæmia? In the advanced cases of the cancerous anæmia there can be hardly any distinction made between it and pernicious anæmia. Many cases of cancerous anæmia it is impossible to diagnose during life, and it is only in the post-mortem room that they can be recognized as other than the idiopathic pernicious anæmia. Perhaps this difference now found in the blood plasma may yet be of diagnostic importance in this respect.

With regard to the condition of the heart, this certainly is a remarkable case. There seemed to be a large amount of blood in the whole arterial system, not only in the heart, but in the thoracic and abdominal aortas. In fact, one has here the impression that there was present a certain amount of hydræmia. This is a remarkable point not generally observed, but one

well worthy of notice. In this case, however, the autopsy was made a short time after death, whereas in other cases where the interval is longer it is conceivable that the heart might contract, and by so doing force the blood into the arterial system.

Lastly, as to the question of the cause of the accumulation of iron in the liver, it is generally accepted that this iron is derived from the breaking down of the blood corpuscles. In a very large number of these cases no iron has been given for months previous to death; no iron was given in this case. Also, it is found in experimental physiology that the administration of drugs which cause a destruction of corpuscles is followed by an increase in the amount of iron in the liver. From these and other similar considerations one is forced to the conclusion that this iron is derived from the breaking down of the red corpuscles.

Specimen of Appendix.—Dr. ADAMI stated that he had examined a section of the tube exhibited by Dr. Smith at the last meeting, and described the appearance of the section, which was seen to be that of appendix rather than ureter. He also cut a section of ureter, and had both present for comparison, when the different characteristics of each might be readily appreciated.

Dr. ENGLAND wished to make a few remarks on this most interesting case. The tube which Dr. Adami has examined and proved to be appendix was certainly a very peculiar appendix. At the time it looked very like the ureter; it was certainly a long ureter-like looking tube, six or seven inches in length, taking a direction upwards and to the right, apparently going beneath the liver. The other end of this tube disappeared into the mesentery in the midst of a lot of inflammatory tissue in which there were hard nodules. Now, the explanation simply lies in this, the part attached in the inflammatory mass must have been the proximal end of the tube, the distal end being attached in the higher region near the kidney. The tube also was a very small one to be appendix; it certainly was not larger than a goose quill. Then the condition of the woman did not allow of much time for deliberation, there being some doubt as to whether she would leave the table alive. The bladder, however, was filled with water,

to see if it appeared in the abdominal wound, which it did not do.

Multilocular Ovarian Cyst.—Dr. LAPHORN SMITH brought before the members a small multilocular cyst, which he had removed from a patient recently. It was sunk right down in the Douglas sac in the middle line, and consequently was excessively painful in coitus, defæcation and locomotion. The case had been under his observation for one month, and in that time the tumour had doubled in size, so probably had it gone on it would have become quite a large tumour in the course of time. There was a large cavity inside which was filled with a very thick glue-like material.

Discussion on Tuberculosis.—Papers read by Drs. McEACHRAN, and ADAMI appeared in the May number, and by Dr. BLACK-ADER in the July number.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPÆDIC SURGERY.

Stated Meeting, April 21st, 1893.

W. R. TOWNSEND, M.A., CHAIRMAN.

The Prehensile Toe.—Dr. ROYAL WHITMAN presented a case, one of several he had seen, in which he was uncertain whether the condition was a mild form of club-foot, or a reminiscence of a more primitive type. The peculiar feature was the long prehensile great toe, provided with muscles which moved it in every direction. Attention had been first directed to it in this case when the mother attempted to have shoes fitted to the child's feet.

Dr. R. H. SAYRE said he had seen a much more aggravated form of this condition, in which there was a very prominent "thumb" which interfered with walking, and the child also had supernumerary toes which were twisted in various directions.

Dr. A. M. PHELPS considered the case presented one of simple varus, with shortening of the abductor pollicis and plantar fascia. The deformity could probably be remedied by stretching and manual manipulation under ether, and the foot then put in plaster of Paris.

Dr. WHITMAN said this treatment might be effective, but he

did not consider this case one of *simple* varus, as the deformity was not at the medio-tarsal joint, but in front of it.

Congenital Dislocation of the Hip.—Lorenz Operation.—Dr. V. P. GIBNEY said that on October 28th, 1892, he operated on a boy five years of age, who had an anterior congenital dislocation of the left hip. His general condition at the time was excellent. There was some slight elevation of the pelvis, one and a half inches of apparent shortening, and one inch real shortening, with one inch atrophy of the thigh, but none of the knee or calf. The greatest traction which the patient could bear only reduced the shortening by one-quarter of an inch. On the right side the distance from the trochanter major to the anterior superior spinous process was three inches, and on the left side two and a half inches. The trochanter was only half an inch above Nelaton's line. While one assistant made traction and abduction of the limb, and another made counter-extension by means of a flannel bandage at the perineum, subcutaneous myotomy was made of all the abductor tendons and of other points within reach. By flexing the thigh the muscles attached to the tuber ischii were brought into prominence and were then divided subcutaneously through a second punctured wound. Then firm traction and abduction brought the limb down until it was of the same length as its fellow. An incision about three inches long was then made, extending from the anterior superior spinous process in the vertical axis of the limb, exposing the fascia lata. On cutting this fascia transversely the tensor vaginae femoris and sartorius muscles were exposed, and on retracting these the capsule of the joint was exposed. It was divided anteriorly, thus bringing into view the head of the bone, which was somewhat flattened. On cutting away the long ligamentum teres the acetabulum was found to be very shallow. A cup-shaped depression was gouged in the acetabulum, the head of the bone placed in this, and the wound drained and closed. An antiseptic dressing was applied, and the limb put up in plaster of paris in extension and abduction. The boy reacted well to the operation, and in December, when the plaster was renewed, there was found to be one-fourth inch shortening, but the movements in all directions were good and painless. On December 24,

when the plaster was again changed, it was found that the head of the bone would slip out of the acetabulum on very slight provocation, and from this time on it became very difficult, even with the aid of various splints, to keep the bone in place. On April 17 he died of diphtheria, and at the autopsy the left leg was found markedly rotated outward and shortened, the trochanter major being half an inch above Nelaton's line. The head of the bone was dislocated forward and rested firmly in the socket below the anterior superior spine of the ilium, where it was held in place by firm adhesions anteriorly, in the line of the original operation incision. At the new articulation the head was eroded, the angle of the neck was depressed, and the depression made at the time of the operation had been entirely filled up with tissues, which seemed to consist partly of bone and partly of cartilage. It was evident that any attempt at complete reduction into a normal acetabulum would have been attended by a complete rolling in of the limb and of the leg, so that a subsequent osteotomy would have been required. The rime of the pelvis, on which was located the anterior superior spine, was found to form an effectual bar to the slipping up of the bone during walking, and it was evident that although the limb was not in the new acetabulum, as expected, for practical purposes the newly formed joint was more useful than a poorly formed one on the dorsum of the ilium, and that although there was some slight motion upwards, it was not equal to that obtained in the old and imperfectly formed acetabulum.

Hoffa's Operation.—In connection with this case Dr. Gibney also reported a case in which Hoffa's operation had been performed by Hoffa himself at the Hospital for Ruptured and Crippled, in the presence of a number of distinguished surgeons. Dr. Hoffa considered the case an excellent one for the operation, which was done on September 28, 1891, the patient being a girl two and a half years of age. The limb was held flexed at an angle of about 145° , while a straight incision about three inches long was made in the line of the femur in such a position that the tip of the trochanter major was at its centre. The incision was carried through the glutei muscles in the line of their fibres, and a split made in the capsule of the joint corresponding in direction and length with the ex-

ternal incision. The ligamentum teres was divided with curved scissors, and the head of the bone made to protrude through the opening in the capsule. The muscles attached to the trochanter major and minor were divided through the same opening. The upper part of the acetabulum was scooped out to the depth of nearly three-quarters of an inch, the joint thoroughly flushed with sterilized water, and the head of the bone placed in this newly formed acetabulum. It was then found that the limb could be brought down parallel with its fellow without throwing the head out of the cavity. The wound in the capsule was closed with catgut suture, the external wound filled with iodoform gauze, and a bichloride dressing applied. While traction was made, a plaster of paris spica was then put on from the ankle to the lower border of the ribs. The child bore the operation well, but four days later the temperature was 104° , and the next morning 103.6° . It did not reach 100° until October 19th. Up to November 5th, when the child was discharged, there was a fluctuating temperature and suppuration of the wound, and efforts were simply made to keep the limb in good position and to stimulate the child. The wound did not heal until the middle of December. For about two months there was paralysis, limited to the region and muscles supplied by the branches of the sciatic nerve. During this period a hip splint was supplied. On April 11, 1892, it was noted that the paralysis had disappeared, and the child was still wearing the brace. She could move the toes and raise the limb easily from the table. There was limited motion at the hip, knee and ankle. The trochanter was then below Nelaton's line, and apparently a little further forward than on the right side. About November 1st the child was etherized and adduction overcome by manual force, and the limb put up in a position of abduction. On January 26, 1893, there was found to be some shortening of the tendo achillis, and the foot was in a position of moderate valgus. She could flex to 90° m and extend to 175° ; the abductors were quite tense and resistant. An examination made on April 21 showed the great trochanter above Nelaton's line, a moderate degree of adduction and one inch shortening.

An Old Ununited Intra-Capsular Fracture of the Femur Treated Successfully by Operation.—Dr. WILLY MEYER pre-

sented a man, thirty-nine years of age, whom he had first seen last November, at which time he gave a history of having fallen ten months previously from a height of sixteen feet and striking on his feet. Since that time he had been unable to walk, and he evidently had not been treated for any special diseased condition. He was limping on two crutches, and was just able to touch the floor with the tips of the toes on the affected side. The leg was turned outward, shortened and greatly atrophied. The great trochanter was at least three inches above Nelaton's line, there was outward rotation, and on traction the leg could be drawn down a good deal. Then crepitation was felt; there was evidently an ununited intra-capsular fracture of the neck of the femur. Dr. Meyer decided to perform arthrotomy of the hip and determine the exact condition. If the head were found to be movable in the joint, and on scraping the surface it bled, an attempt would be made to unite the neck to the head; otherwise it would be simply excised.

The operation was done on December 2, 1892, at the German Hospital. Langenbeck's slightly curved incision was employed, and on entering the joint a fracture was found to be entirely intra-capsular and the capsule greatly enlarged. Both fragments were found to be united by long connective tissue. The neck had fractured from the head at the base of the latter, and the entire circle of the head was freely movable in the acetabulum. On cutting away the adhesions between the two fragments, it was found that both the surface of the head fragment and that of the neck fragments was concave. The angle between the shaft and neck also seemed to be less oblique than normal. On scraping the head fragment it bled over its entire surface, so it was decided to unite the head to the shaft by nails, and accordingly the periosteum was stripped down and the bone chiselled away so as to make a convex surface on the neck fragment. Long screws not being at hand, Wyeth's nails were employed. They were introduced from the trochanter through the longitudinal axis of the neck into the head. The first nail broke at the surface of the bone; the second, on removing the handle, also broke, but inside of the bone. The steel evidently was very poor. Although carefully sterilized, these nails could not be left *in situ*. So

the bone was chiselled away in the shape of a small funnel so as to get at the broken end of the nail. The latter was then partially extracted to admit of its easy removal subsequently. Two drainage tubes and some iodoform gauze were inserted, and an antiseptic dressing, adhesive plaster and extension splint applied. The next morning the patient was in collapse as a result of a free and continuous parenchymatous bleeding from the porous, atrophied bone. Saline and stimulating enemata did not help, nor a hyposermoplysis of 800cc. saline solution. But after an intra-venous injection of one quart of salt water he was very much better, and from that time recovery was steady. The nails were removed at the end of eight weeks, and at the end of the tenth week he was allowed to get up and go around on crutches. The shortening before the operation was $3\frac{1}{4}$ inches, and it is still $1\frac{1}{2}$ inches.

The speaker was of the opinion there was bony union, but when the patient was shown to the Surgical Society some of the members thought there was no bony union, but a very close adhesive union. The removal of so much bone from the neck, the changed angle, and the atrophy of the muscles, however, probably accounted for any defect in motion. The latter was actively as well as passively quite free. The man now easily walked with one cane. He could also walk without any support.

Dr. R. M. PHELPS said that Hoffa had reported 16 cases, all of them successes. If his operation proved to be successful once in fifty times it was an improvement on anything now known, for, so far, there had not been a single case in which a congenital dislocation of the hip had been cured by any instrument known. Hoffa's cases, however, should be examined five years after the operation. He was of the opinion that in congenital dislocation of the hip the acetabulum is not always absent, but is almost always deformed. A specimen presented by him in Washington showed that the pressure of the head had caused the deformity of the acetabulum. If Hoffa's operation had been performed a good socket would have been formed. Where the head and neck are absent, as sometimes occurs, any operation short of complete excision and a gouging out of the acetabulum would surely fail. In the case just presented suppuration unfortunately occurred; it

was really a case of hip joint disease following Hoffa's operation and the accidental infection of the wound. He had made the best possible use of all known instruments for the treatment of this condition, but he had not yet seen any case cured, and very few had been benefited materially. In every case the limb had shortened up. Where the joint is firm he would not think of operating. In fractures of long standing, in some cases of hip joint disease, it is possible by long traction in bed to succeed in pulling the limb down.

Dr. S. KETCH said that he did not think we should accept any of the cases reported by Hoffa as unqualified successes until a suitable time had elapsed and examination had shown them to be actual cures. He had had no personal experience with Hoffa's operation, but he would not think of advising this operation until we know more about it than at present. It is a good operation theoretically, but whether the new acetabulum will hold the head of the bone after exposure to the traumatism of walking is still an open question.

Dr. WHITMAN said that the relation of the femur to the shaft should, if possible, be ascertained before operation; for if, as in the case reported by Dr. Gibney, the neck was twisted forwards, an osteotomy of the shaft would be necessary as a secondary operation, in order to rotate the leg outwards to its normal position. He was in favour of the operation, and thought it should be performed as early as possible. The new acetabulum should be made large and deep, the head of the bone held firmly in position, and sufficient pressure applied to restrain the new bone formation which might obliterate the artificial acetabulum, as in the case under discussion.

Dr. MYERS said he thought most surgeons had very little notion of how large an acetabulum could be made. A number of experiments on the cadaver had shown him that it could be made of very considerable size. One should avoid making too much traction, as there is no use in putting the head of the bone in the acetabulum and then pulling it out again. This tendency of the head to slip out can be prevented by considerably abducting the limb. He thought the operation of Lorenz more scientifically correct and easier to perform. Two deaths had been reported from Hoffa's operation.

The CHAIRMAN, referring to Dr. Willy Meyer's case, said he

could not see how there could be such perfect motion if only fibrous union existed. The four cases he had treated mechanically had all proved failures. He had seen nothing like the result exhibited in this patient, and although when traction is made on the limb there is a slight slipping of the soft parts, he did not think this indicated fibrous union. It seemed to him that the slipping was about equal on both sides of the body.

Dr. R. H. SAYRE thought there was undoubtedly more mobility in the joint operated on than on the other side; for, on holding the pelvis still, there is a distinctly larger area of motion on the injured side. This, however, might be due to atrophy of the head, or to the amount of bone removed. In any case the limb is practically very useful. In his opinion an operative procedure in patients of this age, or even older, is much better than the usual let-alone treatment. He was particularly interested in the statement about vascularity of the head, as this would seem to indicate that when these cases are seen early, by proper treatment they can be made to unite without operation. It is evident that in many cases the vascular supply to the head of the bone is quite sufficient to afford nourishment, whether or not it was limited to the ligamentum teres, as had been stated. Many cases had been reported of union by simply securing proper apposition and immobilization for a sufficient length of time.

Dr. WHITMAN said that as there was three inches shortening before operation, the neck could not have been in contact with the head. He thought all must agree that the union in this case was firm, and that although the motion was limited, it was equal in all directions and the result was very satisfactory.

Dr. MEYER, in closing the discussion, said that if careful mechanical treatment had been tried and union not obtained within a reasonable time he would then operate. He had been surprised at the vascularity of the head in his case, and at the great atrophy and fatty degeneration which had taken place in the shaft fragment, which had been so marked that the nails passed through the bone almost as if going through wax. Another point of interest was that there had been no adhesion whatsoever between the head of the bone and the acetabulum.

The Elements of the Early Differential Diagnosis of Pott's Disease.—Dr. ROYAL WHITMAN read a paper with this title.

Dr. A. M. PHELPS remarked that one important point in the differential diagnosis was that in wry-neck the face is turned away from the contraction, whereas in Pott's disease the face is turned towards the contraction.

Dr. S. KETCH said that long ago Dr. Shaffer in his work on Pott's disease referred to this peculiar condition of the sterno-cleido mastoid muscles, and also to the diagnosis of the location of the disease, viz., that in cervical disease high up there is an interference with the function of rotation, and in disease of the lower cervical region there is interference with extension and flexion. The speaker called attention to the remarkable apathy exhibited by the laity regarding the deformity of the spine. A case in point was that of a child who was brought to the clinic for ankle joint disease. In the course of the examination the father remarked that the child had had a stomach ache for a long time, and following the usual rule to examine the spine under such circumstances, he found a very large kyphos. The father had never noticed this before, and although the child had been under the care of a physician because of the stomach ache, no examination of the spine had been made.

Dr. L. W. HUBBARD said that a few weeks ago a child, the only one of very respectable parents, had been brought to him with a very marked deformity of the spine, extending from the sixth to the eighth dorsal vertebra, yet the mother had only noticed it two weeks before. Many of the symptoms referred to in the paper were present, and this case had also been under the care of a family physician for some time. The speaker emphasized the importance of the muscular conditions found in connection with Pott's disease, and called attention particularly to the early presence of psoas contraction in disease of the lumbar region—even before abscess is present. He had never seen the least rigidity of the lumbar spine due to Pott's disease in which there was not marked psoas resistance on one side or the other.

Dr. R. H. SAYRE thought the paper most excellent. He had noticed in certain cases of disease of the first and second cervical vertebra that instead of being relieved by lying on the

back, and slight traction being made, the reverse was the case, the child being compelled to sit in a chair, leaning its head against a pillow, because of the feeling of fright and dread whenever it attempted to lie down. This was probably because the disease was between the odontoid process and the front part of the atlas, and lying with the head back brought together the inflamed surfaces and increased the pain and spasm. He had also seen disease in this region where the face was not turned towards the contracted muscle, but was twisted away from it, because the other muscles happened to be contracted also. He had not always found rachitic curves "quiet out" when the child was in the prone position to such a degree as the author had described, because in some children there is an acute arthritis in various parts of the body. He had seen these angular distortions remain rigid, just as in tubercular angular deformity. In small children he had not observed anything but the spastic hemiplegia of which the author spoke, but in older children and in adults he had seen an ataxic form of hemiplegia without spasticity, and not until afterwards was the kyphos and typical Pott's disease noticed.

Dr. PHELPS said he could not understand how in the case of wry-neck the face could be turned towards the contracted muscle—it is a purely mechanical problem.

Dr. MYERS said that he had seen several girls about sixteen years of age in whom the lumbar spine was very prominent and slightly rigid, and he had been uncertain whether or not there was true disease of the spine. These girls were engaged in doing needle-work, and they sew much of the time with the head thrown forward.

Dr. A. B. JUDSON referred to a small group of cases in which wrong diagnoses had been made, or unnecessary alarm excited by projecting vertebræ between the fifth and ninth dorsal. In this region the spinous processes are extremely long and project downward in a direction not very far from vertical when the patient is erect; but when the patient stoops, even in a slight degree, these long processes approach the horizontal and make a row of projections which are rather alarming at the first glance. The cases which he had collected occurred in girls at or soon after the time of rapid growth, when the attitude is apt to be stooping and the skeleton is not well cov-

ered with fat. Any doubt about such a case is at once dispelled when it is noticed that the natural curve of the spine in this region is not broken into two curves meeting at an angle, as in incipient Pott's disease, and by recalling the peculiar vertebræ referred to.

Dr. WHITMAN, in closing the discussion, said that the distortion of the head in the early stage of Pott's disease was caused by the contraction of certain muscles, and by the shape of the articulating surface of the vertebræ.

Simple wry-neck was not unfrequently caused by contraction of the lateral and posterior muscles of the neck, the sternomastoid being unaffected. In such a case the pathognomonic sign mentioned by Dr. Phelps would be misleading. The diagnosis was rather to be made on careful history, grouping of symptoms, and on the anatomical relations of the parts involved. The position of the head was often suggestive, but not always the important diagnostic sign.

Selections.

Embolism of the Popliteal Artery following Diphtheria.—Rooney (*Occidental Medical Times, April, 1893*) reports a case of diphtheria which was followed by embolism of the left popliteal artery. Gangrene resulted, the line of demarcation extending obliquely from the patella in front downwards and backwards to the top of the belly of the gastrocnemius. Amputation through the thigh at the junction of the lower and middle thirds was performed, and the patient recovered.

Epilepsy.—Miller (*Edinburgh Medical Journal, July, 1893*) reports a case of epilepsy which was cured by the removal of a contraction of the slips of the palmar fascia going to the ring and little fingers of the right hand, and also the slitting up of a contracted prepuce. The fits used to commence by the fingers of the right hand becoming flexed, with the thumb over them; the arm then became flexed until the hand touched the shoulder. The rigidity extended to the right leg, and then became general, the patient losing consciousness. Some months after the operation the patient reported himself quite well.

On the Natural Cure of Basal Empyema after Pneumonia.—Russell (*British Medical Journal*; May 6, 1893), draws these conclusions regarding the natural cure of basal empyæma after pneumonia:

(1) In two the quantity of pus was small, and after the first exploratory puncture it completely disappeared with perfect recovery, so that a second exploration a few days later proved abortive.

(3) In the third case scarlatina had preceded the broncho-pneumonia. There was extensive dulness, which the syringe showed to be caused by pus, which had burst into the lung and was being expectorated. Incision was proposed, and declined by the parents, who transferred the case to another surgeon, who simply exhibited *Ol. morrhææ*. The result, much to my surprise, was complete recovery, so that about two months later I could detect no difference between the two bases. Air entered freely, and there was no retraction.

(4) The fourth case had one side of the chest full of pus. Operation was declined by parents until the child was almost wasted away, and a swelling had formed in the elbow (pyæmic?). Incision and drainage were then done in hospital, but too late.

(5) Lastly, I have since had a case in an adult following acute rheumatism and croupous pneumonia, in which, a few days after the pneumonic crisis and before the dulness had cleared up, the temperature rose again, but before any exploration was done. The empyæma burst into the lung, and was expectorated in large amount. By the next day the temperature fell to normal, and air was entering the base, so that no operation was needed. The result was recovery.

From these cases it seems (a) that small empyæmata after pneumonia may be expected to resolve, but if large they should certainly be drained. Prof. Schroeder, of Vienna, I believe, is of this opinion. (b) That the result of an empyæma evacuated through the lung is not necessarily bad. If the opening be valvular the lung does not retract, so that in the end the result may be even better than that of operation. But, knowing the dangers of a large empyæma, non-interference cannot be recommended.

The Pied Piper of Hamelin.—It might be a wise expenditure of money for some benevolent person interested in sanitation to present to every municipal corporation in the kingdom a copy of Browning's delightful poem, called "The Pied Piper of Hamelin;" on the understanding, of course, that every member of the corporation should read, mark, learn, and inwardly digest the same. The story is, perhaps, not so well known as it ought to be. Hamelin town, in Brunswick, some five hundred years ago (the date is Browning's) was infested with rats, and the mayor and corporation were at their wits' end to know how to get rid of the plague. The pied Piper offered his services, for which he was to be rewarded with a thousand guilders; and he piped to such purpose—so cunningly and enticingly—that all the rats in the town (save one) followed him to the river Weser, wherein all plunged and perished. Great joy naturally in the town of Hamelin. But, as naturally, the piper wanted to be paid his promised thousand guilders. Here, however, the mayor and corporation grew stingy; their business was done, they thought, and they would be troubled no more; but to get rid of the pestilent fellow, they offered him fifty. Then comes the tragedy of the story. They had treated their deliverer shabbily; they had put him in a passion, and they found him pipe to another fashion. Again he piped, so sweetly and persuasively, that all the children in the town came flocking out, and ran merrily after the wonderful music with shouting and laughter; and they followed their leader to the side of a mountain, which opened and swallowed them all up, and they were never heard of more—in Hamelin; and the parents in that ill-fated city were left to mourn.

But it isn't true? We are not so sure of that. It is certainly in print; and if it weren't true, how could a grave poet like Robert Browning have taken the trouble to write out the story in charming verse? For our part we believe it to be perfectly true—if not in the letter, certainly in the spirit. When Browning wrote it, do you not think he had in view those principalities that grudge the expense of paying to get rid of nuisances? There are plenty among ourselves who still act the part of the mayor and corporation of Hamelin. Clearly the meaning of the poem is that if you are mean

enough to grudge the necessary expenditure for ridding your town of destructive pests, then you will have to pay for your sordid economy in the loss of your dearest. You will see your children pass away before your eyes, and you will be utterly unable to stop them or to recall them. You will have to pay the piper somehow; if not in money, then in some far more costly and tragical fashion. Bacilli are more troublesome and more destructive than even rats; because they destroy the most valuable of all property, and they cannot easily be got rid of without spending money. Disease is the costliest of all conditions for a town; while the expenditure on sanitation is the wisest economy. The shade of Browning will doubtless forgive us if we have in any way misread the impressive lesson taught by his "Pied Piper of Hamelin."—*The London Sanitary Record*.

The Value of the Hands and of the Fingers.—Surgeons have often to estimate the chances of saving injured hands, and the comparative values of hands and fingers. According to a scale of value furnished by the Miners' Unions and Miners' Accident Insurance Companies of Germany, the loss of both hands is valued at 100 per cent., or the whole ability to earn a living. Losing the right hand depreciates the value of an individual as a worker 70 to 80 per cent., while the loss of the left hand represents from 60 to 70 per cent. of the earnings of both hands. The thumb is reckoned to be worth from 20 to 30 per cent. of the earnings. The first finger of the right hand is valued at from 14 to 18 per cent., that of the left hand at from 8 to 13.5 per cent. The middle finger is worth from 10 to 16 per cent. The third finger stands least of all in value; although, like other useless members of the community, it is surrounded by riches, its value is only from 7 to 9 per cent. The little finger is worth from 9 to 12 per cent. The difference in the percentages is occasioned by the difference in the trade, the first finger being, for instance, more valuable to a writer than to a digger.—*Med. News*, July 22, 1893.

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**AN ACT CONCERNING THE COMPILATION OF
VITAL STATISTICS.**

We have received from the Secretary of the Provincial Board of Health a copy of the new act, by which the compilation of vital statistics is placed in the hands of that Board and not, as formerly, in charge of the Municipal Boards.

In conformity with this law the Provincial Board of Health began, with the 1st of July 1893, the collection of vital statistics in the 846 municipalities of the Province.

The important point in this law of statistics is to require that before any burial is allowed, a certificate signed by the physician who attended the deceased and establishing the cause of death be furnished to the person entrusted with the registers of civil status (the clergyman). When no physician has been called two credible citizens or the clergyman give a certificate establishing, to the best of their knowledge, the cause of death.

These certificates, which will be forwarded monthly to the Provincial Board of Health, will be a source of precious information for the Board. They will show what localities of the Province have the highest death rate, which diseases have caused a heavy mortality in certain places and not in others, which are the diseases prevailing in certain districts, which seasons are most fatal, what ages and sexes suffer most, and what are the professions mostly affected, etc.

These statistical data the Provincial Board will study, with the result that often it may be able to indicate to municipalities the remedy which would reduce their death rate, which in some cases is enormous. (Fifteen municipalities had a death rate of over 50 per 1,000 inhabitants during the year 1890.)

But it is especially respecting contagious diseases that these certificates will be important to the Board. At the end of each month the Board, knowing the exact number of deaths caused by each contagious disease in every locality of the Province, will be enabled to inquire immediately into the measures taken to check such diseases, and by ordering a rigid enforcement of isolation and disinfection will often prevent an epidemic.

The Board relies upon the medical profession to furnish it with accurate and reliable data, and entertains no doubt as to its support, since the want of legislation on the subject, which existed up to last session, has often drawn the attention of the medical corps.

THE ELEVENTH INTERNATIONAL MEDICAL CONGRESS, ROME, 1893.

The Congress will be inaugurated, doubtless, on the 24th September, 1893, in the presence of H. M. the King of Italy. We dwell upon this fact on purpose, because there has been spread the notice of the possibility of the prorogation of this meeting. The Executive Committee has never deliberated upon a prorogation, but has, in its session of the 1st inst., determined upon a programme, and has taken the necessary dispositions to get the localities ready for September 24th.

The programme is going to be printed, the colleagues are therefore prayed to communicate promptly the titles of their papers, which shall be comprised in the programme.

Abstracts and conclusions are to be presented not later than July 31st, as prescribed by the Art. 11 of the statute.

AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

The third annual meeting of the American Electro-Therapeutic Association will be held in Chicago, September 12, 13 and 14, at Appollo Hall, Central Music Hall Block.

Members of the medical profession interested in electro-therapeutics are cordially invited to attend.

AUGUSTIN H. GOELET, M.D., President.

MARGARET A. CLEAVES, M.D., Secretary.

THE STANDARD FOR TINCTURES.

At the annual meeting of the Pharmaceutical Association of the Province of Quebec, held June 13th, the President, in his address, stated that there is no legal standard for tinctures in this country. He says: "A topic which it may be as well to draw attention to at this time is the question as to how far pharmacists are justified in supplying tinctures made according to the United States Pharmacopœia. Neither the Dominion Parliament nor the local legislatures have as yet legislated on the subject. * * * Nothing that I can find obliges us legally to use the British Pharmacopœia. Custom alone has sanctioned its use amongst us. * * * Meantime it is apparent to me that, although custom has sanctioned the pharmacist in Canada in making his tinctures and other pharmaceuticals according to the British Pharmacopœia, there is really no law at the present moment obliging him to do so."

This way of putting the matter, we believe, does not express exactly what the President meant. The only law bearing on the case at all is the Dominion law regarding adulteration, and this leaves it an open question whether the British or the United States Pharmacopœia is to be used, and even that much is only stated indirectly and as a means of preventing tincture from being too weak, there being apparently nothing to regulate the exact strength; as long as a tincture is up to proof it may be as much over as the manufacturer chooses.

That the Government is of the opinion that there is a legal standard is shown by the following paragraph, taken from one of the daily papers:

"ADULTERATION PROSECUTIONS."

"Several city druggists have been served with notices from the Department of Inland Revenue calling upon them to pay the cost of analysis for certain samples of tinctures sold by them to the inspector of food for the Province, which on examination were found to be adulterated within the meaning of the adulteration act. The costs in each case amounts to 12 dollars."

If there is no legal standard, on what grounds could the prosecution be conducted?

Mr. W. A. Dyer, of this city, has been conducting an inquiry as to the opinion of the medical profession and others on this question and the result has been practically unanimously in favour of the B. P. This is the standard adopted in all the medical and pharmaceutical colleges, and the vast majority of practitioners in Canada are not sufficiently acquainted with any other Pharmacopœia to prescribe from it.

There can be no doubt that prescriptions written by Canadian physicians are according to the British Pharmacopœia and, even if there is no law bearing directly upon the question, the knowledge of this fact should compel the druggist to thus dispense these preparations. We believe the chemists of Montreal have quite generally acted honourably in this matter.

Ontario has definitely settled the question by enacting that the British Pharmacopœia shall be the standard for all pharmaceutical preparations mentioned therein, and it would be well if Quebec passed a similar law, so that no doubt could be raised. To leave an important matter like this in any way an open question is not right, and Mr. Gray deserves the thanks of both professions for calling attention to it.

The following are the questions asked by Mr. Dyer, and of some eighty answers received so far, all but one are in favour of the B. P.:

1. Is there a standard for tinctures in this country?
2. In your opinion is there any doubt whatever as to the British Pharmacopœia being the standard in the Dominion of Canada for all tinctures named in that work?
3. When you write a prescription calling for a tincture named in the British Pharmacopœia and when you do not specify B. P., what should the dispenser supply?

—Eleven towns in England have medical men for mayors. This looks as if the medical men of England take more interest in good government than do their American brethren. We feel certain that they are good officials.—*Cin. Lancet-Clinic.*