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TORONTO, OCTOBER, 1881.

Original Communications.

ON WATER ANALYSIS.

BY J. W. MACDONALD, M.D., F.R.C.S.E., MEDICAL
OFFICER TO THE STEEL CO. OF CANADA.

[Read before the Canada Medical Association.]

I am frequently asked by both medical men and laymen to give some ready methods by which the fitness or unfitness of water for domestic purposes may be ascertained. In answering the question several difficulties present themselves. The cost of apparatus for a complete examination of water is a serious matter; few persons have the time or the inclination to carry out detailed chemical analyses, and lastly a conclusion as to the purity or impurity of water must be based upon a collation of all the evidence that can be obtained, rather than from the results of one or two tests. The vital importance of the subject, and the lively interest which is being awakened in regard to it, have led me to attempt the description of water analysis, which will be sufficient for ordinary purposes, and at the same time fall within the means and opportunities of every medical practitioner. Two years ago I imported from Savory & Moore, of London, one of Parke's Cabinets for water analysis. It cost me, inclusive of duty, about one hundred and fifty dollars, and nearly one-half the contents were destroyed by breakage. As few would feel disposed to go to that expense, I have endeavoured to meet the difficulty by preparing a small, cheap, and at the same time efficient case of chemicals and apparatus, which should not cost more than

twelve or fourteen dollars. The case is eighteen inches long, five inches wide, and nine inches high. Inside it contains the following chemicals in three ounce bottles.

Standard Solution of Nitrate of Silver.
Sol. of Yellow Chromate of Potash.
Solution of Soap.
Solution of Nitrate of Barium.
Two shaking bottles for soap test.
Nessler's Solution.
Dilute Sulphuric Acid.
Solution of Iodide of Potassium and Starch.
*Oxalate of Ammonium.
Standard Solution of Ammonium Chloride.
Standard Solution of Permanganate of Potassium.

The apparatus consists of—

1 Flask with ring for boiling.
2 India rubber caps with two necks.
1 retort stand.
1 Burette with clasp.
India rubber tubing.
Spirit Lamp.
5 test tubes.
Glass rod.
Glass measure 50 C.C.

IN THE EXAMINATION OF WATER, the coarser physical characters, such as colour, smell, taste, and transparency, should first be noted. The colour is best observed by pouring the water into a tall glass vessel and looking down upon it. Perfectly pure water has a bluish tint and the bottom of the vessel is clearly seen through several feet of water, while some waters are so turbid as to obscure the bottom when only a few inches are looked through. A green color as a rule indicates vegetable impurity, a yellow or brown color, (excepting in peat water) animal impurity. Smell is best observed by warming, boiling, or

distilling the water, when characteristic odors are frequently given off.

The evidence derived from an examination of the physical characters is very unreliable, we must, therefore, proceed to an examination of the dissolved solids, which gives us the most valuable evidence. The examination is divided into the Qualitative and Quantitative :

I. QUALITATIVE. The most useful tests are the following:—

SUBSTANCES SOUGHT FOR	RE-AGENTS TO BE USED, AND EFFECTS.
Reaction	Litmus and turmeric papers: usual red or brown reactions.
Lime	Oxalate of ammonium: white precipitate.
Chlorine	Nitrate of Silver and Dilute Nitric Acid: white precipitate becoming lead color.
Nitrous Acid.	Iodide of Potassium and Starch in Solution: a blue color.
Ammonia	Nessler's Solution: a yellow color or yellow brown precipitate.
Nitric Acid	Sol. of Sulphate of Iron and pure Sulphuric Acid: olive colored zone.
Oxidisable Matter including Organic Matter.....	Pernmanganate of Potassium: red color disappears.

II. QUANTITATIVE:

1. DETERMINATION OF CHLORINE.—Prepare a solution of Nitrate of Silver, by dissolving 17 grammes in one litre of water.

Take 100 C.C. of the water to be examined, place it in a white porcelain dish; add enough solution of yellow chromate of potash to make it just yellow. Then add the nitrate of silver solution from a burette, and stir. A red color is produced, which disappears as long as any chlorine is present. Stop when the least red tint is permanent, then read off the number of C.C. of silver nitrate used; each of these represents 3.55 milligrammes of chlorine. Multiply by 10 to give the amount per litre, and this again by .07 for grains per gallon. Chlorine in water is very suspicious of the presence of the liquid excreta of men or animals. If in addition we find nitric and nitrous acids, ammonia and phosphoric acid, the evidence is very strong. Chlorine, however, may be due to strata containing chloride of sodium or calcium. In this case the water is alkaline from sodium carbonate. In some cases the chlorine is due to impregnation from sea water. It is then large in quantity; there is also magnesia and little evidence of organic matter.

2. HARDNESS.—This is estimated by Clarke's soap test, and by it we determine—

1. TOTAL HARDNESS, representing the aggregate earthy salts and free carbonic acid.
2. THE REMOVABLE HARDNESS, or that which disappears on boiling.
3. THE PERMANENT HARDNESS, which is unaffected by boiling.

By the soap test can also be determined the amount of certain constituents, such as lime, magnesia, sulphuric acid, and free carbonic acid.

APPARATUS REQUIRED FOR THE SOAP TEST.—Measure of 50 or 100 C.C. Burette divided into 10ths of a cubic centimetre, two or more stoppered bottles to hold about four ounces. We also require the following solutions:

1. STANDARD SOLUTION OF BARIUM NITRATE. Dissolve .26 grammes of pure barium nitrate in 1 litre of water or 18.2 grains to 1 gallon. A concentrated solution of ten times this strength may be made and diluted with nine parts of water when used.

2. SOLUTION OF SOAP. Dissolve a piece of soft potash soap, of the British Pharmacopœia, in equal parts of water and alcohol; filter, and then graduate as follows:

Put 50 C.C. of the Standard Solution of barium nitrate into the shaking bottle, and add to it slowly the soap solution from the finely-graduated burette. After each addition shake vigorously and place the bottle on its side. Continue this until you have a thin beady lather over the whole surface, permanent for five minutes. Read off the amount of soap solution used; if exactly 2.2 C.C. have been taken the solution is correct; if less, the soap solution must be diluted with spirit and water. The amount of dilution can be ascertained by a simple rule. Suppose 1.8 C.C. have been used and the whole of the unused solution measures 200 C.C. then

$$\begin{aligned} \text{As } 1.8 : 2.2 :: 250 : x \\ x = 244.4 \text{ C.C.} \end{aligned}$$

The 200 c.c. must then be diluted with equal parts of spirit and water to 244.4 C.C.

With these solutions, and having all glasses, burette, etc., perfectly clean—for the least quantity of acid would destroy the accuracy of the process—we can proceed as follows:

1. To determine the total hardness of the water. Take 50 C.C. of the water in a stoppered bottle, and add the soap solution from the burette, shaking strongly after each addition until a lather permanent for five minutes

spreads over the whole surface without any break.

Then read off the number of tenths of soap solution used.

From this number subtract 2, as that quantity is necessary to give a lather with 50 C.C. of the purest water. The soap solution which has been used indicates the hardness due to all ingredients which can act upon it; as a rule they are lime, magnesian salts, iron, and free carbonic acid.

It is usual to express this hardness by degrees of Clark's Scale. Though dependent upon various causes it is considered as so much calcium carbonate per gallon, one grain of calcium carbonate per gallon being one degree of Clark's Scale.

The calculation is as follows: Each tenth of the Soap Solution corresponds to .25 milligrammes of calcium carbonate. Multiply this co-efficient by the number of tenths of soap solution used and the result is the hardness of 50 C.C. Multiply by 20 for the amount per litre, and by .07 for grains per gallon, or degrees of Clark's Scale.

To obtain the PERMANENT HARDNESS.—Boil a known quantity briskly for half an hour, replacing the loss with distilled water from time to time; cork the vessel and allow it to cool. Then determine the hardness in 50 C.C. as before.

REMOVABLE HARDNESS. This is very easily calculated, for we have only to take the difference between the total hardness and the permanent hardness and express the result as removable hardness.

The permanent hardness is the most important, for it represents the most objectionable earthy salts, viz.: calcium sulphate and chloride, and the magnesium salts. The permanent hardness of good water should not exceed 3° or 4° of Clark's Scale.

The next step in our investigation is the Determination of Free or Saline Ammonia, and of Nitrogenous Organic matter.

AMMONIA in water is chiefly derived from organic substances, either vegetable or animal. In the detection and estimation of Ammonia,

the very delicate test known as Nessler's Solution is of the greatest value.

NESSLER'S SOLUTION is thus prepared: Dissolve 50 grammes of Iodide of Potassium in 250 C.C. of distilled water; reserve a small quantity, warm the larger portion, and add a strong aqueous solution of corrosive sublimate until the precipitate ceases to disappear; then add the reserved solution of Iodide so as to just dissolve the red precipitate; filter, and add to the filtrate 200 grammes of solid potash dissolved in boiled water. Dilute to 1 litre, and add 5 C.C. of a saturated aqueous solution of mercury bi-chloride. Allow to subside; decant the clear liquid and keep in a dark place.

In addition to this liquid we require—

STANDARD SOLUTION OF AMMONIUM CHLORIDE, which is of the strength of .0315 grammes to 1 litre of water. Each C.C. represents .01 milligrammes of Ammonia. The mode of procedure is as follows: Place in a flask 250 C.C. of the water to be examined; distil off about 120 C.C.; measure this distillate carefully; test a little with Nessler's Solution in a test tube, and observe the colour; if not too dark, take 100 C.C. of the distillate and put it into a cylindrical glass vessel and place it upon a piece of white paper. Add to it 1½ C.C. of Nessler. Put into another similar cylinder as many C.C. of Ammonium Chloride as may be thought necessary, and fill up to 100 C.C. of pure distilled water, which has previously been proved to be free from Ammonia; drop in 1½ C.C. of Nessler. If the colours correspond, the process is finished, and the amount of Ammonium Chloride used is read off. If the colors are not the same, add a little more Ammonium Chloride, so long as no haze shows itself; if it does then a fresh glass must be taken and a new trial made. When the colours correspond, read off the C.C. of Ammonium Chloride used; allow for the portion of distillate not used, multiply by .01, and we have the number of milligrammes of free Ammonia in the 250 C.C. acted upon, multiply this amount by 4 and we have the number of milligrammes per litre.

EXAMPLE.—From 250 C.C. of water, 123 were distilled, 100 C.C. were taken for the experi-

ment; 4.5 C.C. of Ammonium Chloride were required to give the proper color; then $4.5 \times \frac{123}{100} \times .01 \times 4 = 0.2214$ milligrammes of free ammonia per litre.

The free Ammonia or Saline Ammonia is the Ammonia combined with Carbonic, Nitric or other acid, and also what may be derived from any easily decomposable substance such as urea. The quantity should not exceed .02 milligrammes per litre in good water.

Having calculated the free ammonia, the residue of the water in the retort is used to determine the nitrogenous organic matter as measured by albuminoid ammonia. The nitrogen is converted into ammonia by means of potassium permanganate in presence of an alkali; the ammonia is then distilled off and estimated as above.

Dissolve 8 grammes of permanganate of potassium, and 200 grammes of solid caustic potash, in one litre of water; boil thoroughly to drive off any ammonia and destroy any nitrogenous matter. This is known as Wanklyn's Solution. Add to the residue in the retort 25 C.C. of this solution; distil over 110 to 120. Calculate the ammonia as before and state the results in this case as ALBUMINOID AMMONIA.

The standard limit of Albuminoid Ammonia in good water is stated by Wanklyn to be .05 milligrammes per litre; some other authorities place it at .08. Much albuminoid ammonia, little free ammonia and almost entire absence of chlorides, is, according to Wanklyn, indicative of vegetable contamination.

OXIDISABLE MATTER.

The chief sources of oxidisable matter in water are oxidisable organic matter, and nitrous acid as nitrates. The estimation of these affords valuable evidence of the character of a water, and are conveniently determined by means of permanganate of potassium.

We calculate: 1. TOTAL OXIDISABLE MATTER in terms of oxygen required for its OXIDATION. Make a solution of permanganate by dissolving .395 grammes of the crystallized salt in one litre of water. Each C.C. of this solution yields 0.1 milligramme of oxygen in presence of an acid. Test its accuracy by a solution of

crystallized oxalic acid of the strength of .7875 grammes to the litre of water. This solution, acidulated with dilute sulphuric acid, should exactly decolorize an equal quantity of solution of permanganate.

The process, as recommended by Woods, is as follows:

"Take a convenient quantity of the water to be examined, say 250 C.C.; add 5 C.C. of dilute sulphuric acid (1 to 10); drop in the permanganate solution from a burette, until a pink colour is established; warm the water up to 140° F., dropping in more permanganate if the color disappears; when the temperature reaches 140, remove the lamp; continue to drop in the permanganate till the color is permanent for about ten minutes. Then read off the number of C.C., and multiply by 0.1, to get the milligrammes of Oxygen, and by 4 to get the amount per litre." The amount of oxygen obtained by this process includes that from organic matter and nitrous acid. To separate these we must drive off the nitrous acid by boiling with sulphuric acid as follows:

Take 250 C.C. of the water under examination; add 5 C.C. of dilute sulphuric acid, as before; boil briskly for 20 minutes, then allow it to cool down to 140° F.; add the permanganate solution until a pink color remains for ten minutes; then calculate as before. The result in this case must be stated as milligrammes per litre of oxidisable organic matter, or ORGANIC OXYGEN.

NITROUS ACID is now easily determined, for it is represented by the difference between the two preceding processes. Each milligramme of oxygen is equivalent to 2.875 milligrammes of nitrous acid, the difference must, therefore, be multiplied by this factor, and the result is nitrous acid in milligrammes per litre.

From the foregoing tests we can gain sufficient evidence to form an opinion of the character of a given sample of water. The inference from this evidence can be drawn as follows:

A large quantity of nitric and nitrous acids, much oxidisable and nitrogenous organic matter, with much chlorine, indicates recent sewage impregnation. With little oxidisable organic matter, and nitric acid in large amount, we

assume that more or less complete conversion of organic matter has taken place. Albuminoid ammonia, and nitric acid in abundance, and free ammonia and chlorine in small amount, is indicative of vegetable contamination. Little chlorine, with much albuminoid, and free ammonia, nitrous and nitric acids show contamination from gaseous emanations.

To those who have not the inclination or the opportunity to carry out an analysis such as I have described, a few ready tests may be useful. Any druggist can prepare from the formulæ already given, the following solutions: nitrate of silver, Nessler's solution, solution of permanganate of potassium, and solution of iodide of potassium and starch.. Provided with these they can proceed as follows :

1. Observe the colour.
2. Observe the smell, particularly when the water is boiling.
3. The taste.
4. Add to a small quantity of the water, in a test tube or wineglass, a little of the solution of nitrate of silver. If it give a white colour, it contains chlorides. This is a very suspicious sign.
5. To another portion of the water, add a small quantity of Nessler's Solution. A yellow colour or yellow brown precipitate shows the presence of Ammonia.
6. Add a few drops of the solution of permanganate of potassium. The pink colour remains if the water is pure; it disappears if the water contains organic matter.

These simple tests would in most cases settle the question of the purity or impurity of a suspected water.

The amount of disease and suffering caused by the use of impure water, is, in this country, assuming terrible proportions. Epidemics of typhoid and other zymotics are constantly occurring, which could be easily prevented by a little care in examining the water, and discontinuing the use of impure wells. This is one of the evils arising from the want of public health legislation. Surely the day is near at hand when our Legislature will protect the lives of our people from this, as it does from other forms of poisoning, and furnish us

with the means whereby we can control the causes of preventible disease. Then shall we gain a happy victory over those dread enemies which are desolating the homes and destroying the lives of so many of the brave sons and daughters of this prosperous Dominion.

PRIMARY TUBERCULOSIS OF THE LARYNX.

BY L. L. PALMER, M.D., C.M., TORONTO, SURGEON
EYE, EAR, AND THROAT.

(Read before the Ontario Medical Association, in Toronto,
June 1st, 1881.)

M. N., æt 28, unmarried, clerk in a store; complained of having had an attack of hoarseness, and some soreness of throat two months. When he came to me Jan. 6th, 1881, he stated that during this time he had suffered pain on deglutition, and hoarseness which now was very marked, but not amounting to aphonia; during this interval he had improved very much, so that he considered himself almost well, but after Christmas he went to the skating rink, where he took cold, and immediately grew worse. During no part of this time had he the slightest cough, nor any symptom of chest affection; temp. 99° F; pulse, about 92; respiration, 21. On careful auscultation and percussion, I found no abnormal sounds audible. Laryngoscopic inspection however disclosed the characteristic picture of a Phthisical Larynx with the exception that there was not that marked pallor that is generally present.

The whole mucous surface of the larynx was much swollen. The epiglottic folds looked like two large solid pyriform tumors—the larger ends being against each other in the median line, to such an extent that the inter-arytænoid fold was lost in the swelling, and the small ones directed upwards and outwards; the epiglottis was much swollen and turban-like; vocal cords were red, and seen peeping out underneath the much swollen ventricular bands, and the mucous membrane of all these parts was intensely red, with several points of small ulceration on the free margin and under-surface of epiglottis and arytænoid cartilage of right side. I considered these appearances, though exceptional in color, in all other respects

sufficiently typical to enable me to diagnose it without a doubt tubercular laryngitis—the whole was overlaid with pale, pultaceous deposit.

The patient visited my office frequently and regularly without any marked improvement, though he experienced marked relief from anodyne inhalations of *co. tinc. benzoin conium* and local applications of boracic acid and morphia, after which deglutition was rendered less difficult. New points of ulceration continued to form, and those already existing, gradually coalesced, forming serpiginous ulcers on the epiglottis and aryepiglottic fold, this condition continued to progress, until these ulcers with one another, and with others coalesced, and on the 21st of January, I first discovered on physical exploration of the chest, dullness at the right apex with faint bronchial respiration. The left side still gave normal sounds. This diagnosis was corroborated by another medical man after a careful examination; the pulse now beat about 100, and the temp. was 101° F. This abnormal condition gradually and rapidly extended over the right lung, and soon invaded the left side. Cough also became troublesome, and other symptoms of active tuberculosis, which soon confined the patient to the house; and finding local treatment afforded him no benefit other than a measure of relief, I advised him to go to his home in the country, where I learn he died a few days since.

I regret, gentlemen, that previous to Jan. 21st, I did not have other medical men to auscultate this patient, that I might have the satisfaction of presenting an opinion corroborative of my own. But in the absence of this, we may, perhaps, assume without arrogance, that the diagnosis was correct; and if so, we have then a case of tuberculosis of the larynx, with an *apparently* normal condition of the lungs. I say *apparently*, normal, for in the present state of our knowledge on this subject, and in the absence of a *post mortem* at this particular stage of the disease, we cannot speak more positively. Every practical physician knows the difficulty, indeed the impossibility sometimes, after the most careful physical examination, of detecting small cheesy deposits

or indurated spots in the lungs, especially when they are of long standing and deeply situated. This, associated with a second difficulty, as asserted by Dr. Heinze, of diagnosing by the laryngoscope, with absolute certainty the existence of tubercle in the larynx, and these with a third, in securing a *post mortem* at a stage when the larynx is believed to be tuberculous while the lung is not, will doubtless for some time keep the question of *primary tuberculosis* of the *larynx* wrapt in the mist of uncertainty.

Therefore the faithful report of cases carefully investigated, will ever be of value in throwing light on this subject, and clearing up a large and interesting pathological question, as well as one of practical bearing.

The theory asserted by some authorities of eminence, first and foremost amongst these, Louis, of Paris, that the ulceration of the larynx is to be attributed to the corroding effect of the sputa of pulmonary phthisis, seems quite opposed by the history of this case, and cannot hold good, for the laryngeal ulceration existed when there was no sputa other than the product of the larynx, and when there was no cough, as was the case during the first two weeks he was under my observation, and as he asserted was the case prior to this.

Recent researches of such men as Wendt, Isambert, and Heinze have made such advance in the pathological study of tuberculosis, as affecting the larynx, that laryngoscopists consider it now an accepted fact that tubercle does exist, and does pass through its pathological phases in these regions, and here it takes its seat, as it does in the omentum, intestine, spleen, and other organs of the body, in a certain sense, *de novo*, if not independently of its existence elsewhere.

Dr. Seiler, of Philadelphia, has reported a case in which he was called upon to make a *post mortem*, in his capacity as pathologist to the Presbyterian Hospital in that city. The patient died with all the symptoms of typhoid fever; she was a young coloured woman of eighteen to twenty years of age. Upon examination he failed to find evidences of typhoid fever, but he found tubercular deposits all through the mesenteric glands, intestines, and

omentum, in fact throughout all of the viscera except the lungs; the larynx was perfectly sound.

With such instances before us I think it is safe to assume that we may yet have more clearly demonstrated to us that we may, and do have *primary* laryngeal phthisis with no pulmonary lesion. The larynx is the common seat of catarrh, especially in variable climates. If catarrhal changes were developed underneath the mucous membrane—in the mucosa and submucosa of the larynx, we have, as far as the larynx is concerned, a condition in which tubercles are more readily deposited. May there not then under such predisposing conditions, be a tendency to an early deposit of tubercle in the larynx, while the lung remains intact? I would urge my belief, that in certain cases phthisical lesions *can* be detected in the larynx before there is any evidence of their existence in the lungs; these lesions are due to a peculiar infiltration of cells; and this obtained in the case which I have taken up your time to report, not so much to insist that it was a case of primary tuberculosis of the larynx, as to elicit the opinion and expression of others, and, perhaps, draw out a full discussion of the subject.

The following discussion took place after the reading of the paper:

Dr. Graham dissented from the idea of the existence of tubercle in the larynx apart from the lungs. It was possible to have disseminated tubercle existing in the lungs without being discovered by physical examination.

Dr. McDonald, of Hamilton, said that he had had cases, and *post mortems*, in which with very doubtful physical signs of chest affection, but with those of tubercular laryngitis very prominent, the lungs were found greatly diseased. Some of those who examined the patients pronounced against the existence of tubercle in the lungs, and yet they were found full of tubercles. No one could be certain of the absence of tubercle of the lungs till he had made a *post mortem* examination.

Dr. Bowlby, of Berlin, said that he had a case under his care at present, that he believed was exactly similar to the case reported by Dr.

Palmer, but he did not know how he could satisfy gentlemen holding opinions such as those expressed by the last speaker, except an *ante-mortem* examination could be held in each case.

Dr. Sloan regretted that the writer of the paper had not alluded to the means of diagnosis furnished by the thermometer. He believed that in every case during the deposition of tubercle, there was a continuous and persistent rise of temperature of one to two degrees. The great value of this appeared in doubtful cases, where the thermometer furnished almost absolute proof of the correctness of the diagnosis arrived at by the physical signs brought before them.

Dr. Hamilton, Port Hope, said that the case reported was one of the rapid cases. Tubercular phthisis may run its course in three months or may last as long as four years. It could be best studied in the slow cases. He had just had a fatal case of three years' duration, in which, with a consumptive family history, there were decided laryngeal symptoms six months before there was any cough at all. There was aphonia for a year, and for some weeks extreme difficulty in swallowing, owing to ulcerative destruction of the epiglottis. He was quite prepared to accede that the disease might be manifested primarily in the larynx, so far as symptoms could be gathered *ante-mortem*. Tuberculosis is a constitutional disease, however. If we find an ulcer of the larynx, we should suspect its tubercular character if we find marked cushiony swelling in the neighborhood of the arytaenoid cartilages conjoined with a paleness of the laryngeal mucous membrane which could best be described as a dirty doughy white. Syphilitic ulcers, malignant ulcers, and catarrhal ulcers, being rationally excluded and our suspicions aroused, the only early lung symptoms worth relying on were increased vocal resonance and increased vocal fremitus in the apices of the lungs. This was caused by consolidation which may not yet have caused bronchitis and necessary cough, and could not be as certainly known by percussion and other auscultatory signs. Twenty years ago we were taught that the vast majority of phthisical lung lesions

began in the apex. This was true in neither the pneumonic or catarrhal variety, nor in fibrous phthisis; but it was true in the tubercular, and almost invariably so in the laryngeal phthisis. He had in consultation given a most unfavorable prognosis in a case without any but the most trifling cough, and which proved fatal—relying upon the signs indicated. Progressive and considerable emaciation was significant. Vocal resonance and fremitus were normally greater on the right side. If the increase were on the left side it was an especially significant symptom.

THREE CASES OF EXOPHTHALMIC GOITRE TREATED BY ERGOT.

BY J. STEWART, M.D., L.R.C.S. AND P., ED.

Read before the Canada Medical Association at Halifax.

CASE I.—Miss W., aged 35, when seen for the first time in June, 1875, complained of a severe pain in each eye-ball, with dimness of vision. She also complained of palpitation of the heart, and enlargement of her neck.

Past History.—She says she enjoyed excellent health up to her first menstrual period, which took place when she was only 11 years of age. She lost a great quantity of blood at this time. From her twelfth to fourteenth year the catamenia were irregular—sometimes once a month, sometimes once in four or five months. From this time up till the present she has menstruated very regularly every six weeks. She has been troubled with palpitation of the heart for eight years. Seven years ago she had pneumonia, followed by acute rheumatism. The latter assumed an intermittent character.

Family History.—Her father died at 60, from typhoid fever; mother at 45 from paraplegia, due, it was said, to softening of the cord. She lost a brother from dysentery, one from cerebro-spinal meningitis, a third from consumption, and a fourth was accidentally killed. Her only sister died from consumption. She is the sole survivor of a large family.

The history of the present attack dates from the month of October, 1874, when she began to be wakeful and nervous at night. After these symptoms had lasted for six weeks her

eyes were noticed by a friend to be more prominent than usual. At this time her eyes were very painful. The pain was deep-seated, and extended back to the occiput. Her neck was enlarged and she had a constant inclination to swallow. Shortly after the appearance of the latter symptom she says the neck increased rapidly in size, and she was troubled very much with throbbing in it.

State when first seen (June, 1875). There is a very marked prominence of both eyeballs, and abrasion of the cornea—this latter evidently due to the inability of the lids to cover the corneae. There is marked enlargement of the thyroid body, especially of its right lobe. The pulse is said never to be below 120, and on the least exertion it beats as high as 150 or 160. A systolic murmur, loudest over the base of the heart, is heard. Belladonna was given to her at this time for about two months, and it seems to have had some effect in diminishing the exophthalmos, with but little or no effect on the other symptoms. During a visit to United States she stopped the belladonna and took strychnine, and in such doses as to cause severe symptoms of poisoning. She was not benefitted in the least by the strychnine, and on her return to Canada I put her under ergot, commencing with ten m. doses of the fluid extract three times a day. She was not taking this long before it was apparent that there was quite a diminution in size of the thyroid and less protuberance of the eyeball; but it was on the pulse that the beneficial effect was first seen. From a pulse constantly at about 140 it was reduced in a few weeks to about 100 to 110. This improvement continued steadily until the pulse came down to between 80 and 90. Simultaneously the eyeballs lost their prominence, and the thyroid underwent great diminution in size. She continued taking the ergot for a year, the dose of which was increased to fifteen m. three times a day during the last three months of this period. At the present time (July, 1881,) she is perfectly free from all symptoms of her troublesome affection.

CASE II.—Mrs. M., aged 32, married, two children, youngest aged 18 months. When first seen, in June, 1880, she presented all the characteristic symptoms of exophthalmic goitre

in a pronounced degree, including the want of consentaneous movements between the eyelids and eyeballs.

Her family and previous history are unexceptionable. It was four years ago that she felt the symptoms of her present trouble in the shape of nervousness, weakness, and palpitation of the heart. For six weeks previous to the appearance of these symptoms she was much worried mentally, and over-worked physically in nursing a child who had been ill with bronchitis and catarrhal pneumonia. It was soon afterwards noticed that her eyeballs were more prominent than they naturally were. Her husband "wondered why she stared so at him." About the same time appeared enlargement of the neck, principally on the right side. She continued in this state, now better, and now worse until I saw her in June of last year. Her pulse was constantly found to be 120, and on the least exertion it ran up to 150 and over, and she complained of great palpitation of the heart. She had been taking iron and digitalis for months, but without the least sign of improvement. She was ordered fifteen m. doses of the fluid extract of ergot (Saunders') three times daily. She had not been long under this treatment when it was found that the pulse was reduced to 100, and there was less palpitation of the heart. She could undergo exertion better, and expressed herself as feeling much improved. The next symptom found improved was the motions of the eyelids, which now followed the eyeballs, but still tardily. Then came reaction of the eyeballs and later diminution in the size of the thyroid body. She continued taking the ergot until three months ago, when she expressed herself as feeling so well that she thought it was unnecessary for her to continue the treatment any longer. On examination at this time the pulse was 80, there was no exophthalmos and the thyroid was normal in size. At the present time she is in excellent health, and no symptoms of her former trouble are to be detected.

CASE III.—Mrs. S., aged 29, married, five children, youngest aged five. Consulted me in January of the present year, complaining of weakness, violent palpitation of the heart, and œdema of the lower extremities. Family and

previous history good. Six months previously the first symptoms of her present trouble showed themselves. She commenced to feel weak, and her heart beat violently on the least exertion. The eyeballs became protuberant and she complained of having much pain in them. The thyroid enlarged very rapidly. When first seen the enlargement was very extensive, and she was greatly annoyed from "an almost constant beating in her neck and noises in her ears." She expressed herself as unable to go upstairs, on account of the violent palpitation and a sense of suffocation. The exophthalmos was extreme enough to prevent the lids from protecting the corneæ, and the latter, in consequence, were found abraded. Von Graefe's symptom was well marked. The pulse was found to be 140 and irregular. A loud systolic murmur, having its maximum intensity in the cardiac region, was heard. The lower extremities were œdematous. She commenced taking fifteen minim doses of the fluid extract of ergot three times daily, but in a few days this treatment was interrupted by a severe attack of pneumonia, from which however she made a good recovery. She has been taking the ergot now for about five months, and is still continuing it. She was examined on the 22nd of July, and it was found that she had much improved. The exophthalmos and goitre are both much less. She is not troubled now with pain in the eyeballs, beating in the neck or noises in the ears. Her pulse is 88, and active exercise has not any more influence in increasing it than it has in the normal state. The œdema of the lower extremities has disappeared, but the mitral murmur still persists. She says that she feels well, and does not consider herself an invalid. When this patient first came under observation an unfavorable prognosis was given, on account of the severity of the symptoms, and the complication with what then appeared to be an organic disease of the heart, but judging from the late intermittent character of the murmur is likely functional. The pulse is still irregular and presents evidence of high tension.

A fourth case of exophthalmic goitre has come under my observation, but as its onset was so sudden and its duration so short, I can-

sider that the ergot which was given had but little to do with the result. It occurred in a girl, aged 18, who received a very violent shock in witnessing the sudden death of her brother, who was considered to be at the time convalescent from a mild attack of diphtheria. The disease made its appearance in this case in one night, and when seen the following day she presented a good example of a typical exophthalmic goitre. In about ten days all the symptoms had disappeared.

CAUSSIDOU ON THE TREATMENT OF TYPHOID FEVER BY SALICYLATE OF SODA.—M. Caussidou made a communication to the meeting of the French Association for the Advancement of Science at the Congress of Algiers, which was based on thirty-two cases of typhoid fever treated by salicylate of soda, and in which the rise of the temperature and the influence of this drug on the febrile process has been registered with the greatest care, as attested by numerous tracings shown by the writer. M. Caussidou arrived at the conclusion, in opposition to the facts observed in several wards of the Paris hospitals, that salicylated medication gives larger, more certain, and more permanent effects than refrigeration. M. Caussidou has even been in doubt if, by administering salicylate of soda from the outset of typhoid fever, it would not be possible to limit the duration of the disease to the first week (?), and if, at least, it would not be possible to obtain a number of cases belonging to the abortive form. Nevertheless, M. Caussidou does not conceal the dangers of salicylate medication. Like other observers, he has noted dyspnoea, precordial trouble, and exhaustion in patients where the salicylate of soda have brought on a too sudden apyrexia. To avoid these objectionable results, he proposes to administer salicylate of soda in fractional doses of one gramme given every two hours, and to stop as soon as the temperature falls below 38 Cent. (100.4 Fahr.). In a complicated case of erysipelas, the salicylic medication was powerless to produce a febrile recrudescence brought on by this complication. M. Hérard declared that he had nothing but commendation for the use of antiseptics, such as carbolic and salicylate acids, in the treatment of febrile diseases.—*London Medical Record.*

Selections: *Médecine.*

WASHING OUT OF THE STOMACH.

M. Bucquoy and M. Constantin Paul have recently published some interesting details on this subject, which are analysed in the *Journal de Médecine et Pratique*. M. Bucquoy, who was one of the first promoters in France of this method, borrowed from Kussmaul, relates a new case concerning a man suffering from a considerable dilatation of the stomach, consecutive on a stricture of the pylorus itself, which supervened after the injection of nitric acid. He was dying literally from hunger, in consequence of complete gastric intolerance, when he was submitted to washing out of the stomach with Faucher's tube; a considerable improvement was then quickly produced, and the patient increased in weight more than two kilogrammes in a fortnight; however, he was attacked by new troubles, and succumbed to pulmonary phthisis shortly afterwards. M. Bucquoy enlarged greatly on the various indications which might be met by washing out the stomach.

M. Constantin Paul has especially studied this question at great length, and has published some very useful hints on the method of employing the operative proceeding. It must first be noted that, for the operation in question, the sitting position of the patient is most favourable; certain timorous and nervous persons, however, should be put in the reclining position for the first few times. The instrument used is Faucher's tube, with this restriction, however, that it may be useful during the first few days to use the ordinary stiff sound to overcome the oesophageal spasm which sometimes occurs at this moment, but which disappears after a few applications. In order to remedy this inconvenience, M. Debove has had a screw constructed which much facilitates, in this case, the introduction of a flexible India-rubber tube. When, however, the patient himself introduces his sound, which he always does very rapidly, a stiff tube is, on the contrary, a necessary condition, since it enters by a true swallowing movement. M. Audhoui has had constructed a flexible tube

with a double stream, which much facilitates the washing out of the stomach, but in which the tube whence the liquids issue is, as a matter of necessity, restricted, which is a serious inconvenience. The method of introduction, as described by M. Bucquoy, is as follows. The tube being slightly moistened with water (M. C. Paul recommends that it should be greased with vaseline during the first few days only), the patient takes the free end of the tube, places it in the pharynx, and pushes it slightly, making a swallowing movement. He repeats this swallowing movement a certain number of times, guiding the tube with the hand; this penetrates into the stomach rather rapidly; and the patient stops when he sees near his lips a mark traced at from forty-five to fifty centimetres from the free end then lying along the large curve of the stomach. To charge the siphon, the patient pours alkaline water into the receiver; and, after having filled it, raises it above his head until the liquid has entered almost entirely. At this moment he lowers the receiver below the level of the stomach, and above the basin. The cylinder becomes filled immediately with the contents of the stomach; and it will be seen that there returns a more considerable quantity of liquid than has been introduced, bringing with it the residue of digestion.

The operation is repeated a certain number of times, and as often as necessary, until the water returns in an almost limpid state. Alkaline water is generally employed for these operations. M. Constantin Paul has found that the silicated water of Sail, or an antiseptic solution containing thymol or hyposulphite of soda, is useful. To conclude the operation, he pours into the stomach two or three hundred grammes of milk. The first liquids injected are tepid, because they cleanse the parts better; the later ones are cold, because they form a better coating for the mucous membrane, and induce contraction more easily. In certain serious cases, the operation is renewed twice daily; in ordinary cases, once only at the beginning, then less frequently afterwards. Whatever may be the nature of the gastric affection thus treated, according to M. Paul, good results are almost immediately

obtained; in the first place, cessation of the pain; then the appearance, at the end of some days, of spontaneous action (in the case of dilatation); finally, a reappearance of the appetite, and a much more rapid augmentation of weight than would be believed. At the present time, washing out of the stomach is no longer limited to dilatation, as it was at first. It is applied to various affections. M. Paul quotes cases of gastralgia, of hysterical vomiting, of gastric ulcer, which have been thus completely cured. He has thus been able to greatly relieve the sufferings of a woman who had faecal vomiting, and who suffered from an umbilical hernia; finally, in cancer of the stomach, the symptoms are very much relieved, and it is possible even to bring on a notable temporary improvement. MM. Bucquoy and Ferrand have also observed cases of cure of simple ulcer. M. Debove likewise has reported, in the *Progrès Médical*, an extremely remarkable case of cure of a patient suffering from a simple ulcer, probably very old in origin, with absolute intolerance of the stomach, and a state of extreme cachexia. The favourable results obtained were almost immediate; and, at the end of six weeks, the patient, who had increased from one hundred to one hundred and twenty-five grammes daily, was on the road to complete recovery.

Professor Germain Sée, in his treatise on gastro-intestinal dyspepsia, relates a certain number of cases which well demonstrate the utility of this method in gastric affections of very different kinds. He speaks of the case of a young girl suffering from serious anorexia, with invincible refusal of all nourishment, who had reached the last stage of marasmus, and who was treated for six months with this mechanical treatment. Dr. Sée has also seen obstinate vomiting thus stopped; cancer is greatly relieved, and dyspepsia of the cachectic form, which seemed of the nature of cancer, has been completely cured. In the last case, as well as being a means of treatment, it forms a true method of diagnosis. This brief enumeration shows the great importance of this new mode of treatment, which unites perfect harmlessness to very great facility of employment, since, up to the present time, not a single accident has been known to occur from the operation.—*British Medical Journal*.

NOTHNAGEL ON THE CLINICAL ASPECTS OF INTESTINAL DISEASES.

To determine whether conclusions can be drawn from the condition of the fæces as to the nature of the pathological process in the bowels, and as to the seat of the disease, whether in the rectum, colon, or small intestine, is the object of an extremely able article by Professor Nothnagel (*Zeitsch für Klin. Med.*, vol. iii, p. 241, 1881.) He concerns himself almost exclusively with the macroscopic and microscopic examination of the fæces, since this method of investigation is of much greater practical importance to the physician, and much more readily carried out, than chemical analysis. This article embodies the results of the examination of more than 800 fæces. In many cases the examination was conducted daily until death, and most people will agree with Nothnagel, when he remarks that such investigations are not amongst the most delightful. In regard to consistence, he divides fæces into three classes—the firm, the pap-like (*breiig.*) and fluid, the first of which are generally normal, the others pathological. The most important clinically is the variety of pap-like consistency, which is occasioned by a very intimate mixture of mucus. Often the naked eye detects nothing resembling mucus, but microscopically its presence is readily made out. Such consistency may be occasioned by admixture of fat, water, parenchymatous tissue of vegetables, and fruit, etc. Fluid fæces can never, according to Nothnagel, be occasioned by the consumption of large quantities of water. In five cases of diabetes insipidus which he had recently watched, there was nothing of this kind. Hard fæces in small balls, like the fæces of sheep, are not, according to Nothnagel, at all a certain indication of obstruction. With regard to reaction, there is considerable variety, fæces being acid, neutral, or alkaline at different times. In typhoid fever they are as a rule alkaline (though, exceptionally, Nothnagel has found a strong acid reaction); and in a doubtful case, if the reaction were not alkaline, it would go against the diagnosis of typhoid. The colour of the fæces may be affected by various articles of diet and medicine; the only impor-

tant point is the reaction of bile-pigment, which may be frequently met with. Crystals of triple phosphate may be found in any stool, and they are not met with in typhus dejections in greater quantity than normal. Salts of lime (including oxalates) occur also in the fæces, but they appear to be of no diagnostic value. Cholesterine is a component of normal fæces, and does not possess any significance. "Charcot's crystals" are also to be found. Of the various articles of diet that appear in the fæces, Nothnagel only touches upon such as are of particular diagnostic importance. *Starch.* In the normal condition, with an ordinary mixed diet, starch-granules do not appear in the stools, but small, irregular particles, which colour blue with iodine, occasionally do occur. Any deviation from this is pathological. Muscular fibre is to be found in small quantity in normal fæces with mixed diet, but occurs to a great extent when much animal food is taken (diabetes); and it is particularly interesting to observe that in many intestinal diseases muscular fibre is to be found in large quantity in the stools, even in cases where starch does not appear, showing how much more readily the latter undergoes digestion than the former. Fat occurs in normal fæces, both in drops and in needles. Sometimes Nothnagel has found it in large quantity without any pancreatic disease. Milk, in the form of coagulated flakes, showing countless enclosed oil-globules, is often seen in normal fæces. Such are the more important articles of food which occur in the stools. Regarding mucus, many important diagnostic indications may be derived from its presence in the fæces, in what form it appears, whether it is coloured or colourless, and in what way it is mixed up with the fæcal matter. In the adult, no mucus is to be found either macroscopically or microscopically in normal fæces. Its occurrence is always pathological, and it may appear either (a) as a thin layer over well-formed fæces, or (b) intimately mixed up with the fæcal matter, or (c) the fæces may consist entirely of mucus, (d) as mucus cylinders in the so-called tubular diarrhœa, (e) in balls resembling boiled sago-grains. The latter form Virchow has considered as of vegetable origin. And, finally,

Nothnagel describes a new appearance (*f*) in which the mucus takes the form of round yellow balls, quite unlike sago. The epithelium which frequently occurs in the sputum undergoes certain changes in shape, which Nothnagel describes with great minuteness, and for which the original article must be consulted. The 'round cells' which occur in the fæces have some diagnostic significance. They vary in size from that of small, white blood-corpuscles up to that of the largest giant-cell. In simple catarrh of the intestine, mucus, containing round cells, does not occur. Its presence in the fæces indicates an ulcerative process. Nothnagel states nothing new regarding the presence of blood in the fæces; and to the presence of animal parasites, their eggs, etc., in the fæces, we need not here allude. Nothnagel proposes, in a continuation of this article, to consider the clinical bearing of the appearances here touched upon. — *London Medical Record*.

EXAMINATION OF SPUTA.

In suspected cases of phthisis where it is very desirable to know the progress made by the disease, great aid may be procured many times by an examination of the sputa of the patient. It is now a recognized fact that phthisis has been diagnosed, and is diagnosed in this way, weeks, months before other signs are manifest.

As expected ingredients in the sputa, one finds remains of food, starch granules, epithelium, air bubbles, mucous cells, pus cells, blood corpuscles, large granular cells, and, perhaps, pigment cells. If now besides these are found fragments of lung tissue, as yellow elastic fibres, it shows that there must be a disintegration of the pulmonary tissue, a condition which must denote serious trouble. If these fibres are not found it does not by any means prove that serious trouble may not exist, but their presence is very significant.

Some special directions should be given to the patient whose sputa we are about to collect. First, the mouth should be carefully and thoroughly rinsed and the teeth brushed after each meal. Second, the vessel in which the

sputa is collected should be scrupulously clean. Third, if the patient is in the habit of using tobacco, it should be denied during the collection of the sputa, as the fibres of the leaf might mislead and cause a wrong diagnosis. If the amount of sputa is small, then all raised during the twenty-four hours should be saved. If large, that first raised in the morning should be preferred.

Any little grayish masses should be chosen and placed at once under a microscope. Acetic acid will clear up the mucus, etc., and render more distinct the yellow fibres if they are present. If this examination reveals nothing, the following method should be adopted:

Make a solution of sodic hydrate, 20 grains to the ounce of water. Mix the sputa with an equal bulk of this solution and boil. Then add to this mixture 4 or 5 times its bulk of cold water. If possible, pour into a conical-shaped glass and set aside. Soon the yellow fibres, if present, will fall to the bottom; from where they can be drawn up with a pipette and examined. Several glass slides should be examined at a single sitting, and the examination should be repeated every few days until the presence or absence of these fibers is satisfactorily demonstrated. — *Cincinnati Medical News*.

APHONIA THE RESULT OF DIVISION OF THE RIGHT RECURRENT NERVE BY A STAB WOUND.—

Dr. Lefferts reports, in July number of *The American Journal of Medical Science*, the following remarkable case. A healthy woman æt. 47, while lying in bed on her left side, was stabbed in the right side of the neck by her drunken husband with a long narrow-bladed pair of shears. Complete aphonia followed and remained persistent, although the wounds (two) healed normally. The patient is able to speak only in a whisper, and suffers from slight dyspnoea, especially on exertion. A laryngoscopic examination shows absolute paralysis of all the muscles of the right vocal cord. The left vocal cord moves freely and compensates for the defective action of its fellow, by passing the median line on adduction, its arytenoid cartilage passing in front of that of the paralysed cord, and thus fairly approximating the edges of the cords.

CASEOUS ACCUMULATIONS IN THE MIDDLE EAR REGARDED AS A PROBABLE CASE OF MILIARY TUBERCLE.

BY THOMAS BARR, M.D., GLASGOW.

In this paper, attention was first drawn to what was said on the subject by such writers as von Tröltsch. An account was given of recent views on the pathology of miliary tuberculosis, as expressed by Buhl and Cohnheim, as well as by eminent British pathologists. There was a general agreement that acute tuberculosis depended on a virus, and that this virus often consists of caseated products of inflammation accumulated in some part of the body. An anatomical description of the cavities of the middle ear was given, the frequency of exudative diseases in these parts was pointed out, and the character of the exudations was noted. The peculiar structure of the middle ear was dwelt upon, because it favoured the retention, drying, and ultimate caseation, of the catarrhal products formed therein. Reference was next made to the facilities for the absorption of the caseated matter afforded by the blood-vessels of the middle ear, and by the lymphatics; absorption by the former leading to general tuberculosis, and absorption of the latter leading to local tuberculosis, and especially to tubercular meningitis. There was special danger of tubercular self-infection when such caseous collections existed in persons of scrofulous tendencies or at the tubercular age. There was a stage in the purulent process when there was greater danger of pyæmic phenomena; but there was also a stage when the tendency to tubercular self-infection was greatest, and that was after the discharge from the ear had spontaneously ceased or had been cured by treatment. Unfortunately, there was a paucity of material derived from observation, on account of the middle ear being usually ignored in *post-mortem* inspections and in clinical examinations. By a simple and expeditious plan, the middle ear in the cadaver might be examined by the pathologist. It was urged, in conclusion, that in the case of tubercular disease, and especially of meningitis, attention should be given to the condition of the middle ear.—*The British Medical Journal*.

WICKHAM LEGG ON BILE.

"To what purpose, then, serves the bile?" asks the author in p. 155, and his reply is worth quoting. "It cannot be looked upon solely as an excrement, for it has been seen what deep changes in nutrition follow its diversion from the body. There is no evidence that it is necessary for the completion of the process of digestion in the stomach or intestines; indeed it may be said by some physiologists that it does harm to the process in either viscus. The view that it acts as a sort of natural purge has little against it; but at the same time, there is but little in its favour. As to the power of the bile in arresting putrefaction, it would seem that it must be small, if, as soon as it arrives in the intestine, it begins itself to undergo putrefactive changes. The view that the bile neutralises the acid of the chyme must fall with the establishment of the fact that the bile is not alkaline, but neutral in reaction. The only office which remains to it is that of emulsifying fats, a property known to the Greeks 2,200 years ago, and of changing starch into sugar. * * * * *

Euonymin and iridin are shown to be (as most practitioners now know,) active cholagogues. Dr. Legg points out that the want of colour of fæces is not necessarily due to a decrease in the secretion of bile, as it may be due to the absorption of bile after it has passed into the intestine. Chemical analysis is, in his opinion, the only trustworthy guide in judging of the presence or absence of bile in the fæces.—*Birmingham Med. Review*.

PEPSINE AS A SOLVENT IN ALBUMINOUS OBSTRUCTION OF THE BLADDER.—Dr. Hollmann (*Nederl. Weekbl.*, 18, p. 272) reports the case of an old man, aged 80, suffering from retention of urine, in whom the introduction of a catheter failed to procure the desired result. It was found that the bladder contained coagulated albuminoid masses, mixed with blood. A few hours after the injection of about sixteen grains of pepsine dissolved in water, a large amount of a dark, viscid, fetid fluid readily escaped by the catheter.—*London Medical Record, Medical News and Abstract*.

THE ACTION AND USES OF ANTI-PYRETIC MEDICINES.

BY PROFESSOR FOKKER, GRONINGEN.

While there is no great difficulty in understanding the mode of action of simple refrigeration in the treatment of pyrexia, that of antipyretic remedies, administered internally, is still obscure. We must assume, either that they lower the temperature of the body by interfering with the circulation, or that they exert a destructive action, in virtue of their antiseptic properties, on the low organisms to which the pyrexial phenomena are presumably due. The second of these hypotheses is the more likely one. It may, of course, be objected that such remedies can never be administered in sufficient quantities to insure their presence in the blood in such proportions as to render it aseptic, or, at any rate, to exercise an antiseptic influence. It must not be forgotten that any hostile factor, though unable of itself to check the multiplication of the organisms, may succeed in doing so when combined with others equally hostile to bacterial life. It is quite possible, moreover, that antipyretic medicines may accumulate in particular organs, which may then exert a disinfectant influence upon the blood. Antipyretic remedies may legitimately be given in febrile maladies, when the heat of the body is such as to threaten the patient's life, or even the integrity of his tissues. Under such circumstances, those aromatic remedies which are, at the same time, bacterial poisons, should be preferred to physical methods of refrigeration. But when the temperature of the body does not rise to a dangerous height, the employment of such remedies in antipyretic doses is undesirable; since a degree of heat only a little above the normal temperature of the body is injurious to the vitality or the virulence of the pathogenic organisms. It is quite possible, indeed, that the febrile heat may be one way in which the system reacts against the organisms, and tends towards recovery. In all cases, therefore, when the temperature does not rise so high as to be of itself a source of danger, physical refrigeration should be avoided, and the antipyretic remedies should only be prescribed in relatively small doses.—*The British Medical Journal.*

THE CLINICAL VALUE OF THE EXAMINATION OF THE URINE IN BRIGHT'S DISEASE.

BY T. GRAINGER STEWART, M.D., EDINBURGH.

The subject was discussed under the following head: (a) Quantity: Diminished: 1, in inflammation (early stage and during exacerbations). Normal: 1, in middle stage of inflammation; 2, in earlier stages of cirrhosis. Increased: 1, in waxy throughout (unless interfered with) and preceding even the albuminuria; in cirrhosis—later stage; 3, sometimes in advanced inflammation and during absorption of dropsies. Suppressed: In inflammation acute and advanced cirrhosis: (b) Specific gravity and solids. Influenced: 1, by amount of water; 2, by amount of urea; 3, by amount of other solids; urea in different forms. (c) Albumen, serum-albumen, the only very important form; quantity in different forms; explanations. (d) Blood. {1, Early inflammation and acute exacerbation; 2, very rarely in waxy kidney; 3, occasionally in late cirrhosis with other hæmorrhages. (e) Tubercasts; varieties; different views as to the origin; abundant and varied in inflammation; few in waxy kidney; few in cirrhotic kidney.

ON DIFFERENT FORMS OF BRIGHT'S DISEASE.

BY DR ROSENSTEIN, LEYDEN.

The following is a summary of the paper:—

1. the anatomical basis of the disease described by Bright is the diffuse inflammation of the kidneys.
2. Consequently those demonstrable renal changes, which are not of an inflammatory character—e.g., "the kidney of pregnancy," the "cyanotic induration" observed in conditions of venous obstruction of the system, and the "pure amyloid degeneration," do not represent, though associated with anasarca and albuminuria, forms of Bright's disease, but are independent affections, strictly to be differentiated from this disease.
3. Different forms of Bright's disease are to be distinguished anatomically as well as clinically, according to the "acute" or "chronic" course of the inflammatory process.
4. The acute form is characterized by the emigration of colourless blood-

corpuscles (as in inflammations of other organs), and by changes of the epithelial structures, to which, after a short duration, a proliferation of the nuclei of the interstitial tissue is added. This form ends most frequently in recovery, and passes but extremely rarely into the chronic form. 5. The chronic form shows anatomical changes of all the tissue-elements of the kidneys. According to the preponderance of alterations in one or other of these elements, the product appears in the different conditions of the "large white," or the "variegated smooth contracted kidneys," or the "granular white kidney." 6. The clinical observation of some exceptionally suitable cases renders it highly probable that the "white granular kidney" is developed from the "large white kidney," and is consequently to be looked upon as a further stage of the same process. 7. A particular form of "granular kidney" is represented by the "red granular kidney," in so far as this form does not start from a diffuse inflammation, but from "endarteric changes" of the renal vessels, with shrinking of the glomeruli. Closely related to this form in its genesis is the "senile contracted kidney," which is, therefore, to be associated with it. 8. As to the starting-point of the anatomical changes, no evidence is offered by clinical observation. The latter should, therefore, be limited to the recognition, in general, of the state of the diseased organ—*i.e.*, to recognize whether this is in the state of "enlargement," or of "contraction;" but it ought not to speak of "parenchymatous" or "interstitial" forms, as it does not possess any means of distinguishing between these.—*British Medical Journal*.

CHRONIC BRIGHT'S DISEASE WITHOUT ALBUMINURIA.

BY F. A. MAHOMED, M.D., (London.)

The main object of the paper was to prove that high arterial pressure, in young and apparently healthy persons, if it remain as a chronic condition, will produce the cardio-vascular changes of Bright's disease. It was held that the changes found in red granular kidneys are chiefly vascular in their nature; *i.e.*, thickened vessels, thickened Malpighian

capsules, and fibro-hyaline intertubular thickenings; the yellow, or mixed granular kidneys, have, in addition to these, interstitial small celled growth and epithelial proliferation. Chronic Bright's disease was described as existing typically in three stages: 1. The functional stage, *i.e.*, high arterial pressure without organic change; 2. Chronic Bright's disease without albuminuria (or nephritis), *i.e.*, the cardio-vascular changes, usually with red granular kidney; 3. Chronic Bright's disease with albuminuria, or urine of low specific gravity, *i.e.*, the cardio-vascular changes with the mixed or yellow granular kidney. The present paper was to prove the existence of the second stage without albuminuria. It was founded upon sixty-one cases, in nearly all of which the urine was ascertained to be perfectly normal in quantity, specific gravity, and the absence of albumen, the latter being only occasionally present just before death. Nearly all these cases were diagnosed during life by hypertrophy of the heart and high arterial pressure. Of these, twenty-one cases were fatal, and an account of the *post-mortem* examination of each was given; in all the others, the signs were unmistakable, there being in all displacement of the apex external to the nipple-line, and high arterial pressure; in many, evident thickening of the arteries, and other occasional signs. The cases were grouped as follows: cardiac failure, ten cases with eight deaths; lung-failure, eleven cases, six deaths; cerebral disease, nine cases, two deaths; renal dropsy, nine cases, one death; gout, six cases; epistaxis, three cases; various medical and surgical diseases, nine cases, four deaths. There were also four cases with well marked albuminuria, disappearing temporarily or permanently. The twenty-one fatal cases included five in which there was hypertrophy of the heart without valvular disease; in all, the vessels were thick, but there was little or no renal change.—*British Medical Journal*.

Prof. Otto Spiegelberg, of Breslau, the famous Obstetrician, and the founder, in conjunction with Cr  d  , of the *Archiv. f  r Gyn  cologie*, is dead.

GOWERS ON PARALYTIC CHOREA.

Five cases in children of ages varying from 7 to 14 years, three of whom were girls, formed the basis of a paper read by Dr. Gowers at last year's meeting of the British Medical Association. They illustrate that form of chorea in which the muscular weakness is the prominent symptom, the twitching, and inco-ordination of voluntary movement being slight. In regard to such cases, Dr. Gowers remarks, rarely slight clonic spasm occurs in the affected arm at first, and subsequently passes off. The loss of power may be very great, as it may be much less than the loss of use of the limb would suggest. In these cases there is inaction rather than paralysis; usually one arm only is affected, and there is no paralysis of face, tongue, or leg. Both arms may be affected, but one is always the weaker. On careful watching, clonic twitching is to be observed, though often very slight. The course of such cases is very tedious, but they have not been seen to pass into severe general chorea. The reported cases all recovered under the use of liq. strychniæ.—*London Medical Record.*

EAR AFFECTIONS IN CHILDHOOD FROM DENTITION OR A CARIOUS TOOTH.*

"A considerable portion of the blood supply of the membrane of the drum is derived from an artery that leaves the internal carotid in the carotid canal and proceeds by a very short course directly to its destination. Being thus closely connected with a large arterial trunk, this small tympanal branch of the internal carotid possesses very favourable circumstances for a speedy augmentation of its blood supply. The nervi vasorum constituting the carotid plexus at this part of its course come largely from the otic ganglion. On the other hand the inferior dental nerve supplying the decayed tooth, or the gums, as the case may be, also communicates with this ganglion. We thus arrive at a direct channel of nerve communication between the source of irritation of the tooth, and the vascular supply of the drum head."

*"From Deafness, Giddiness, and Noises in the Head." By Edward Woakes, M.D.

ON INFLUENCE OF HYDROCHLORATE OF QUININE ON MALARIAL GERMS.

BY DR. CECI, CERINO.

Dr. Ceci gave an account of experimental researches, made in the laboratory of Professor Klebs, of Prague, on the influence exerted by quinine-hydrochlorate on the development of germs contained in malarial soils. A cultivation-liquid of a 5 per cent. solution of isinglass was employed, infected from different sources, and in every case it was found that the presence of very minute proportions of this salt exercised a remarkable power in preventing or checking the development of the *schizomycetes*. One part in 800 was sufficient to prevent any development of germs. The *bacilli malaricæ* made their appearance very seldom in the cultivation-liquids, even when the proportion of quinine was very insignificant.—*The British Medical Journal.*

MR. J. N. DAVIDSON, Manufacturing Pharmaceutical Chemist, Dundee, has an interesting collection of preparations, one of the most important being a Compound Cod-liver Oil Emulsion, which is also shown in another form, in which quinine is added; and in a third formula, called Compound Phosphorised Cod-liver Oil Emulsion; and in a fourth, in which quinine is present as well as phosphorus, the quantities being, in addition to the oil, one-fifteenth of free phosphorus in each ounce, and one grain sulphate of quinine per ounce. In each case the emulsion is perfect and permanent, and does not separate. Mr. Davidson has succeeded in medicating this popular oil, so as to make it tasteless and scentless; and he makes no secret of his process. He turns the oil into paste by mixing 75 per cent. of it to 25 per cent. of pepsine, hypophosphite of lime, and lactophosphate of lime. The result is a paste that may be eaten like butter, and of most unobjectionable character. A host of the profession in North Britain speak in the highest terms of Mr. Davidson's formula.

The cough of consumption is treated by M. Rinde, by iodoform. He gives from one-fourth to one-half a grain four or five times daily.

ON THE DIAGNOSIS OF THAT FORM OF ACUTE RENAL DISEASE WHICH IS DESCRIBED BY KLEBS UNDER THE NAME OF GLOMERULONEPHRITIS.

BY GEORGE JOHNSON, M.D., F.R.S. (London.)

For a number of years Dr. Johnson described and demonstrated, under the name of exudation cell-casts or white cell-casts, a form of renal tube-cast characterized by the presence of leucocytes unmixed with renal epithelium; and in his lectures on Bright's Disease (page 35) he stated that "since the publication of Cohnheim's researches, it had occurred to him that these exudation-cells may probably be white blood-cells—leucocytes—which have migrated through the walls of the Malpighian capillaries, and subsequently become moulded into small cylindrical casts within the central canal of the convoluted tubes." The object of the present communication was to direct attention to the relationship between the anatomical observations of Klebs (*Handbuch der. Path. Anat.*, vol. i., p. 644), Klein (*Path. Trans.*, 1877), and Bryan Waller (*Journal of Anat. and Phys.*, 1880.) and his own clinical observations, and to show that the presence of the white cell tube-casts afforded the means of diagnosing the existence of the glomerulonephritis of Klebs.—*British Medical Journal*.

FERNET'S METHOD OF INTRODUCING FOOD AND MEDICINE BY THE NOSTRILS.—M. Fernet (*Revue de Thérap.*) wishes to popularize the method of introducing liquid or semi-solid elements, and certain drugs, by the nostrils. The author has seen it employed successfully in newly-born infants, too weak to take the breast or milk from a spoon. He proceeds as follows. The patient being laid on his back, a little raised, the end of a spoon, or, better, the spout of a close vessel, is brought near to one nostril, and its contents are poured in gently at intervals. The liquid slides over the floor of the nasal fossa and the roof of the palate, and reaches the pharynx, where it induces movements of regular deglutition. If the operation be done well, the liquid never returns by the other nostril. This method may be applied in certain cases of apoplectic coma, when the patient cannot drink for three or four days successively, in the tuberculous meningitis of children, etc.

COGHILL ON ANTISEPTIC INHALATIONS IN PULMONARY AFFECTIONS.—Dr. J. G. Sinclair Coghill, in the *British Medical Journal*, May, 1881, p. 841, has an interesting paper upon the value of antiseptic inhalations in all lung affections characterized by purulent expectoration. By this means we are enabled to dispense with cough-mixtures by arresting the secretion of the sputa; for, if sputa exist, cough must necessarily follow, and it is dangerous to arrest the cough under such circumstances. Dr. G. Coghill finds the following formula good: R Tincturæ iodi etherealis, acid carbolicæ, āā ʒij; creasoti vel thymoli, ʒj; spiritus vini rect., ad ʒj; M. If the cough be urgent, or breathing embarrassed, chloroform or sulphuric ether may be added at discretion. The mode of inhaling is most important. The patient should be carefully instructed to inspire through the mouth alone, and expire through the nose, as, by this means the medicated air is forced into the remoter air-cells.

RINGER ON INFLUENCE OF AMMONIA IN CHLOROFORM POISONING.—Dr. Sidney Ringer, in a paper published in the *Practitioner*, June, 1881, p. 437, shows, by experiments, the rapid influence ammonia exerted in a frog's heart, whose action had been arrested by an overdose of chloroform. The chloroform evidently paralyses the heart's muscular substance, affecting the ganglionless and nerveless portion of the ventricle exactly in the same way as any other part of it. [In the *Medical Times and Gazette*, May, 1871, p. 616, Dr. Neild reports a case of apparent death from chloroform inhalation, which recovered from the alarming state of syncope after four half-drachm injections of liquor ammoniæ into the median cephalic vein.

A novel mode of removing labels from old bottles was suggested by Mr. Chase, at a meeting of the Alumni Association of Massachusetts College of Pharmacy. The face of the label is wet with water, and held for an instant over any convenient flame. The steam or heated water at once penetrates the label, and renders its removal very easy.—*Canadian Pharmaceutical Journal*.

PAGGI ON RESUSCITATION IN CHLOROFORM POISONING BY APPLICATION OF HEAT TO THE PRÆCORDIAL REGION. — Dr. Adolfo Paggi (*Lancet*, June, 1881, p. 1015) refers to a case in his practice while assisting Dr. Labbé, when a patient, under chloroform, ceased to breathe. Artificial respiration and other means, after ten minutes, failed to produce any effect. Dr. Labbé then took a towel, dipped in boiling water, and laid it over the heart. Instantly the pulse and respiration returned. [In the *London Medical Record*, January, 1881, p. 15, Jago's plan of percussing the heart in such cases is noted; and, at p. 57, Dr. Reid's method of giving a hot douche, from a height, to the cardiac region in cases of syncope.—*London Medical Record*.]

Surgery.

WHITLOW.

In a clinical lecture on whitlow (*Medical Times and Gazette*, vol. i., 1881, p. 667) Mr. Christopher Heath says that the subject is meagrely treated of in the text-books. If met with in the earliest stage, when the finger has just begun to redden and tingle, a twenty-grain solution of nitrate of silver, or the silver stick wetted and lightly pencilled over the affected part and a little beyond, checks it at once. When the whitlow is a little more severe,—that is, when pus forms about the nail or tip of the finger,—the cuticle, which is insensitive, may be incised. Occasionally, however, when a foreign body has found its way beneath the nail, pus forms there and gives rise to excruciating agony from the tension beneath unyielding structures. Judicious cutting away of the nail will relieve this, if near the margin; but if near the base, it is much better to pare down the nail with a sharp knife until the matter is let out, than to resort to the unnecessary cruelty of removing the entire nail.

The third kind of whitlow is really an acute necrosis of the terminal phalanx, following periostitis and suppuration beneath the periosteum, just as it does in the case of a long bone.

A very slight injury—the prick of a needle or pin—may set it up. After some hours'

uneasiness, the pain becomes acute and throbbing, and entirely prevents the patient sleeping. If timely relief is not given, pus will very slowly make its way to the surface of the finger, but never up the sheath of the tendons, and when discharged, will leave the greatest part of the phalanx bare and dead behind it. A timely and free incision is the only mode of saving the phalanx, and cannot be resorted to too early; for, if no pus be present, the inflamed periosteum will still be divided with great relief to suffering. The finger should be held firmly on a table, and the surgeon, entering his knife just above the transverse interphalangeal mark in the skin, should cut boldly down to the bone in its whole length from base to apex. When, as so often happens, these cases have been treated domestically with "soap and sugar" and poulticing until the end of the finger is riddled with sinuses, there is nothing to be done except to extract the necrosed phalanx as soon as it is loose, and to bring the finger into shape by careful water-dressing applied in strips. The base of the phalanx usually survives, giving a point of attachment to the tendons.

Inflammation of the skin, and subcutaneous tissues may occur in any part of the finger. Incisions must here be made with care, so as not to open the theca or sheaths of the tendons, which then invariably slough, and the patient is left with a useless finger. For this reason incisions on each side of the finger are safer than one in the centre, that may unawares let out the tendons, which will look perfectly healthy at the moment, but soon become soddened and softened.

The synovial sheaths of the flexor tendons of the thumb are often, though not always, in direct communication with the synovial membrane of the annular ligament of the wrist, and hence pus is rapidly conducted in this way up to, and, if not relieved, into the forearm.

There is much difference in the importance of saving the different digits. The thumb must be saved at all hazards. The middle and ring fingers are comparatively unimportant, and, if stiff, are apt to be in the way. A stiff forefinger is better than none.—*Philadelphia Medical Times*.

A MORNING WITH PROFESSOR ESMARCH.

We are indebted to one of the surgeons who took part in the cruise of the Reserve Squadron, under the command of His Royal Highness the Duke of Edinburgh, for the following:

"The Reserve Squadron under the command of His Royal Highness the Duke of Edinburgh arrived at Kiel on the 14th of July. As it had been expected for some days previously, every preparation was made by the good people of Kiel to give us a truly hospitable welcome. Amongst the numerous invitations of various kinds which poured in from all sides, was one to the medical officers of the ships from Professor Esmarch to visit his hospital. On the morning of the 16th, punctually at 8 o'clock, the Professor commenced his first operation—amputation immediately above the knee for strumous disease of the joint. Morphia was given hypodermically, and the patient then chloroformed. His famous elastic bandage was next applied, and the limb amputated by the "circular" method, which is preferred by Dr. Esmarch in such cases, as the muscles are flabby and easily retract. On examining the stump, the bone was found diseased, and two inches more were removed. The vessels were then ligatured, to the number of thirty-seven, with carbolised catgut. Drainage-tubes of decalcified bone were now introduced, and for that purpose an instrument lately invented by Dr. Neuber—*locheisen zur drainage*—was employed. The stump was well syringed with carbolic acid solution; after that, the integument was brought together, the Lister dressing applied, the elastic bandage removed, and the patient taken from the theatre. During the whole time of operating, the air of the theatre was rendered aseptic by carbolised vapour. Professor Esmarch claims for his method the following advantages. It is almost painless, for the previous administration of morphia produces its effect after that of the chloroform passes off, the wound heals without fever or suppuration, and only one dressing is required; moreover, it is bloodless, or nearly so; in the case first operated on, there was only a slight oozing

from the hyperæmic bone. Several patients were now shown to us, in which the success of this method was well demonstrated: a case of removal of the mamma for carcinoma, one of resection of the radius, one of resection of the humerus, a case of removal of a large lipomatous tumour from the back, etc. In all these, only one dressing was applied, and the wound healed without pain, suppuration, or fever. The dressing is left on for fourteen days, and then a little unguentum boracis applied to promote the healing of the epidermis. The mode of dressing differs only from that generally adopted in England in the larger amount of antiseptic material used. In the patient just operated on, the macintosh was first applied, then a thick cushion of jute and carbolised gauze; around this, a thin gauze (carbolised) bandage, then a layer of cotton-wool in the groin, over this a larger cushion, then another gauze bandage. An elastic bandage was now applied, partly for compression (as Dr. Esmarch said), and partly to fix the rest of the dressing. Finally, over all was applied a thin carbolised gauze bandage. Dr. Neuber now showed a glass splint which he has lately invented for resection of the elbow-joint. He has lately used glass splints a good deal, as, in consequence of their being easily cleaned, they are peculiarly well adapted for Lister dressings. Another material much used by him of late for splints is tripolith. It is applied as plaster-of-Paris, and sets in the same way. In consequence of its not absorbing moisture so readily as plaster-of-Paris, it would seem to be particularly well adapted for naval practice. It may be procured from the Gebrüder Schenk, Heidelberg, or from H. Beckmann, 7 (10), Vorstadt, Kiel, who supplies it to the Academy Hospital. Next, Dr. Esmarch conducted us through the wards of the hospital, and exhibited some very interesting cases. Amongst others, two successful amputations at the hip-joint; a case of nævus, in which skin-grafting had been done after the plan of Professor Reverdin, of Geneva, who was present, and accompanied us round. We visited next the workshop where all the bandages, etc., are manufactured; then the museum, in which we saw a rich collection of pathological specimens,

and many interesting relics from the fields of battle during the late Franco-German war. What impressed us most during our stay was the earnest, almost chivalrous, devotion to the advancement of surgical science shown by the Professor and all his staff. There is no improvement or new principle of practice advocated by any member of the profession, in any part of the world, that is not canvassed here, and, if worth it, speedily adopted by Professor Esmarch; for, like the clerk of Oxenford in Chaucer,

'Gladly wolde he lerne, and gladly teche.'

A visit to the Naval and Military Hospital, in which we were shown, through the courtesy of the principal medical officer, the medical stores and appliances for the different ships in the German navy, brought to a conclusion a pleasant and instructive forenoon.—*British Medical Journal*.

A METHOD OF REMOVING THE TONGUE.

BY JAMES TAYLOR, M.R.C.S.,

Surgeon to the Chester General Infirmary.

The operation is performed as follows: An incision about one-sixth of an inch long is made through the skin only from the upper edge of the hyoid bone forwards; this incision is simply to facilitate the passage of the needle. The forefinger of the left hand is passed along the dorsum of the tongue until the point of junction of the tongue and epiglottis is defined; the end of the forefinger is maintained at this point for the present. A strong curved needle, having a length of six inches (exclusive of handle), with eye near the point, and armed with the platinum wire of the galvanic *écraseur*, is passed through the little incision directly backwards in the middle line until the point is felt by the tip of the forefinger of the left hand (in its course the needle, being in the middle line, can by no possibility damage any important tissue). Then the handle is well depressed and the needle pushed on, the point being guarded and guided by the left forefinger until it is protruded through the mouth. The wire is

secured first by a pair of forceps, and then a finger is passed through the loop, the loop drawn forwards, and the needle withdrawn. We have now the loop of platinum wire traversing the base of the tongue directly in the middle line from before backwards, the loop brought forwards through the mouth, and the ends of the wire hanging out of the little incision in front of the throat. The next step is to pass the loop of wire over the apex and sides of the tongue, pulling the ends of the wire at the same time; we thus get the whole tongue encircled by one loop of wire. It is now advisable, but not necessary, to seize the apex of the tongue with a *vulsellum*. Next adjust the ends of the wire to the *écraseur*, connect with the battery, and slowly begin to work. In from ten to fifteen minutes the wire loop will emerge from the little incision, and the now severed tongue being removed by the *vulsellum* from the mouth, the operation is completed.

If the floor of the mouth be affected, so that the loop round the tongue would pass over some diseased portion without including it, this could generally be easily remedied by a preliminary incision beyond the diseased portion, so as to form a groove for the wire loop.—*London Lancet*.

NERVE-STRETCHING IN LOCOMOTOR ATAXY.

A discussion on this subject was opened by Professor Langenbeck (Berlin), who read a paper in which cases were related in which the operation of nerve-stretching, undertaken to give relief to the pains, had been followed by improvement in the symptoms of ataxy. It seemed as if the stretching of the sciatic nerve led to beneficial changes in the spinal cord.—Dr. Morgan (Manchester) had not had much experience in nerve-stretching; but at the present time he had under his care, at the Manchester Royal Infirmary, a case of idiopathic lateral sclerosis, in which there were characteristic gait, ankle-clonus, increased tendon-reflex, and great pain in both lower extremities. The pains were not relieved by morphia or other drugs. It then occurred to

Dr. Morgan that nerve-stretching would be of service; accordingly his colleague, Mr. Southam, cut down on the left sciatic nerve and stretched it vigorously, so as to raise the patient from the table. Under the influence of chloroform, and before stretching, the ankle-clonus was most marked; but, immediately after stretching, ankle-clonus ceased in the limb operated on, but remained in the right leg. Pain in both legs, however, had disappeared. In the course of a fortnight, the ankle-clonus returned slightly; 60 beats per minute, compared with a previous 120; but there had been no return of pain. Dr. Morgan thought that nerve-stretching in sclerosis, involving the posterior or lateral columns of the spinal cord, was followed by good results. His patient was in all respects better.

Dr. Grainger Stewart (Edinburgh) had met several cases in which pain, with paralysis and other symptoms, showed that there were lesions in the nerves themselves. Of these cases, some had recovered entirely, just as they might occasionally recover in locomotor ataxy. He thought that it would be found that a peripheral affection of nerves existed in these cases, which was quite separate from central changes. The relief obtained by nerve-stretching in these cases was undoubted.—Professor Langenbeck pointed out that the disease might arise from affection of the periphery of the nerves; and that the affection of the spinal cord might be secondary; that the painful condition of the nerves, which was so remarkable and pathognomonic, could be relieved by stretching; and that, by relieving the pains, the morbid condition in the cord was relieved or checked.—Dr. Ogle (London) asked whether nerve-stretching was most beneficial in those cases in which the origin of disease was central, or those in which it was peripheral?—Dr. Brown-Sequard (Paris) pointed out that, in section of one-half of the spinal cord, there resulted hyperæsthesia on the side severed, with anæsthesia on the opposite side; and that, when the sciatic nerve was stretched on that side in which anæsthesia was present, it disappeared, and hyperæsthesia appeared instead, and *vice versa*.—Dr. Langenbeck replied.—*British Medical Journal*.

THE CURE OF VARICOSE VEINS BY SUBCUTANEOUS LIGATURE.—Dr. John Duncan, of Edinburgh, employs carbolized catgut for the radical cure of varicocele (*British Med. Journal*). The veins are separated from the artery and vas deferens, and a needle armed with catgut is thrust through at the point of separation; it is then reintroduced at the orifice of emergence, made to pass between the veins and the skin, and brought out at the entrance; the two ends are then firmly knotted together and cut short. By traction on the scrotum the knot is made to disappear entirely, and the punctures are covered with salicylic wool saturated with collodion. The same manœuvre is repeated an inch higher and sometimes a third ligature is advisable. A hard lump of coagulum forms between the ligatures, tender at first, but soon diminishing in size and becoming insensitive. Dr. Duncan treats varicose veins of the leg in the same manner; the introduction of the point of the needle into the aperture of exit of the first puncture and the tightening of the loop of catgut is difficult when there is brawny œdema. In such cases the patient should be kept at rest and an India-rubber bandage applied for a few days. A single ligature is not sufficient, and to close the lumen permanently two must be applied about one inch apart. It is essential that no branch be given off in the segment of vein between the ligatures.—*Cincinnati Medical News*.

THESE are the characters by which you are to recognize a hernia of the Epiploon alone. The tumour is dull, and presents no gurgling on pressure; you will find these signs described in your books, and they are deceptive, for an entero-epiplocele presents these characters; but one symptom, to which I most especially direct your attention, is the narrowness of the pedicle of the hernia, and the almost complete indolence of this on pressure, joined to the absence of a resistant plane behind the ring. This narrowness of the neck is explained without difficulty, when we recall the texture of the Epiploon. We understand very easily that the fat may be depressed by the constricting band, as by a thread.—*M. Desres, in Gaz. des Hopitaux*.

MECHANICAL STIMULATION OF THE BRAIN.

Dr. Brown-Séguard recently announced to the Société de Biologie that he has found, in rare cases, a simple puncture or section of the "motor zone" of the brain of the dog, rabbit, or guinea-pig, gives rise to signs of pain, and this when the dura mater has been entirely removed from the region. The sensibility is that of the brain, not of the pia mater, for the surfaces of an incision into the brain substance were found to possess the same sensitiveness. He ascribes it to the congestion induced by the operation, and concludes from it that the congestion may render parts of the brain acutely sensitive, which normally are destitute of sensibility. It has been especially met with when the brain has been exposed for a little time. These observations agree with some made by Dr. Brown-Séguard thirty years ago, showing that the insensitive spinal cord becomes sensitive when it is inflamed. He believes that the movements observed by some experimenters on mechanical stimulation of this part of the brain are simply reflex, and are not due to the excitation of any motor elements.

WHAT is the best method of performing vaccination? This question is often asked by younger physicians, and I do not wonder at it, because little or no instruction is given on this point in our medical colleges. The frequent failures that follow the operation, and often spurious results pronounced genuine, and protective, fully attest the fact that there is a great deal of carelessness, if not downright ignorance, often displayed in the simple, yet important matter of vaccination.—*W. M. Welch M. D., in Phil. Med. Times.*

DR. LEWIS D. MASON, treats fractures of the nasal bones, by passing a steel support, such as a needle or hairlip pin, through the line of fracture, raising the depressed portion. The needle is kept in position by an elastic band, passed over the head and point.—*Western Medical Reporter.*

THE NASHVILLE *Journal of Medicine and Surgery*, commenting upon the case of the wounded President, says: The sublime spectacle of Dr. Bliss scratching the back of the wounded President, so carefully described in the newspapers, puts in a new light the proper function of the medical attendant.

Midwifery.

PUERPERAL CONVULSIONS.

Several cases in which pilocarpin, by mouth and hypodermically, was used in eclampsia, are reported with varying results. Langer asserts that it excites uterine contractions and renders them more powerful, and, in two or three cases, as many physicians report a similar result; but Kroner used (*Am. Jour. Obstet.*) injections of pilocarpin in four cases without any appreciable effect upon the uterus, although the toxic effect of the drug was marked.

The weight of opinion seems to favor chloral in large doses by the rectum. Guyot (France) reports remarkable success, thirteen of fourteen cases being saved. He injected into the rectum from one to four drachms in twenty-four hours. Dr. Goodell believes it the best single remedy. He directs a drachm by rectum, or twenty grains by mouth, repeated as often as may be necessary, and asserts that he has never lost a case. Other writers are equally laudatory of chloral, while none discard chloroform. With regard to the induction of premature labor in eclampsia, there seems to be a growing sentiment in its favour, and successful cases are recorded.

Blood-letting is apparently growing in favour again. Many writers advocate it, or at least speak of it as a too much neglected remedy. Dr. C. C. P. Clark (*Am. Jour. Obstet.*) is a strong advocate for the use of morphia in heroic doses. He argues that a woman who bears her pregnancy lightly never has convulsions, hence a prophylaxis consists in removing all irritating conditions. In eclampsia the nervous system is peculiarly tolerant of opiates. Ordinary doses are useless. Inject at once into the arm *a grain and a half of morphia*; should the paroxysm return any time after two hours, repeat the dose. If in labour, repeat the dose in eight hours, any way. He says: "This quantity may look large, but I am perfectly confident, after having tried it many times, that it is perfectly safe. I am almost prepared to swear that twice the quantity, not repeated, would do no harm to a patient in a strongly eclamptic condition."—*DR. HENRY GIBBONS, JR., Pacific Medical and Surgical Journal.*

THE PERINEUM.

Much has been written lately of the structure of the perineum, its support during labor, and its immediate repair after laceration. Prof. Thomas, in the new edition of his work on Gynæcology, devotes a chapter to a consideration of the perineal body, and its great importance in sustaining the contiguous structures, and Dr. Henry J. Garrigues contributes a paper of similar import, on the Obstetric Treatment of the Perineum, to the *Am. Jour. of Obstet.*, for April, 1880. These writers both point out the imperfectness of the descriptions of this part of the body in the various works on anatomy. The latter, in particular, seeks to correct many current false impressions. He says: "The fourchette, so generally torn in first labors, is not a fold of mucous membrane, as usually supposed, but is formed of skin. It is, indeed, nothing else than the *commissura posterior*, *i. e.*, the posterior junction of the labia majora; just within is the *fossanavicularis*." The elaborate description of the floor of the pelvis cannot be reproduced here, but it is well worthy of study.

The frequency of the rupture of the perineum is variously stated. In a discussion in the Cincinnati Academy of Medicine, Dr. Tait reported 70 ruptures in 142 primiparæ. Other members believed the accident to occur in 90 per cent. of cases. On the other hand it was stated, that in Prof. Braun's division of the Vienna General Hospital, in 1,157 primiparous cases, rupture occurred but 68 times. This indicates, possibly, a smaller tendency to laceration than exists elsewhere; but it certainly indicates the adoption of more effectual measures to preserve from rupture the perineal body. Dr. Tait attributed lacerations mainly to two causes, rapid deliveries and large heads; but Dr. Whittaker asserted that the head rarely caused rupture. The accident resulted during the escape of the shoulders. He had even seen it caused by the hips. Other speakers corroborated in part this view, but held that lacerations were often begun by the head, and increased by the shoulders.

I think too little importance is attached to the possibility of laceration of the mucous surface of the perineal body, its integumentary

surface remaining intact. I have known and felt this to occur repeatedly. The tearing will be readily felt by the hand resting on the perineum. I have known quite extensive lacerations of the vaginal surface, with little or no external appearance of injury. In one instance, the extensions of the nymphæ around the clitoris were torn away, producing great suffering.

With regard to methods for preventing laceration, many are mentioned. They may be thus summarized:

(1) Prevent the rapid descent of the head by pressure upon it, by avoiding the use of ergot, by placing the patient on the left, by dissuading the patient from making voluntary effort.

(2) Relax the vulva and perineum by administering chloroform; by anointing liberally with belladonna; by performing *episiotomy*; by drawing forward, with the hand, the perineum and anus, or the perineum alone by hooking the fingers in the anus (Goodell's plan); by hooking the fingers in the posterior commissure and drawing it backward toward the coccyx with every pain, until the head rests on the perineum.

Dr. Burk, of Rotunda Hospital, urges this latter plan as accomplishing gradually what otherwise is left for the head often to do rapidly. Dr. Reamy, in the discussion above alluded to, considers, and I think quite properly, that too much discredit is cast upon the the forceps in this connection. With the injudicious and hasty, it is true, the laceration is increased, but in the forceps we have a means of regulating and controlling the advance of the head, such as no other method will afford. By the deliberate and cautious use of the forceps, laceration, otherwise inevitable, may even be prevented. So important is the integrity of the perineum considered, that most writers urge an ocular examination of the parts in all cases immediately after delivery. A strong objection to such a rule is the repugnance of both physician and patient to its adoption, but it is not only sanctioned but urged by the leading gynæcologists of the country. Opinion is almost uniform too in favor of the immediate operation for repair of the perineum, even in cases of moderate laceration. — *Pacific Medical and Surgical Journal*.

POST-PARTUM AND SECONDARY HÆMORRHAGE.

Attention has already been called in another part of this paper to the use of hot water uterine injections in post-partum hæmorrhage. The treatment continues to be extensively advocated. Dr. Lombe Atthill (*Dublin Jour. Med. Science*), states that it is the routine practice in the Dublin Lying-in-Hospital. He gives the following as the result of his experience :

"(1) In case of sudden and violent hæmorrhage in a strong and plethoric woman, it is better to use cold.

"(2) When, from the prolonged or injudicious use of cold, the patient is found shivering and depressed, the beneficial effect of injecting hot water is rapid and remarkable.

"(3) In nervous, depressed, and anæmic women, hot water may at once be injected, without previously using cold.

"(4) In cases of abortion, where from uterine inertia the ovum, although separated from the uterine wall, is wholly or in part retained, the injection of hot water is generally followed by most satisfactory results.

"(5) Where the injection of perchloride of iron is considered necessary, previous injection of warm water clears the uterus of clots, etc., permitting the fluid to come directly in contact with the bleeding surface and lessening the chance of septic absorption.

The injection of tincture of iodine into the uterus has also strong advocates, one writer considering it the most reliable of all measures. He says (*Med. Record*):

"(1) Iodine controls the hæmorrhage, not by coagulating the blood within the uterus, but by exciting the uterus to contract. The blood is expelled in a liquid form, and hence, instead of having the uterus filled with a mass of hard, sticky clots, ready to undergo decomposition, the uterus is empty and disinfected.

"(2) Tincture of iodine has never, so far as I can learn, caused any bad result, even when injected into the uterus in full strength.

"(3) The iodine treatment never fails to control the hæmorrhage."

The editor of the *Medical Press and Circular* urges the extensive trial of ipecac in nauseating

doses, as advised by Dr. J. H. Carriger, of Tennessee (*N. Y. Med. Jour.*). The remedy is not only anti-hæmorrhagic, but is oxytocic, relaxing and dilating the os, increasing uterine contractions and expulsive pains, and safely and speedily terminating labor.

Dr. I. E. Taylor read a paper at the Academy of Medicine (*N. Y. Med. Jour.*), on "Flagellation, or spanking of the child's back previous to its entire delivery as a means of preventing uterine hæmorrhage; and flagellation of the abdomen of the woman after delivery of the placenta as a substitute for the introduction of the hand into the cavity of the uterus." The title of the paper explains the method advocated by Dr. Taylor. The hips and legs of the child are left within the vagina for twenty minutes or more, while the back is being flagellated. The method serves to stimulate uterine contraction.

Dr. Hanks (*New York Obstetrical Society*) mentioned a case of secondary hæmorrhage after sixteen days, with death of the patient. Dr. Barker thought the result attributable to malarial poisoning, but Dr. Lusk suggested the retention of a supplemental lobe of the placenta as the probable cause.

It is surprising that so little seems to be known or written of the alum plug in uterine hæmorrhages. It appears to me to have advantages over all other methods. In emergencies it is more readily obtainable than hot water or tincture of iodine with the proper syringes to inject; and its use is entirely free from the dangers that attend intra-uterine injections. A piece of alum the size of a hen's egg, smoothed of its sharp edges and thrust into the cavity of the uterus, stops hæmorrhage, causes contraction of the uterus, and prevents septic absorption. Its mechanical presence, and the irritating character of its solution, cause the uterus to contract; this contraction, together with the astringent properties of the alum, stops hæmorrhage immediately; the changes which the blood and discharges undergo through the action upon them of the dissolving alum absolutely prevent putrefaction; and the action of the same alum solution upon any lacerated surfaces, prevents absorption. I have never seen other than the most satisfactory results from this treatment, and feel perfectly safe with any uterine hæmorrhage, if supplied with an alum plug.—Dr. GIBBONS, Jr., *Pacific Medical and Surgical Journal*.

THE CANADIAN
Journal of Medical Science,

A Monthly Journal of Medical Science, Criticism,
 and News.

TO CORRESPONDENTS.—*We shall be glad to receive from our friends everywhere, current medical news of general interest. Secretaries of County or Territorial medical associations will oblige by forwarding reports of the proceedings of their Associations.*

TORONTO, OCTOBER, 1881.

IRREGULAR RENAL ARTERIES.

[In a paper on "Anatomical Variations," in the *Annals of Anatomy and Surgery*, September, the writer, Dr. Shepherd, McGill College, Montreal, thus speaks of these abnormal conditions: "I have lately, several times, observed that the renal arteries were double, and sometimes treble, and on one occasion I found five arteries given off from the abdominal aorta, and piercing the kidney in various parts. Now, it is important that operating surgeons should be familiar with these various distributions of the renal arteries, especially since nephrectomy has become a recognized operation in surgery, and is so frequently performed. During the present summer session of the medical faculty of McGill University, in my course of operative surgery, whilst performing the operation of extirpation of the kidney, we found that there was no artery entering the hilum of the kidney, but that the organ was supplied by two arteries, one of which entered at the extreme upper end, and the other at the extreme lower end. Not expecting this abnormality, the student who was performing the operation, in clearing the kidney from the tissue round it, tore through the artery supplying the upper end. I merely mention this fact to put operators on their guard, and to draw attention to an important point which has hitherto, as far as I am aware, not been noticed.

Dr. Whitford, of Ottawa, has been appointed chief medical officer of the Manitoba and South western Railway.

THE STUDY OF ANATOMY.

We hope the students in the various medical schools will learn a very important lesson in dissecting, from the proceedings of the last session of the Ontario Medical Council. When the subject of the rejection of many candidates for defective knowledge of anatomy came up for discussion, it was clearly pointed out by numerous speakers, that too much importance had been attached to Gray, and too little to other works on anatomy which are more practical in character. The students when going into the dissecting room should seriously consider this question, and our advice to them is, to work diligently and faithfully on the Cadaver, and use either Ellis or Heath, or text-books of this description, instead of Gray, which for some years has been the favourite book of reference.

CRUDE PETROLEUM AND MALTINE IN PHTHISIS.—In the August number of this Journal we called attention to the fact that good results had been obtained from the use of crude petroleum in phthisis. We believe this remedy is now much used by American Physicians. One drawback in its use is the difficulty in making it palatable for the patients. Messrs. Reed and Carnrick have succeeded in making an excellent emulsion of maltine and crude petroleum. We have had no experience as yet in the use of petroleum, but we will gladly make a trial of it when thus combined with the maltine the nutrient qualities of which are so well known.

FROM certain correspondence in the English journals, it would appear that Dr. Beard's (New York) much-talked-of experiments in Hypnotism, on a trained subject, at the Waterloo Hotel, Jermyn street, to witness which the nerve and mental savants and notabilities of the Medical Congress were invited, turned out to be a fizzle, or rather an unsuccessful attempt to foist upon a learned assembly, as an experiment and demonstration of scientific precision and rigour, "a performance which would have been contemptible at a village fair, but which was outrageous when brought forward in the guise of science."

COMMUTATION RATES FOR 1882.—We direct attention to the great inducements offered in our list of commutation rates for 1882, which appears in our advertising columns.

WE reproduce from the British journals abstracts of several of the papers read before the recent International Medical Congress, which will be found in the earlier pages of this issue.

PERSONAL.—We are glad to be able to inform our readers that our well-known and highly-esteemed specialist in Ophthalmic and Aural Surgery, Dr. R. A. Reeve, has returned from his trip to Europe, which he speaks of as both a pleasant and a profitable one, including the International Medical Congress, and the special practice of the capitals of the British Islands and *the Continent*.

Dr. J. R. Jones, for the past fourteen months resident physician of the Hospital for Women, in Soho square, London, England, has returned to Toronto. By dint of diligence and zeal in the discharge of hospital duties, Dr. Jones attracted to himself the friendship and esteem of some of the best medical minds in England, and notably of Drs. Hughlings Jackson, and Sutton, and thereby secured advantages in the study of medicine which fall to the lot of few. We commend the course pursued by Dr. Jones to every Canadian student visiting the Old World; for during the three years and a half of his sojourn there he filled successively, we understand, the posts of clinical clerk, dresser, house physician, house surgeon, and resident accoucheur in the London Hospital, and was for fourteen months, as before stated, resident physician at Soho, "winning golden opinions from all sorts of people." To each one of our students we would earnestly say, "Go thou and do likewise." Dr. Jones' advantages in the field of Nervous Diseases, as well as Gynæcology, have been so exceptional, that we sincerely trust he may be content to cast in his lot with us.

DR. H. G. LACKNER, of Berlin, has been appointed Physician to the House of Industry and Refuge for the County of Waterloo.

It will be seen in the advertisement that Messrs. Lowden & Co., the Toronto agents, will be pleased to send *gratuitously* to physicians, a one pint bottle of any of the maltine preparations on payment of the expressage.

THE well-intentioned and good-natured apologies for Homœopaths, and consultation with Homœopaths, indulged in by Dr. Bristowe and Mr. Jonathan Hutchinson, at the recent meeting of the British Medical Association, have evoked such a storm of professional dissent and righteous indignation as has not been elicited by any question of Ethics for many a day. The universal disavowal of the views entertained by these gentlemen, by the great mass of the body medical, proves conclusively that the general professional conscience is still uninfected, and the ability to discriminate between moral right and wrong as yet intact. The regular Profession to-day declines to recognize "toy medicine and therapeutic jugglery," or to connive at the assumed adoption of an exploded dogma, as strenuously and honourably as ever.

THE LOUISVILLE *Medical News* exhorts all Demonstrators of Anatomy to take accurate notes of all anatomical anomalies met with in the dissecting room, and to pay particular attention to the cases in which these may occur.

Dr. W. B. CONWAY, in the *Virginia Medical Monthly* states that he has found a new anæsthetic in the perfume of the skunk. Two ounces of the fluid was forcibly administered, by inhalation, to a school-boy, by two of his mates. Total unconsciousness ensued, lasting for two hours.

Obituaries.

WE regret to note the death of Dr. Andrew Chapman, who graduated last spring after completing his course in the Toronto School of Medicine. After receiving his degree he went at once to Muskegon, Mich., where he opened a drug store; and in addition to the management of this business, he engaged actively in general practice, and was succeeding well. He died of Acute Bright's Disease, after a short illness in Muskegon, at the age of 23, and the body was brought to his former home, Ancaster, and buried September 16th.

Book Notices.

Forty-Third Annual Announcement of the Philadelphia School of Anatomy, 1881-82.

Catalogue of Medical, Dental, Pharmaceutical, and Scientific Publications. By PRESLEY BLAKISTON, Philadelphia.

Post-partum Atrophy of the Uterus. By WALTER COLES, M.D., St. Louis. (Reprint from *St. Louis Courier of Medicine*.)

Uterine Dilatation with a New Instrument. By H. P. C. WILSON, M.D., Baltimore. (Reprint from *American Journal of Obstetrics and Diseases of Women and Children*.)

A Blastoid found in the Devonian Rocks of Ontario. By HENRY MONTGOMERY, M.A., B.Sc., Lecturer on Zoology and Botany, Toronto School of Medicine.

Female Diseases, the Result of Errors in Habit and Hygiene during Childhood and Puberty; with Remarks on the Treatment of Rachialgia with Iguiv-Puncture. By R. J. NUNN, M.D., Savannah, Ga.

A Compend of Anatomy. By JOHN B. ROBERTS, A.M., M.D. Philadelphia: C. C. Roberts & Co.

A short notice of this work appeared in our December number of last year. It seems that the demand for the first edition has necessitated the publication of a second. Of its kind, we can conscientiously say that it is a very good specimen. To the whole tribe of "Handy Books," Remembrancers," "Pocket Anatomists," and "Aids to Anatomy," we object. There is no more royal road to Anatomy than there is to Geometry. Books of this sort are useful only within the four walls of the dissecting-room. A student depending on a book of this kind cannot hope to acquire anything better than that parrot-knowledge, so commonly found in America. The section on Osteology would be improved by a few plates of muscular attachments in the Holden style. As a matter of fact, muscular attachments can be taught in one way only, viz.,

by making the student chalk them out upon the bones themselves. The worst part of the book is the chapter on the Articulations. This very important subject is treated of in seven pages. No mention is made of the movements of each joint, of their nervous and vascular supply, or of the muscles in relation with them. The action of muscles is described in truly laconic style. For example: the pterygoideus externus "draws jaw forwards," no mention, here or elsewhere, of its attachment to the interarticular fibro-cartilage of the temporo-maxillary articulation. We are surprised to find in so modern a book no allusion made to Medical and Surgical Surface Marking.

Lectures upon Diseases of the Rectum and the Surgery of the Lower Bowel. By W. H. VANBUREN, M.D., LL.D. New York: D. Appleton & Co., 1, 3, and 5 Bond Street, 1881.

This is the second edition, revised and enlarged, of VanBuren's well-known lectures, delivered at Bellevue Hospital Medical College. The work constitutes a complete treatise on the subject, and embodies all the virtues of Curling, Allingham, Cripps, *et hoc genus omne*, together with the author's individual views and experience. The last chapter should undoubtedly have come first, treating as it does of Diagnosis and Exploration, and the Hygiene of the Lower Bowel; while its other contents—Malformations, Impaction, Foreign Bodies, Atony and Neuralgia—might be considered *in primis* as well as elsewhere. But although its location is not rational, no exception can be taken to its matter. The value of Sims's speculum and position in examination of the rectum is strongly insisted upon. In the section on Imperforate Rectum, the author has drawn largely upon Owen's Harveian Lectures. For Constipation in External Hæmorrhoids the author holds the India-rubber tube for self-injection to be the best substitute for drugs; but the recommendation should always be accompanied with the admonition to abandon the practice as soon as possible. As a palliative application in Internal Piles the subsulphate of iron is highly lauded; but in the radical treatment the author prefers ligature to everything else, and Paquelin's Thermocautery next.

After etherization he always forcibly dilates the sphincter, so that it shall not recover its contractile power for a week. An excellent chapter upon Prolapse is presented, and the assertion therein made that the statements of the text-books are misleading as to the infrequency of descent of all the coats of the bowel, and as to the constant presence of a sulcus as indicative of this condition. Polypus is properly, as we believe, stated to be much more frequent than is commonly supposed, especially in children. "A fibrous polypus is always attached well above the sphincters, and a hæmorrhoidal tumour is confined to its own locality below, and has a broad base of attachment." In an admirable chapter upon Abscess, two good old rules are duly enforced, viz., *early incision, and always in a line radiating from the anus as a centre.* Free incision of the hard, gristly walls of old fistulæ is highly commended, and for bleeding after the operation the subsulphate of iron in strong solution freely applied, or dusted on in powder, is efficacious and serviceable. In the chapter on Ulcer of the Rectum, dysentery is pronounced to be an unusual cause. Two chapters are devoted to Benign Stricture, and the following classification is adopted:— (1) Congenital (or the Valvular), (2) Cicatricial, (3) Fibrous, and those from proliferation or hyperplastic exudation tending to become fibrous, as in Syphilis. In our opinion, the small round or oval masses of dejecta are no more pathonomic of stricture of the rectum than are the ribbon-shaped. A very necessary caution against the employment of any force in endeavouring to pass a stricture, whether with finger or bougie, is earnestly enforced. "Bougies," it is properly said, "should be slightly conical at the beak, eight or nine inches long, gently curved and constricted at the base, so as not to distend the external sphincter while in place; or else six inches long, conical at either end and introduced within the sphincter." From this description it will be seen how shockingly deficient bougies are as commonly met with in the shops, and our own experience tells us how dangerous they are from their *rectitude* and rigidity. Complete longitudinal section is recommended,

when feasible, as an operation of fair promise in the radical treatment of Benign Stricture; and in doubtful cases excision is advised as an alternative for complete longitudinal section preferable to colotomy. As an antiseptic injection after excision our author declares against thymol as being inferior to carbolic acid in his experience. The lecture upon Cancer is one which every surgeon should read, mark, learn, and inwardly digest; but, in truth, the same remark is equally applicable to the other eleven. The performance of the publisher's part leaves nothing to be desired, and we trust that ere long the volume may be found in the bookcase of every practitioner in the land.

A Treatise on Diseases of the Joints. By RICHARD BARWELL, F.R.C.S. Second edition, revised and much improved. New York: William Wood & Co. 1881.

That, after a lapse of twenty years, in this age of progress a second edition of a standard surgical work should be a desideratum is but natural, and especially is that the case in the subject of joint-disease upon which so much has been written by eminent surgeons since the appearance of Mr. Barwell's first edition in 1861. The labours of a reviewer are in general sensibly lightened when a book has stood the test of twenty years and not been found wanting in anything except those additions and emendations which time and experience render necessary, and in this respect Mr. Barwell has ably done his work. A great point in this book is the care which is taken to give a clear, concise and accurate description of the pathological anatomy of joint-diseases, due credit being given to the opinions of other observers, home and foreign, no matter whether those opinions coincide or not with the author's. Chapter one is devoted to a brief exposition of the normal histology of the various structures entering into the formation of joints. After chapters two and three on simple and suppurative synovitis comes one of the most readable and instructive in the book—that on "Pyæmic Joint-Disease," containing as it does views decided, though to some extent at variance with those held by many on pyæmia and septicæmia, diseases of which so much remains to be discovered.

Mr. Barwell is very decided in his view that pyæmia and septicæmia differ merely in degree and not in kind, and that the cause of the non-appearance of abscesses in all cases of septicæmia is want of time for their formation. As to the embolic theory of pyæmia, it is admitted that such events may occur, but only as complications, not as the essence of the disease. The germ theory is cleverly handled and evidently finds favour, the author believing "that septic poison (infection by micrococci or their emanations) is administered by nature in different doses and in different degrees of strength. "The septic *materies morbi* is evidently but one in kind. The variety in the effects is due in part to the intensity of the poison, but more probably to the receptivity of the individual (the state of his fluids)." It is also stated that the author's investigations so far tend to the view that in pyæmia the living contagion passes into the veins, in erysipelas into the lymphatics. These views Mr. Barwell admits to be speculative as yet, and says that it is certain that microzymes may exist within the body in some fluids, and yet pyæmia be absent; while it is equally certain (Koch) that septic disease may destroy life and yet no bacteria be present. A candid confession and one that is tantamount to saying that though much has been done of late years in this direction, we as yet know nothing conclusive about the origin of septic disease. A strong conviction is, however, expressed that pus-corpuscles found in pyæmic deposits are leucocytes, which altered by the ingress into them of bacteroid germs, have emigrated from the venous radicles, because that change has caused them to conglomerate within the vessels, to form minute thrombi or blocks, and to adhere to the vascular walls, producing stasis, which fails to be inflammatory, not only because the vessel and tissue changes of that process are absent; but also because the blood changes, however, marked are different in kind. The liquor puris is identical with blood serum. The material, therefore, which is deposited from the vessels which we find in the various cavities and justly term pus consists of septically altered leucocytes, suspended in a proportion of serum less than they floated in while still circulating in the vessels.

Our author regards the various joint affections following gonorrhœa, catamenia, labour, exanthemata, etc., all as pyæmic. As to treatment, Mr. Barwell is a strong advocate of carbolic acid, internally, externally, and we may say, eternally, for in the case of wounds he injects into the surrounding tissues above the wound. He uses a tubular needle perforated at the sides and end with a fine rubber tube attached; a glass tube two feet long by three-eighths of an inch in diameter, with one end drawn out to a fine point is filled with a three or four per cent. solution of carbolic acid, and attached to the rubber tube. The needle is then passed deeply into the tissues and the fluid allowed to pass in by gravity. An ounce, it is said, can be injected daily without fear of carbolic poisoning. Quinine in large and frequent doses, and sulpho-carbolate of soda are given internally with benefit. Salicine and its derivatives are powerless to reduce temperature. The usual hygienic and dietetic treatment is advised.

We next come to a capital chapter on strumous synovitis, which calls for no comment save as to the author's views of struma, in which he joins issue with Mr. Holmes' contention that the term is misapplied to joints, because if the part is removed, the disease does not always or often return, and that tuberculosis does not always, nor very frequently occur in children thus affected. Barwell accepts Billroth's definition of struma, and appears to think with Niemeyer that the great danger of strumous persons is that they may become tuberculous. This we think is the view of the majority of recent writers, and is in accord with our own.

In the chapter on hip joint disease we find no mention of Taylor's splint, which is of such great advantage in allowing us to make use of the therapeutic agent in this disease—plenty of pure, fresh air out of doors. Nor does Sayre's come in for more praise, preference being given to extension by a long (and if necessary bracketed) splint, with that miserable makeshift, the perineal band, which English surgeons stick to like a leech.

Barwell totally disbelieves in alleged lengthening in hip disease. Ninety-one illustrations complete the book, which is gotten up in Messrs. Wood & Co's. well-known elegant, library style.

Meetings of Medical Societies.

THE AMERICAN DERMATOLOGICAL ASSOCIATION.

THE fifth annual meeting of the American Dermatological Association took place at the Ocean House, Newport, on Aug. 30th, and two following days. The members present were Dr. Hyde, Chicago; Drs. White, Wigglesworth and Grenough, Boston; Drs. Duhring and Van Harlingen, Philadelphia; Dr. Heitzman, New York; Dr. Atkinson, Baltimore, and Dr. Graham, Toronto.

The meeting was called to order on Tuesday morning, when the President, Dr. Hyde, delivered the annual address.

The subject of the address was, "Periodical Dermatological Literature." The speaker divided contributions to Dermatological literature into four categories:

(1.) Solid and praiseworthy observations of facts, or deductions from the observations of others.

(2.) Reprints of imperfectly observed facts.

(3.) Worthless papers of men totally ignorant of the meaning of terms they have attempted to employ.

(4.) Papers written by men, who, from their position, ought to understand the subject, but either from undue haste, or from a foolish desire to identify themselves speedily with the subject on which they write, or from other motives not of the highest character, deluge the medical press with papers, which are often the verbose iteration of what has been written before their day. The speaker referred to the great improvement shown in the Dermatological literature of the last few years.

He then went on to speak of the relationship of Dermatology to general Medicine. It was his opinion that the success achieved in this department had been equal to, if not greater than, that in any other specialty.

Dr. Heitzman then read a paper entitled, "A Contribution to the Minute Anatomy of the Skin." The Dr., in his usual forcible and lucid manner, gave the results of his investigation on the structure of the hair, and its relation to the papilla and hair follicle.

He is of the opinion that the outer root

sheath made by a continuation of the Rete Mucosum, goes to form the sebaceous follicle, and ceases at the bottom of the hair follicle. The inner root sheath, on the other hand, a continuation of the superficial layer of the Epidermis, passes down by the side of the hair to the papilla, and then returns to form the hair itself. The reader exhibited a beautiful section of hair in its follicle, demonstrating his views.

Dr. White, of Boston, read a paper on "The Limitation of Internal Therapy in Skin Diseases." It is impossible to give a summary of this paper, the facts were given in such a condensed form. It will no doubt appear in the Journals, and will well repay reading.

During the evening session, Dr. Van Harlingen read a paper on "Lymphangiosum Tuberosum Cutis Multiplex." The paper was founded on a case which he had under observation for some time. The principal lesions were Lymphangiomas, varying in size, Fibro Molluscous tumour, Telangiectases, and increase of pigment in patches over the body. The reader claimed this to be the third case of the disease on record. The first was described by Kaposi in Hebra's work, and the second by Dr. Pospelo, in the "Vierteljahrsschrift für Dermatologie."

In the discussion that followed, Dr. Heitzman said that a number of records of cases of Lymphangiosum had been collected by Billoth's Assistant. They differed, however, in very many features from this case.

Dr. Hyde alluded to Dr. Busey's work. In the cases described by this doctor there had been an escape of lymph to a debilitating degree.

Dr. Atkinson asked how Dr. Van Harlingen distinguished between Lymphangiosum and Molluscum Fibrosum.

Dr. Wigglesworth spoke of a case described by himself, of Molluscum Fibrosum, in which the symptoms were then described in the paper, viz.: Compressibility, and the appearance of a gelatinous fluid when a section was made.

After further discussion, it was stated that the essential difference between these two kinds of tumours was the presence of Endothelium in

Lymphangiosum and its absence in Molluscum. In Dr. Van Harlingen's case, the Endothelium had not been demonstrated, which the doctor thought might be accounted for by want of care in preparation.

Dr. Duhring read a paper on "The Small Pustular Scrofuloderm." The reader reported the histories of three cases, in two of which there were positive evidences of scrofula, and in the third the diathesis could not be so well made out. The eruption was first papular, then pustular. Scabbing followed, and a cicatrix remained, having a peculiar, star-shaped appearance. Each crop of pustules remained for some months. The condition was very rebellious to treatment.

Dr. Heitzman enquired if the eruption resembled the Acne Cachecticorum, of Hebra. Dr. Duhring answered in the negative.

Dr. White asked what reasons Dr. Duhring had for distinguishing his cases from Acne Cachecticorum. In reply, the Dr. said the follicles were not affected, and the pustules were found in situations where acne seldom or never appears.

WEDNESDAY MORNING,

Dr. White presented the report on statistics. He also presented two reports on Leprosy, one from Dr. Foy, of San Francisco, and another from Dr. Graham. In the former, an account of Chinese leprosy, in San Francisco, was given, and in the latter, a short history of the disease in New Brunswick, compiled from the annual reports, which were found in the records of the Provincial Legislature.

Dr. Atkinson then read a paper entitled, "A Case of Tubercular Leprosy." The patient had been under observation for some time. He thought at first it was a sporadic case, but afterwards found that the patient—a female—had lived next door to a man who was affected by leprosy.

The latter was one of those cases, which had been previously reported from that State. Although the reader did not think that there had been any improper relationship existing between these people, he considered the case a most convincing proof of the contagiousness of the disease.

In connection with the paper, Dr. Atkinson

exhibited specimens of what had been described as the Bacillus Lepre.

Dr. Hyde then read a paper entitled "Study of a Case of Acute Tubercular Leprosy." The patient came under his observation during the past year. The disease ran an acute course, proving fatal in six months.

The author, however, thought the disease had existed previously in an unrecognized form. A drawing of the face was exhibited in connection with the paper.

Dr. Hyde then read a paper on, "Pathology of Leprosy," by Dr. H. S. Schmidt, of New Orleans. The paper was founded on the post-mortem examination of three patients. The subject was treated of in the most exhaustive manner.

EVENING SESSION,

Dr. White opened the discussion on leprosy. With regard to Dr. Atkinson's case, he did not think the proof of contagion conclusive. He, himself, was becoming more of the opinion that the disease was contagious. As to Dr. Hyde's case, he would enquire if the Dr. had taken into account the possibility of its being a sarcomatous disease.

Dr. Graham referred to reports of Dr. Keys, and of Drs. Bayard and Wilson, on Leprosy in New Brunswick. The former considered the disease contagious, but the latter could find no proof of it in their observations.

Dr. Heitzman referred to the microscopical character of leprosy, and did not think that the paper of Dr. Schmidt, although a very able and exhaustive one, threw any new light on the subject. The Dr., in the course of his remarks, asserted that the cell doctrine was antiquated, and was calculated to obstruct the progress of pathological investigation. He was inclined to think that the true origin of the disease existed in the nerve centres.

Dr. Duhring did not think the evidence of contagion sufficient in Dr. Atkinson's case. He then referred to Dr. Hyde's case, and thought it resembled in some points the case of Fungoid Neoplasm, which he had himself described.

Dr. Hyde, in reply, said he had anticipated differences of opinion in the diagnosis of his case. He had taken in all the possibilities,

and could not think it was other than a case of leprosy. He was willing, however, to rest the final decision on the microscopical examination.

Dr. Wigglesworth then read a paper on, "Buccal Ulcerations of Constitutional Origin." In his paper he strongly recommended for such ulcers, the local application of Iodine Spray, made of tinc. iodine, 5 pts; glycerine, 10 pts.; water, 30 pts. He also recommended the local application of Iodoform, either by brush or by insufflation.

In the discussion, Dr. Greenough spoke of the importance of absolute cleanliness in the treatment of these lesions.

THURSDAY MORNING SESSION,

Dr. Heitzman read a paper on the local application of Calcium Oxy-Sulphuret (Vleminkx solution), in a number of skin diseases. He had found its application of special value in acne and rosacea. He had also used it successfully in Psoriasis, Chronic Eczema, and in parasitic diseases. He commenced by using a dilute solution.

Dr. White did not prescribe the preparation on account of its disagreeable odor.

Dr. Heitzman then read a paper on, "Akido Galvanic Cautery in Epilation." He had found most successful results from this mode of operation, and congratulated the profession of America on its invention.

Dr. Heitzman then gave the results of the investigations of the microscopical committee, with regard to the disease Ainhum. The committee were of opinion that the process was not a pathological one, but one of self-mutilation.

Microscopical specimens were then exhibited.

The following are the officers for the ensuing year: President, Dr. Hyde; 1st Vice-President, Dr. G. H. Fox; 2nd, Vice-President, Dr. Hardaway; Secretary, Dr. Van Harlingen; Treasurer, Dr. Atkinson.

J. E. G.

TORONTO MEDICAL SOCIETY.

April 21st, 1881.

At 8 p.m. the meeting was called to order. The President, Dr. Covernton, in the chair. The minutes were read and confirmed.

Dr. Oldright exhibited a placenta with a peculiar attachment of the membranes.

Dr. Sheard exhibited a stricture of the sigmoid flexure, and rupture of the colon at the junction of the descending and transverse portions.

Dr. Riddel exhibited a triangular plate of fish bone, extracted by means of a piece of bell-wire from the œsophagus of a lady, by whom it had been swallowed.

Dr. Ross, jun., related a case of skin disease.

Dr. Sheard then read a paper upon the pathology of tubercle. The first portion of his paper dealt with the nature of tubercle, and in it he gave the chief histological characteristics of tubercle. In the second portion of his paper he discussed the etiology of the disease, describing the results of experiments upon animals, made with a view of artificially producing tubercle. He advanced the view of a preliminary inflammatory action before the deposit of tubercle, exhibiting a human lung in support of this view, in which the upper part was distinctly tuberculous, and the lower part was distinctly in a condition of red hepatization.

The paper gave rise to considerable and interesting discussion.

The nomination of officers for the ensuing year then took place, and the meeting adjourned.

May 5th, 1881.

The Society met at 8.30 p.m. Dr. Covernton, the President, in the chair.

The minutes of the last meeting were read and confirmed.

Dr. Covernton then read his valedictory address, in which he reviewed the status of the medical man, and said that the public did not always appreciate his efforts. He touched upon the benefits of Medical Societies. He reviewed the work done in the past year, and congratulated the Society upon its flourishing condition.

The election of officers for the ensuing year was then proceeded with, which resulted as follows:—Dr. Daniel Clark, President; Dr. Graham, 1st Vice President; Dr. Oldright, 2nd Vice President; Dr. Macdonald, Treasurer; Dr. Alex. Davidson, Recording Secretary; Dr. Sheard, Corresponding Secretary; Drs. A. H. Wright, Lett, and Spencer, Councillors.

Dr. Temple exhibited an acephalous monster, and the meeting then adjourned.

May 19th.

The Society met at 8 p.m. The newly-elected President in the chair. After the reading of the minutes, and other preliminary business—

Dr. Oldright, exhibited a bullet which, after passing through several partitions of wood and lath and plaster had inflicted a clearly incised wound on a child's head.

Dr. Cameron related a case of a cherry stone being extruded from an aged person's nose. He could not say how it had got there or how long it had been there, but the patient affirmed that she had not eaten cherries since last November.

Dr. Riddel related a case of confinement in which when he was about to relieve retention of the urine by the catheter, he discovered two large chancres on the labia pudendi.

Dr. Oldright made reference to the painful interest the Society would take in hearing of the illness of Dr. DeGrassi and Dr. McPhedran. The same gentleman also referred to the case of a little girl, two and a half years old, in which there existed an abdominal tumor, principally occupying the right side. It was rapid in its growth, elastic to the touch, but when aspirated it gave no evidence of its being a fluid tumor. A small quantity of fluid withdrawn in the aspirator needle and examined microscopically, did not give any evidence of malignancy. Dr. Workman mentioned a similar case, which proved to be malignant.

Dr. Riddel read an article upon the career of Dr. Tumblety, "the Indian herb doctor," which dilated upon his wonderful cures and his wholesale quackery, after which the Society adjourned.

June 30th.

The Society met at 8 o'clock. The President in the chair. The minutes of the previous meeting were read and adopted.

Dr. King was then proposed a member of the Society.

Dr. Sheard exhibited the lung, liver, and kidneys taken from a person the subject of syphilis. The liver contained abscess cavities, the lungs were tuberculous, and the kidneys showed disquamation of the lining of the uriniferous tubes.

Dr. Cameron exhibited a thrombus of the longitudinal series, taken from a child seven months old. He also exhibited the cerebral vessels taken from the same case, with masses attached to them, which he took to be syphilitic germata. The same gentleman also exhibited a portion of a tibia which had been spontaneously amputated at the seat of a malignant ulcer.

Dr. Riddel then related a case of miscarriage at the seventh month, followed by septicæmia, the fetus being a monstrosity.

Dr. Graham then read a very excellent and exhaustive paper upon Leucocy-thæmia, in which he related the histories of two cases which he had recently had under his observation at the Toronto General Hospital, the first case being that of the lymphatic variety. He also referred to the myelogenous form, a very rare variety of leucocy-thæmia. The disease seemed to baffle all treatment, and progressed slowly and surely to a fatal termination. The only treatment thought to be beneficial would be prophylaxis, could the cause of the disease be once arrived at. Chantincogra oil was tried but with no benefit. The reader,

while he drew a difference between leucocy-thæmia and Hodgkin's disease, thought that the disease under consideration and the so-called malignant growths were related to one another. In concluding his paper, Dr. Graham ventured the following opinions:

1st. That the essential features of leucocy-thæmia are lymphoid deposits, and leucocytu derived from them.

2nd. Similar growths are the features of Hodgkin's disease, but the cells do not enter the circulation.

3rd. That in both diseases the presence of these deposits interferes with the manufacture of the red blood corpuscle, producing anæmia.

4th. That these growths bear a strong relation to malignant growths, especially sarcomata.

5th. That progressive pernicious anæmia may arise as a consequence of leucocy-thæmia or Hodgkin's disease, in the same way that it may follow pregnancy or any other disease which interferes with the proper elaboration of the blood.

The discussion on Dr. Graham's paper was deferred to the next meeting of the Society, owing to the lateness of the hour.

The Treasurer, Dr. Macdonald, then read his report for the by-gone year, which showed the Society to be in a very flourishing condition. It was audited and found correct.

Births, Marriages, and Deaths.

BIRTHS.

On the 27th August, at 154 Jarvis Street, the wife of Dr. McCollum, of a son.

At 98 Carlton Street, Sept. 18th, the wife of Dr. Marti, of a daughter.

MARRIAGES.

On the 7th inst., at the residence of the bride's father, Cannington, by the Rev. Joseph Elliott, J. D. Anderson, M.D., L.R.C.P., Edin., of Port Perry, to Mary Miller, eldest daughter of D. Gillespie, M.D.

On the 14th inst., at St. Paul's Church, Woodstock, Ont., by the Rev. J. J. Hill, M.A., Rector, T. Millman, M.D., &c., second Assistant Physician to the Asylum for the Insane, London, Ont., to Helen Dick, only daughter of John Craig, Esq., of Woodstock.

DEATHS.

At Kingsville, on Monday, August 29th, Esther Wigle, beloved wife of S. A. King, M.D., and daughter of Solomon Wigle, Esq., aged 30 years.

On Sept. 3rd, Annie Isabella, eldest daughter of James Ross, M.D., 92 Sherbourne Street, and widow of the late James Buntin Boyd, aged 25 years.

At Burgesville, on the 6th inst., Arthur Cosby, second son of Dr. James, aged 1 year, 2 months, and 7 days.

On September 13th, at Muskegon, Mich., Andrew Chapman, M.D., aged 23 years, 7 months, and 12 days.