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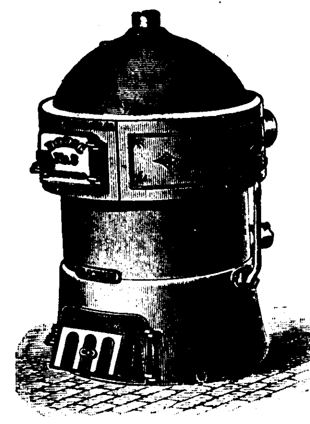

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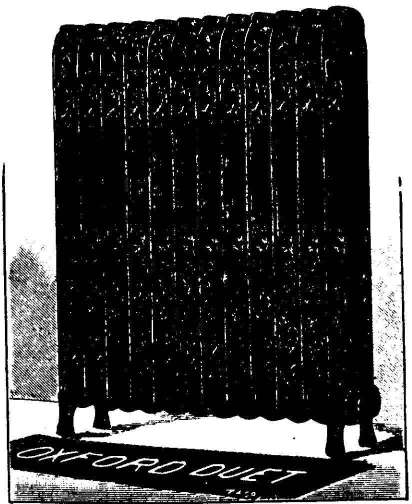

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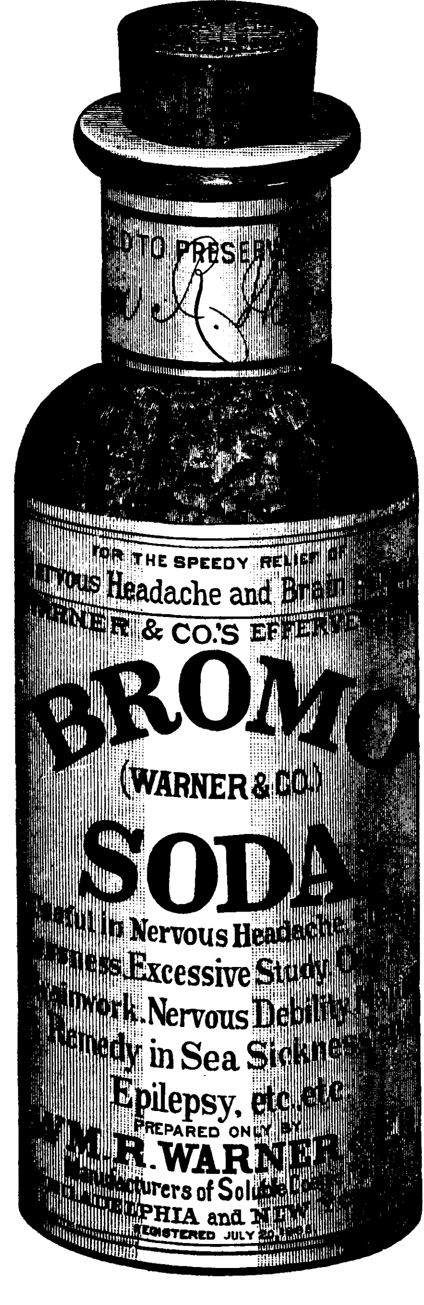

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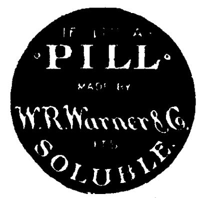

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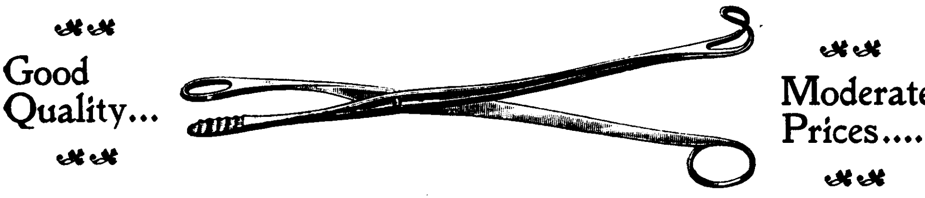

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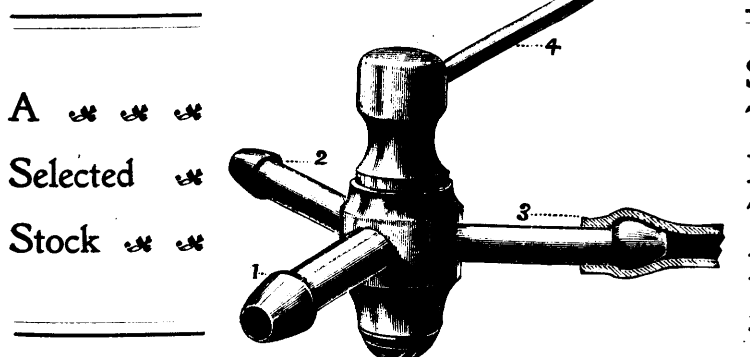

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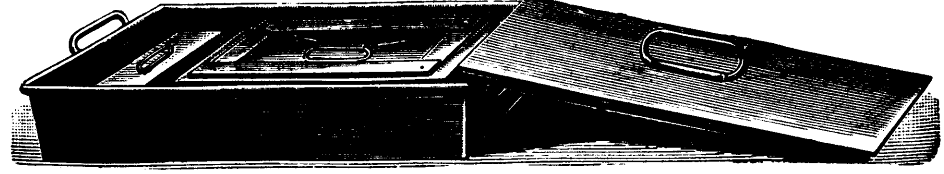

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ORIGINAL ARTICLES AND COMMUNICATIONS.

THE OXYTUBERCULINE OF HIRSCHFELDER IN THE TREATMENT OF TUBERCULOSIS.

BY F. LEONARD VAUX, M.D.C.M. TRIN.,

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When Jenner, in 1798, discovered that milkmaids who had been accidentally inoculated with cowpox were thenceforth immune to that most terrible of scourges, smallpox, he not only presented to the world its greatest therapeutic agent for the prevention of disease, but in addition laid the foundation of serum therapy. Nearly 100 years later a poor German physician, but recently graduated from the University of Berlin, sat in his small office poring over the microscope in the intervals between his few professional calls, which were rewarded by the munificent sum of sixpence. But Robert Koch was amply repaid for all his labor and self-denial when, in 1890, he announced to the world, through the columns of the *Deutsche Medicinische Wochenschrift*, that in his opinion, after the greatest care and research, a specific serum for the cure of tuberculosis had been discovered.

We all remember the manner in which this announcement was received, the scientific world first dubious and then exultant, the shower of honors, medals and decorations, and, above all, the fame which bade fair to make his name immortal. But that which touched his heart more than all else were the cries and prayers that came to him over the entire globe from those suffering in every conceivable manner from the Great White Plague of the North. Mothers brought their infants, and men whose lungs were but one huge cavity came also, all buoyed up with the firm belief that in Berlin a sure and certain cure awaited them.

But sadder than the coming was the going, for despair reigned in their hearts and altered their very countenances. Nor was the disappointment confined to great centres. It is safe to say that wherever modern medicine had a foothold in this globe, that there were brave and patient practitioners attending doomed yet hopeful patients, both looking forward to the hour when the savants of Europe and America should pronounce the new remedy a cure indeed, and modern enterprise have manufactured and placed it within reach of all.

Nevertheless, though the expectations of the world have not been

realized, Koch's tuberculin still remains an absolute diagnostic agent for the discovery of the dread disease, though the febrile reaction is too violent to allow its use elsewhere than in cattle. If through its use, however, bovine tuberculosis be ultimately stamped out, and infection by milk and meat disappear, Koch's labor will not have been in vain. During the past ten years he has been steadily at work, and the results of his further investigations were summarized in July, '97, by the description of a new antituberculous serum, designated T. R., which he claims will be of great value and is now being tested clinically in very many hospitals. Of this I shall speak further on. In the last eight years serum therapy has received great impetus from the work of Roux, Behring, Ytinase, and last, but not least, Widal, who, with Pfeiffer and Wyatt Johnston, are deserving of great praise for their work in the serum diagnosis of typhoid, which must be only a step toward the serum cure of that disease. But much as this is needed and valued, the minds of all scientists turn toward the Mecca of their hopes, the prevention and cure of tuberculosis. Many serums looking to this end have been brought to the notice of the profession from time to time, only to sink back into obscurity. Some excellent results, however, have been credited to them, and in more than one instance it has been hinted that lack of funds to carry on further investigations has alone prevented the consummation of the desired end.

For some time back Dr. Hirschfelder, Professor of Medicine in Cooper Medical College, San Francisco, has been working on a serum which he claims to be possessed of undoubted curative properties, and which he styles "oxytuberculine." Of the details of its manufacture and the mode of its administration I shall now speak, and shall also cite several cases which under my observation have been treated with it.

It may be of interest here to speak briefly of the different methods employed by various workers to produce a serum designed to check or cure tuberculosis, noting also the main points of difference between them all and the new oxytuberculine.

KOCH'S TUBERCULINE *(The Original)*.—"Upon the surface of veal bouillon, containing glycerine and peptone, a pure culture of the bac. tuberc. is floated and cultivated at 38° C. After 6 to 8 weeks a pellicle, consisting of tubercular scum and containing the tubercle bacilli, will have covered the surface and sunk to the bottom of the vessel. The supernatant fluid is then sterilized by heat passed through a Pasteur filter, and evaporated to $\frac{1}{10}$ its volume. This is the crude tuberculine such as was formerly used. Now this crude liquid is precipitated with alcohol, washed, and dissolved in water, after which it is ready for use."

KLEB'S MODIFIED TUBERCULINE (*Antiphthisine*).—This is merely an adaptation of the above, being much diluted. Here, as in Koch's tuberculine, an organic acid is developed in process of manufacture, which prevents further growth of the tubercle bacillus. Let the medium be alkalinized and growth begins again. We are indebted to Trudeau, of Saranac, for these investigations.

PAQUIN'S SERUM.—The procedure used here follows closely the lines laid down for the preparation of diphtheria antitoxine, and indeed was

put forward only after the researches of Behring and Roux, involving as it does the knowledge of antitoxines, a theory not previously enunciated.

Starting with Koch's tuberculine (original), gradually increasing doses are injected into a horse till it is rendered immune to further injections of a corresponding amount. The blood from the jugular vein is then allowed to flow into a sterile flask, where it coagulates, and the sterile serum thus obtained is used as an antitoxine.

Maragliano, in Italy, has evolved a similar process, and many recoveries have been reported, especially in America, from the physicians using Paquin's serum, prepared in St. Louis. It is extremely difficult to estimate the amount of antitoxine actually dissolved and present in the serum so obtained.

Koch proceeded on the principle that immunization would be secured when the body should be invaded by great masses of bacilli (as in general miliary tuberculosis, when at a certain stage the bacilli disappear), and these bacilli should come in direct contact with the tissues. The necessity of separating the bacilli from the cells in which they are found had been pointed out some time previously, and this Koch aimed to accomplish by extracting the bacilli with deci-normal sol. N.A.O.H. The fluid obtained in this way was designated T. A. (Tuberkulin Alkalisches), but was not free from bacilli, for in a field of the microscope 5-10 might be seen lying dead, separately, not in heaps. When administered it produced a reaction quite similar to that of the old tuberculin of '90; relapses were, however, less frequent. Finally it was abandoned. Failing to extract the bacilli from their covering of fatty acid, Koch resolved to crush them in a mortar, dissolve the mass in distilled water, and treat it with a powerful centrifuge.

In this way the fluid was divided into two layers.

KOCH'S T. R. (*Tuberculum Residuum*). 1. An upper layer containing *T.B.C = T. O. (Tuberkulin Oberst).

2. A lower layer consisting of a colloid sediment with a few bacilli = T. R. (Tuberkulin Rest).

The T. R. was then again dried, pulverised, and treated as before in a centrifuge (giving 4,000 revolutions a minute) for ¾ hr. The process was repeated again and again till the last bacillus was destroyed and the whole fluid become perfectly transparent. Trudeau, however, has found living bacilli in T. R. and doubts whether one can ever be sure that they are absent. Koch evidently believes that one or more living bacilli are incapable of harm to a tuberculous organism.

The immunizing action of T. R. is very great, but this is entirely apart from any febrile reaction, while in the old tuberculin the two were associated. If one be immunized with T. R. he is proof against treatment with T. A. or T. O. For the preparation of T.R. the most recent and virulent cultures must be used.

HIRSCHFELDER'S TUBERCULINE (*Oxytuberculine*).—I have dwelt upon the principal tuberculins and serums which up to the present have attracted the attention of the medical profession, as a prelude to the detail-

* For the sake of brevity the tubercle bacillus will hereafter be referred to as T.B.C., a pseudonym which is constantly employed in Mt. Sinai Hospital.

ed description of oxytuberculin, and in order that a better comparison may be made between the underlying principles involved in its manufacture and those of others, and to do this rightly reference must first be made to an event which is now classic in the annals of surgery and medicine.

In 1862, the late Sir Spencer Wells, opening the abdomen for the removal of what he believed to be an ovarian tumor, was surprised to find, instead, the intestines covered with pearly nodules, interspersed between which were gray granulations, fibrinous deposits in all directions, and a large amount of opalescent fluid. He quickly closed the abdomen, recognizing instantly that he had to deal with tuberculous peritonitis and believing that his action might cause the woman her death.

To his surprise the symptoms for which operation had been advised soon disappeared, and on re-opening the abdomen some time later it was found that the fluid had been absorbed and the tubercles had gone.

Since then laparotomy for the relief of tuberculous peritonitis has been looked upon as a justifiable and even a routine procedure, so much so, in fact, that Konig has recorded 131 cases with but 3% of deaths, Lindner 205 cases with mortality 7.5% and Rorsch 358, with complete recovery in 250. (Allbutt, System of Med. iii., 670).

The theory most generally accepted is that of the oxygen so admitted being fatal to the bacillus tuberc., or more likely to its toxalbumins, as the bacillus itself is aerobic. This theory is indeed in line with the general constitutional therapy of sunlight and air advocated by all physicians for their consumptive patients; whilst in the great process of nitrification we see but another application of this law.

In studying this theory and the phenomena mentioned, Hirschfelder became convinced that the deleterious agent present in tuberculous peritonitis was really a tuberculine, such as Koch had artifically produced from veal bouillon and a culture of the bacillus; and that the admission of ozone to the abdominal cavity had, by destroying certain poisonous properties of this tuberculine, left a purified remedial agent, which he named Oxytuberculine. It was this oxytuberculine, he reasoned, which caused the tubercles to disappear, and at once he determined to cultivate if possible an artificial product. Accepting Koch's tuberculine (original) as the best to be obtained for the basis of his experiments, search was next made for the most suitable oxydising agent, which, after many experiments, was found to be Hydrogen peroxide, H2. O2.

The first results were not gratifying and Hirschfelder substituted for Koch's tuberculine one made as follows: "A highly virulent culture of T.B.C. was floated upon veal bouillon containing 4% Glycerine, 1% Peptone and ½% Sod. Chloride, to every litre of which, when neutralized 3 c.c. of a normal solution of Soda Carb. was added." It will be noted that in both tnberculines an acid is generated, which of itself would be fatal to development after a certain point, but in the modified serum the alkalinity is ultimately restored. (Since T.R. has been placed upon the market it is used in preference to all others).

The remainder of the process is as follows: "A measured quantity of the tuberculine so formed is mixed with 1-10 the quantity of a 10 Vol Sol

$H_2.O_2.$, and placed in a stertilizer at 100° C. Every 12 hours the same quantity of $H_2. O_2.$ is added until the total amount so added equals that of the tuberculine. The total quantity so obtained is heated once more for 12 hours at 100° C. and then found to present these characteristics: Containing $H_2. O_2.$; highly acid; decidedly darker than the original tuberculine. The solution is then alkalinized with N.A.O.H. and re-heated to drive off the excess of $H_2. O_2.$, after which 5% of Boric Acid is added to keep it from decomposing, and the solution is then filtered into sterile vessels." Such is the process by which a tuberculine has been manufactured differing radically from any of its predecessors, and giving brilliant promise but requiring to be carefully weighed in the balance of professional opinion generally.

ADMINISTRATION.—1. The best syringe to use is a large one such as Diphtheria Antitoxine is given with, and graduated up to 40 or 60 c.c.

An asbestos packing is preferable, as then the entire syringe can be taken apart, and each portion boiled, thus rendering it absolutely sterile. An ordinary aspirating syringe or large hypodermic may be used if none other is handy.

2. The oxytuberculine is now irritating and may be injected subcutaneously in almost any portion of the body, though the back is generally selected. Uniform and gentle pressure should be made over the site of injection to aid in diffusion. There is no febrile reaction, and the pain only that of an ordinary type. There will be no subsequent infiltration of tissue, unless the liquid has become infected, which may happen, as it is an aseptic not an antiseptic solution If it become cloudy, or should the injection produce local irritation, the fluid must be re-sterilized by heat for about 15 minutes.

The skin, of course, is to be well cleansed before injection, and the needle boiled.

3. Commence treatment with 5 c c. injected daily and increased by 5 c.c. every 3 days, until 20 c.c. is given. This is the usual limit, but in many cases a much larger dose can be administered.

Hirschfelder has given 100 c c. (over three ounces), which is about equivalent to 5 c.c. of Koch's old tuberculine.

4. When the usual maximum dose, 20 c.c., has been reached stop for three days, and in preference to increasing the dose commence a second series of injections with an initial dose of 5 c.c., and if necessary a third, fourth or fifth series.

5. If the case be in an advanced stage, injections may require to be extended over a period of about 3 months.

6. Unlike Diphtheria Antitoxine no remote effects upon the organs of excretion need be feared.

RESULTS.—Dr. Hirschfelder is naturally enthusiastic over his discovery, which, if reports are true, is certainly an important one. The investigations were reported by him to his class, as they progressed, during the the session '95-'96 and when completed, a committee of the Faculty of Cooper Med. College were asked to undertake a complete and impartial investigation into the merits of this new tuberculine, and in addition to examine the cases then, and previously under treatment. The committee

has lately reported most favorably, endorsing Dr. Hirschfelder's claims as to its curative properties, and laying special stress upon the fact that oxydation had completely destroyed any deleterious products of T.B.C. The Royal Belgian Academy of Medicine has, at the request of Dr. Hirschfelder, sent a distinguished member of the Academy to San Francisco to investigate every feature of the case, and to report not only as to its remedial powers, but as to its discovery and preparation. Trials of oxytuberculine are now being carried on in Brussels and Paris, so that ere long authoritative reports may be expected. Many physicians are now making use of it throughout the West, though, so far as I can ascertain, Mt. Sinai is the only Hosp. at present giving it a systematic trial.* Under the rules of the Hospital, however, tuberculous patients are only admitted in exceptional cases, therefore extended reports must come from institutions having a large number of consumptives. Appended will be found the records of six cases, together with the latest statistics collected by Hirschfelder. Pending the reports from Europe, there is no reason why physicians generally should not make use of oxytuberculine, especially in early cases, for clinical experiment has proved that if not curative in every instance, it, at least, produces no febrile reaction, constitutional depression or deleterious influence upon the body organs. This I can confirm from my own observations on the few cases here, in which it has been tried. I would also urge that practitioners using it should report their results either pro. or con.; for reports from the great body of physicians in the United States and Canada will be of much more value than the opinions of a few savants, no matter how great their learning or how wide their reputation.

In noting these facts and presenting the following cases, I am anxious not to extol oxytuberculine as having wonderful curative properties, and on the other hand to avoid any expressions which might prevent it from being thoroughly tried. It is but right to add that the statements of Dr. Hirschfelder have been warmly challenged by some physicians, they claiming that the process has been borrowed almost in toto from Koch, the principal difference being that he uses Hydrogen Dioxide instead of Hydrogen Monoxide. Of the truth of this statement I cannot say; it seems to me, however, that there has been a great deal of bickering engendered by Hirschfelder's work, mainly between champions of rival Medical Colleges.

A detailed and accurate description of the manufacture of both Koch's new tuberculine and oxytuberculine has been given above, to which reference may be made. Hirschfelder acknowledges his indebtedness to Koch for all work up to a certain point, claiming merely that oxytuberculine is a decided advance which he himself has thought out. It is urged that Koch initiated the theory of oxidation by centrifuging the mass of titrated bacilli dissolved in water (Hydrogen Monoxide) so that Hirschfelder, in employing Hydrogen Dioxide at a later period, is merely altering the process. After a close perusal of Koch's original article in the *Deutsche Med. Wochenschrift*, April 1, '97, I cannot find other rea-

*The oxytuberculine was obtained in July from Dr. Hirschfelder, through the kindness of Dr. L. W. Allen of the Resident Staff, and was the first to be used in the East.

sons for Koch's use of H2. O. than as a solvent, while the object of centrifugation is plainly stated.

Personally, I believe the tuberculine to be an excellent remedy, and the marked result obtained in Case IV. has impressed me very favorably. Had I a large number of tuberculous patients to treat, oxytuberculine would certainly be used with all.

As with every therapeutic agent, the chances of success are in direct ratio to the stage of the disease.

Hirschfelder lays, naturally, much stress upon this point and divides the disease into 4 stages:

i. "Infiltration of lungs with more or less pallor, loss of weight, cough, sputum containing T.B.C.

ii. Extensive infiltration of lungs with hectic fever, emaciation, large amount of sputum with many T.B.C. No cavities.

iii. Cavities, but still a fair degree of vigor. No dyspnœa when patient is quiet, but marked shortness of breath on exertion.

iv. Large cavities, and decided dyspnœa, profuse night-sweating, etc."

	Total No. treated.	Cured.	Much Improved.	Slightly Improved.	Un-changed.	Worse.	Died.
Stage i.	4	4	..	..	..	..	..
Stage ii.	9	4	5	..	..	..	..
Stage iii.	25	2	18	2	3	..	..
Stage iv.	11	1	5	1	2	1	1
	49	11	28	3	5	1	1

INTUBATION.—Dr. Trumpp mentions that there is still some doubt as to the method of taking out the tube after intubation, whether by means of a piece of attached thread or by the extractor. There are disadvantages attending the thread method, and especially because the fixing of the tubes thus produced does not allow of its free play, and hence causes a liability to erosion of the parts. The use of the extractor, on the other hand, is hardly possible in private practice, as a sudden stoppage of the tube by membrane might cause suffocation unless the tube could be withdrawn without delay. The use of the extractor may also require considerable skill, especially where a small tube sinks deeply into the larynx. In a case where attempts at extraction caused a small tube thus to sink further down, the author adopted the following device: Pressure with the thumb was made on the trachea, just below the cricoid cartilage, where the end of the tube could be felt; the cough thus produced forced the tube out. The author has found that this method of expression never failed in the cases in which he subsequently tried it. The pressure may be made with both thumbs, the fingers finding support on the neck; it should be directed inwards and directly upwards. If a more powerful pressure is exerted the tube may be forced not only into the mouth but even completely out of it. The author has never seen any disadvantages attending this method. Of course the pressure should be made intelligently and not in too forcible a manner.—*Mun. Med. Woch.*

SURGERY.

IN CHARGE OF

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THE RADICAL CURE OF UMBILICAL HERNIA BY OMPHALECTOMY.

BY JOSEPH RANSOHOFF, M.D., F.R.C.S., CINCINNATI.

The division of umbilical hernias into the congenital and acquired has long been fixed, since they differ in etiology and, to a certain extent, in their anatomical relations. In the present paper I beg to limit consideration to the umbilical hernia of adults.

In all its phases this has been, from the infancy of the art chirurgical, the most dreaded and the least cared for of the more common varieties of rupture. The rapidity with which gangrene develops in comparison with other forms of strangulated hernia and the relatively large fatality of relief operations must account for this former dread. For the long neglect in the matter of radical treatment, other than retention by truss, to which the non-strangulated hernias of the navel have been subjected, three factors are responsible. First, the mechanical difficulties of the operation inherent in the abdominal parietes; second, the complications, visceral and omental, within the hernia; and third, the very general tendency to recurrence. A brief consideration of these factors seems warranted, since it entails the better comprehension of the sources of failure and points the way to methods that make this less frequent.

The mechanical difficulties afforded by the abdominal walls are ordinarily a very thick layer of adipose tissue, in the depths of which, often two or three inches removed from the wound margin, there is found a small hernial ring. In three of the cases to be appended, this layer of fat, with the old operation of median incision, would have made the closure of the ring in the depths of the wound very difficult. Added to this layer of fat, in hernias that are larger than the size of a walnut, there is a very thin layer of integument, a spread-out covering of the umbilical cicatrix, which after operations even aseptically made is prone to undergo necrosis and be the cause of a late wound infection. The chief obstacle to success, so far as the abdominal wall is concerned, is in the hernial ring itself. As a rule, it is an aperture the margins of which are thin, rigid, and difficult of approximation, even when the ring is an

inch or less in diameter. In yet other cases, from omental adhesions or the use of convex pads, the margins are very much thickened and rigid, but none the less difficult of approximation. It is for this reason probably that most operators have at one time or another seen the necessity of enlarging the fascial aperture or excising it altogether, to be enabled to bring about a fair apposition. The most perfect approximation of the umbilical ring, when firmly united, still leaves no muscular covering between the peritoneum and the integument. The tendency to recurrence with every renewed tension upon the abdominal wall, such as would occur during pregnancy, would necessarily follow.

The visceral and omental complications of umbilical hernia form the source of greatest anxiety during the operation. In hernias of small size, though irreducible, the contents are, as a rule, limited to a large mass of omentum, which, though adherent in one or many places to the sac or the ring, can ordinarily be separated with little difficulty and removed. In the larger hernias there is almost invariably found a part of the transverse colon, and not infrequently many coils of the small intestine. While the latter do not ordinarily form adhesions, the transverse colon is prone to become adherent to the sac wall or to the omentum, or to both. To complicate further the relations, the sac is, as a rule, multilocular and divided into imperfect compartments by the presence of bands stretching from wall to wall. Fortunately, in these cases the hernial ring is, as a rule, very large, for which reason strangulation at the ring is a comparatively infrequent occurrence in these cases of umbilical hernias that resemble eventration. Nevertheless, even here obstruction of the protruded intestine is followed by colicky pains, vomiting, or gastric disturbances often enough to make it necessary to attempt a radical cure; or, if this is not feasible, so to enlarge the ring by incision as to preclude the probability of temporary obstruction. In these large eventrations much has in recent years been accomplished by radical operation; the only limit to operative interference would be so contracted a condition of the abdominal cavity as to prevent or preclude the probability of a return of the protruded intestine without the danger of inducing obstruction. There is no phase of abdominal surgery in which the danger of unintentionally wounding an adherent intestine is greater than in these large umbilical hernias when operated upon by the old method of the single median incision.

From the foregoing, the tendency to recurrence in cases operated upon by the older method is in part explained. The imperfect apposition of the margins of the ring, the absence of a muscular covering, unequal pressure on the wound margins by the interrupted suture passing through the entire thickness of the abdominal walls, the tendency to fat necrosis and sloughing of the integument, are all held accountable for the immediate failures often obtained and the very decided tendency to recurrence. Within recent years three very decisive steps have been taken to overcome the obstacles to success theretofore existent.

The first of these is the excision of the umbilical ring in all radical operations; the second, the suturing of the median borders of the recti muscles to each other; the third, the closure of aponeurosis and muscle

by a suture separate and distinct from that of the overlying adipose and cutaneous layers.

In 1888 Keen was forced to resort to excision of the ring in a case of strangulated hernia. Before that, in 1866, Storer had already resorted to this procedure, which probably has been forced on many operators. It remained, however, for Condemin, 1892, to elevate his procedure into a distinct method of operating for umbilical hernia. His object from the beginning is to excise the hernial ring, for which purpose he opens the peritoneum by elliptical incisions which meet above and below the median line and are carried directly down to the peritoneum outside of the peritoneal covering. After division of the skin, adipose layers, and fasciæ, he opens the peritoneum on the outer side of the ring itself. The single median incision is therefore discarded entirely. In the cases in which I resorted to this procedure, and two of them were of very large hernias, the operation proved to be very simple. It very greatly facilitated the return of the reducible portion of the hernial contents, and after the splitting of the sac, subsequently made, lessened, it seemed very greatly, the difficulties of separating adherent omentum and intestine. In one of the cases the hernia was quite as large as an adult head, the patient being of short stature and weighing over two hundred pounds. Except for the elliptical incision, the task of exposing thoroughly the ring and of severing adhesions of omentum and transverse colon would have been extremely tedious and accordingly dangerous. A further advantage of the complete excision of the hernial sac, with all the coverings of the hernia, together with the ring, is that at the close of the operation the conditions of the wound are best suited to primary union. The attenuated skin, the surrounding fat, the fibrous margins of the hernial ring, which are liable to necrosis, are removed, so that the wound really is like that left after the ordinary median laparotomy. In this method of operating, furthermore, there is included, as a rule, by necessity, the suggestion made by Gersuny in 1893, to suture together the median borders of the recti after opening their sheaths, in order that a continuous muscular plane may oppose the recurrence of the hernia. Unfortunately, the subjects of acquired umbilical hernia are usually women blessed with more fat than muscle, and the recti are found to be poorly developed, atrophic, or the site of fatty infiltration, so that in them too much importance must not be attached to the completion of the muscular plane between the abdominal cavity and integument as a preventive of recurrence. A third step in advance has been made in the separate suturing of the fascia and muscular layers on the one hand, and the integument on the other. In the four cases recorded, I have resorted to the silver-wire buried suture for the deeper structures, and the subcutaneous suture for the superficial part of the wound. In only one of the cases, that of the largest hernia, did secondary infection follow on fat necrosis. The deeper portion of the wound was not opened by the mishap. It is nearly a year since the operation was performed and a recurrence has not taken place. In a second case, in which the radical operation followed the relief for strangulation, a similar wound complication resulted. In one of the cases, which healed *per primam*, an abscess formed about the ligated omentum four months

after the operation and discharged through the abdominal wall. In three of the cases which I beg now to report, the operation was that of radical cure by omphalectomy. In the fourth case, that of a strangulated hernia, the omphalectomy was made secondary to the old operation.

CASE I.—Mrs. S——, Dayton, O., aged forty-nine years, widow, has given birth to ten children, the oldest twenty-seven years of age. She has had a hernia since the birth of her last child, ten years ago. It was at first reducible, but, notwithstanding the use of trusses, has grown very much and become irreducible. She has never had any strangulation, but has suffered very much from colicky pains and constipation, which attacks come on at irregular intervals of one or two months, and confine her to bed for days at a time. When not so affected she is able to do her work as a laundress. During the last two months she has been almost entirely unable to work.

Present condition: Very fleshy woman, little over five feet in height, weighing between two hundred and two hundred and ten pounds. Presents an umbilical hernia nearly as large as an adult head, within which portions of the colon can be readily mapped out by percussion. On a rough estimate, about one-third of the hernial protrusion is reducible. What feels like an omental mass can be outlined within the tumor. The hernial ring has a measurement of about six inches in its long diameter and three in its transverse. Owing to omental adhesions the outline of the ring cannot be everywhere distinctly felt.

Operation, October, 25th, 1895, at the Good Samaritan Hospital, morphine and A.-C.-E. anæsthesia. An incision beginning about three inches above the upper margin of the hernia in the middle line, surrounding it on both sides, and terminating a little distance below in the median line, was made. After dividing the abdominal wall, layer after layer, upon either side, the subperitoneal fat was reached and the peritoneum opened on the left side, the finger being used as a guide. Incision was made through the peritoneum upward and downward, completely encircling the ring upon its left side. By retracting the medium margin of the wound the ring was readily exposed to view, and the entrance through it into the hernia of the omentum, parts of the transverse colon, and of the coils of the small intestine could be seen. With the intestine exposed, reducible portions of the hernia were returned to the abdominal cavity, where they were retained with large gauze aprons. To facilitate the return of the adherent portions, the ring and the hernial sac were now divided from within and the adherent contents completely exposed. There were many large and small apartments in the hernial sac. The entire omentum was contained within the sac, adherent in many places, but for the most part converted into an irreducible fibro-lipomatous mass, which was removed, after ligation, in four divisions. The adhesions of the transverse colon were likewise separated without much difficulty. The removal of the hernial sac, together with the overlying integument, was completed by division of the peritoneum in the line of the ellipse upon the right side. Closure of the wound was made by buried silver-wire mattress sutures. The external wound was closed by buried silkworm-gut sutures. To prevent pocketing, three deep silkworm-gut sutures were placed

through the entire thickness of skin and fat layer of the abdominal wall. When completed, the wound resembled an ordinary laparotomy wound about ten inches in length. Time of operation, forty-five minutes.

Subsequent history: The patient made an uninterrupted recovery, except that a fat necrosis developed within the grasp of one of the interrupted silkworm-gut sutures. This was followed by suppuration on the fourteenth day and somewhat protracted recovery. There never was any elevation of temperature above the normal. The patient was discharged well December 8th, six weeks after operation, without abdominal support.

CASE II.—Mrs. J. D——, aged sixty years, of Richwood, Ky.; married, mother of six children. She has had an umbilical hernia for many years, and has frequently suffered from colicky pain. She was seized with violent pain, vomiting, and obstipation on April 9th, when she was seen by Dr. Duncan, of Walton, Ky., who recognized the presence of strangulation. When seen thirty-six hours after the inception of the symptoms, the patient presented an umbilical hernia the size of a large walnut, tender to the touch, and irreducible. The integument covering it was very thin, and through it a mass of omentum could easily be distinguished. The usual symptoms of acute strangulation were present.

Operation, under A.-C.-E. anæsthesia. Incision in the middle opening of the sac revealed a well-marked strangulation by a ring one-half inch in diameter. The contents were an adherent mass of omentum, beneath which was found a coil of the small intestine tightly held by the ring. When this was divided, the intestine was readily brought into the wound, and, being found healthy, was returned. The omentum, adherent to the sac wall in a number of places, was removed after ligation of the pedicle. When the sac had been removed it was found that the edges of the ring were very much attenuated, rigid, and difficult of approximation. An incision was therefore made one half an inch above and below the margins of the ring, and this completely dissected out The sheaths of the recti muscles were by this procedure opened and readily approximated. The superfluous integument was removed by two semilunar incisions and the wound closed by deep and superficial sets of sutures. This patient made an uninterrupted recovery, save for a limited sloughing of the fat contained between the superficial and deep sutures. The hernia has not returned.

CASE III.—Mrs. S. R——, of Greeley, Col., operated upon at the Jewish Hospital, January 4th, 1895. Patient, aged fifty-nine years, mother of four children, has had an umbilical hernia for many years. She has never had attacks of strangulation, but frequent attacks of colicky pain, gastric disturbance dyspeptic in character, and cardiac palpitation. These are almost always developed after the ingestion of a full meal, and are associated with severe pain in the hernia. At other times the hernia presents nothing indicative of its relation to the gastric symptoms presented.

Present condition: Patient has a small umbilical hernia the size of a walnut. The abdominal wall is densely covered with fat and is pendulous; the hernia is covered with attenuated skin, through which adherent omentum can be outlined.

Operation: A.-C.-E. narcosis. An elliptical incision completely surrounding the hernial tumor and beginning an inch above and terminating an inch below the median line was made. The incision was continued through the entire thickness of the abdominal wall, including the peritoneum. The peritoneum was first divided on the left side, when the omentum could readily be discerned entering through the hernial ring. Since no intestine entered at all, the incision was made through the peritoneum upon the opposite side, and the hernia, together with the omentum, drawn into the wound. The latter was ligated at its point of entrance into the sac and returned to the abdominal cavity. The operation was completed by deep, buried silver-wire sutures and subcutaneous silk-worm-gut sutures. The patient made an uninterrupted recovery. She was discharged from the hospital February 10th, 1895. Three months later she developed an abscess about the omental stump, which was opened through the abdominal wall in the region of the gall bladder. With the outflow of pus there was discharged the ligature placed about the omentum. This is the only case in my experience in which the ligation of the omentum has been followed by suppuration.

CASE IV.—Mrs. J. C——, Cincinnati Hospital, married. Admitted to the service April 24th, 1896. She has in the last years been very fleshy, and for ten years has had an umbilical hernia, which has, through frequent attacks of colic, interfered with her work as housemaid. The hernia is about the size of a large fist and irreducible. Pressure upon it is painful in places. Intestinal contents cannot be discovered.

Operation, April 25th, 1896, as in previous case. The sac contained almost all of the apron of the omentum, which could not be returned and was removed in sections after ligation with strong catgut. The hernial ring measured an inch in length by three-fourths of an inch in width. The umbilical ring, and all of the overlying soft parts included within the elliptical incision, were then removed and the wound was closed with deep silver and superficial silkworm-gut sutures. The patient made an uninterrupted recovery.

The cases reported have been operated on within two years, a period too short to warrant conclusions as to the permanence of the cures. Nevertheless, it must be borne in mind that in umbilical as in post-operative ventral hernias the visceral protrusion usually occurs within a few months of the operation. In all of the cases the abdominal wall at the wound site is firm, and I hardly look for recurrence. The salient features of the operation as performed, namely, excision of the ring, suture of the recti muscles, and buried metallic sutures, form the basis of my confidence in the results obtained. Should further experience fail to shake it, it is certain that many patients with umbilical hernias can by this method be rescued from what is always a source of great annoyance, and often a direct menace to life.—*Medical Record.*

OIL OF WINTERGREEN FOR HERPES ZOSTER.—Chambard-Hénon relates a case of herpes zoster cured by oil of wintergreen, used externally. —*Journal de Médicine de Paris.*

THE TREATMENT OF SPRAINS.

Injuries classified as sprains fall, on closer inspection, under one or more of four headings. These are contusions, ligamentous injuries, synovitis of the joint, and teno-synovitis of the muscles near the injured joint.

The treatment which has been pursued is as follows: The mildest cases have been satisfactorily treated by daily massage and bandaging. I have never used immediate massage in severe sprains, perhaps from a feeling of timidity, but partly because I have seen cases of recent sprain made decidedly more acute from the application of massage in presumably competent hands. At the City Hospital we have facilities for massage, but in my term of service I have limited it wholly in the severer cases to the time when heat and extreme sensitiveness have disappeared, and when it seems to me desirable to stimulate the local circulation. Our hospital out-patients recover more quickly and more completely than before we had massage facilities.

Taking the ankle-joint as a type in acute sprains, I have been able to obtain the best results by the immediate application of wet mill-board strips applied over several layers of sheet wadding and bandaged tightly but evenly. This dressing is left undisturbed, except for additional roller bandages applied outside, for two or three days. At the end of this time, if the swelling has disappeared for the most part, if the sprain was a severe one, a circular plaster-of-Paris bandage is applied from the toes to below the knee. This bandage is split and removed every two or three days to note the progress of the joint. With the subsidence of the acute symptoms massage is begun, and the plaster at once reapplied for twenty-four hours. The plaster is discontinued gradually, to be replaced by a flannel bandage. Douches of hot and cold water are used in connection with massage.

The aim of the treatment is at first to quiet the general and local circulation by general and local rest, and thus to limit the effusion and joint irritation, and then at the earliest moment to revert to stimulating measures and restricted use of the recovering joint.

The immediate application of plaster-of-Paris is objectionable, because in twenty-four hours the swelling subsides somewhat and leaves the plaster loose; or, if the swelling increases, discomfort or constriction may occur.

Half-way measures have little to commend them. Cotton bandages and hot water, however faithfully applied, are but poor makeshifts. Sticking plaster is better, but lacks precision, although affording a partial fixation; and in the ankle, applied as a figure-of-eight bandage, it often affords excellent support. But, in general, it may be said that a sprain is either slight enough to be treated by massage from the first, or severe enough to receive for a day or two, at least, the most complete and efficient fixation.—*Boston Med. and Surg. Journ.*

MEDICINE.

IN CHARGE OF
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THE INSANITY OF ADOLESCENCE.

SYNOPSIS OF A PAPER BY FRANK PARSONS NORBURY, M.D., JACKSONVILLE, ILL.

Medical Superintendent of Oak Lawn Retreat; Neurologist to Our Savior's Hospital; Formerly Resident Physician Pennsylvania Institution for Feeble-Minded Children.

The insanity of adolescence presents a complex psychological problem. So very varied, indeed, are the manifestations of the signs and symptoms that to discriminate the normal mental powers from the abnormal requires a broad knowledge of the human mind both in health and disease. When we remember that the fundamental science of mind is psychology it is evident that if we wish to pursue an analytical study of the mental phenomena found in the insanity of adolescence we must follow, at least, the well-known bearings of the normal psychology.

When the changes of the ego incidental to the period of puberty and adolescence are projected abruptly into the life of an individual, there follows a disturbance of the mental equilibrium which, if not carefully guarded, may result in insanity. These new impulses, these new ideas, belong to the affective mental life of the individual, and unless these impulses and ideas invade "the old circle of thought and become constituent parts of it, thus making his subjective feelings subservient to the altered physical state, there is apt to result a great revolution in the intellect."

The first evidences of insanity will be in the higher psychical functions and in disturbances of the motor-sensory nerves. For convenience in consideration then of the subject, the higher psychical disturbances will first be reviewed, then the motor-sensory, then the nutritive functions.

HIGHER PSYCHICAL.

Within the past quarter of a century there have been great strides made in the study of the genesis of the mind, from the standpoint of the physiologist. This movement, led by Preyer, has given us the present science of psycho-physics, of which child study is a prominent and growing part. This painstaking and essentially practical method of the study of mental development gives us actual facts observed under actual conditions, and has thus relieved us of that inconsequential metaphysical conception of mind and its growth, which from the time of Plato has stood for psychology.

These methods of study, when applied to adolescence, give us sex differentiations in the higher psychical phenomena, the differentiations of individuals and, in fact, the differentiations of race psychology itself.

The study of the normal psychology of adolescence is but in its infancy; much yet remains to be brought out by laboratory methods of inquiry. However, we know that adolescence is a period that demonstrates admirably Herbert Spencer's definition of mind, that it is composed of feelings and the relations between feelings, for adolescent mental phenomena are largely all feelings. Volition is at high tension, and the emotions while not dissociated from the intellectual states are yet under great strain. Then it is that discrimination from which, Bain says, mind starts, is excited to its greatest. The consciousness of new impressions is expanded so that the minuteness, the delicacy of feeling, is brought out. The native inequality of individuals is more apparent at this time and the mental alertness. so-called smartness, becomes significant.

Then another feature of the normal psychology of adolescence is the retentive faculty, memory. It is at this time that much of the intellectual development occurs. The plastic power of the mind in acquisition is at its height, and this function, which is the highest energy of the brain, submits as never before to mental exercise. While largely self-sustaining and recoverable from strain, the mind can at this time be greatly over-strained and permanent damage result. The constructive functions of the mind during adolescence are especially interesting, the flights from mere repetition to the heights of imagination and fancy are s metimes astonishing. One of the greatest feats of the plasticity of the mind is concentration.

The expenditure of nervous force under normal mental conditions is great. This power when abnormal turns nervous energy into one channel, and, as a result, all other processes suffer.

Emotions are really the battlefield of adolescent revolution. The intense emotions of love, of anger, of power, of superiority, of self-love, of vanity, of curiosity, of activity, of disgrace, of censure, all play their parts in the varied sad scenes of the disease. At no time in the life of an individual are the emotions more alert and quick to respond to impressions without reason than during the period of adolescence. Love is at the height of its glory, and when within the bonds of normal control it brings blessings in its train. It is a passion which is said to be blind, even in the normal, but in the abnormal it runs riot and brings disgrace, dishonor, even murder and suicide in its wake. The amatory passions seem to control the whole aspect of adolescence, and open the way for the ingress of allied impressions.

Love and religion mingle—they go hand in hand because the emotional elements are one and the same. It is a fact proven by the statistics of revivals of religion that it is at this period that more conversions are made than at any other. Emotional prodigality at this time plants the seeds for future disturbances of the easily impressionable. Religion invites introspection which, if not guided by reason, eventuates in great dangers. Socrates recognized that the youth must be urged to exert his powers to go higher than self and not pause for introspection. If "self-consciousness" becomes the dominant emotional demonstration the youth is apt to

become greatly disturbed as to his relations with God and the future, and harm results. Pseudo-piety generally precedes most mental break-downs of adolescence, and it may be considered as a premonitory symptom.

The amatory passion, as before stated, is largely the most prominent affective agent responsible for much of the mental disease of this period. It leads to the practice of masturbation, and when this is engrafted on a mentally unstable or nervous individual, sooner or later its effects will be noticeable.

In certain introspective forms of mental disease we find emotional concentration so intense that all other nervous functions are disturbed. I have seen peristalsis arrested by the affective impressions of melancholy. In fact, the physical effects of concentration are apparent in all cases of the melancholy type.

The abnormal psychology of the higher psychical aspect, then, is to be found in the will, volition, discrimination, agreement and in emotional upheavals.

SENSORY-MOTOR.

The special study of the sensory-motor disturbances of adolescence have not been fully studied, but the researches thus far have shown increased reflexes, intensification of special sense powers in the normal, and in the abnormal when the maniacal form of insanity results.

In the mental disease called katatonia, by Kahlbaum, we may have an insanity quite frequent during adolescence. It is characterized by profound motorial involvement. Melancholia first is evident, followed by maniacal change of longer or shorter duration, after which appear the characteristic rigidity, immobility and anæsthesis. Spontaneous movement is entirely arrested, in fact, profound catalepsy may be noticed. Usually immobility is not complete, but the so-called symptom of negativism is markedly present when we attempt to move a limb. When this is done the muscles antagonistic to the movement become rigid and offer powerful resistance.

If we succeed, however, in moving the limb it will remain in the position we placed it in, indefinitely.

Such patients are given to statuesque attitudes, not artistic, however. This arrested motor function involves the entire system of voluntary muscles, and even the eyelids and vocal cords. Mutism may prevail, as a result, for months, although the patient may be conscious of what is said and attempt to speak. It is remarkable with all this inhibited action, when the patient seems utterly unconscious of his surroundings and remains in this condition sometimes for months, that after those symptoms disappear, and he opens his eyes, can speak, etc., he can recite pretty much all that has happened during this interval. That they have kept account of time, the days of the month, etc., is frequently the case.

I know this to be a fact, from several cases studied and noted during my hospital experience. Vaso-motor and trophic symptoms are usually present during such attacks. The explanation of these motorial phenomena is that there is revolution in sensory-motor centres of the cortex. The disordered function involves both the motor and sensory areas and extends to the trophic centers in the cord. This intricate morbid phenomenon in-

cludes the vaso-motor effects and nutrition. In the words of Maudsley, "The sorrow which has no vent in tears may make other organs weep." The melancholy thus is but the mental expression of a condition of the cortex which the sensory-motor and trophic changes also indicate. It is possible that the theory of the movement of neurone will yet give us a more scientific explanation of this fact.

NUTRITION.

Nutrition is greatly impaired in profound cases of adolescent insanity, especially of the melancholy type. A neurasthenic condition is present in many of the cases. Digestion is especially disturbed, the tongue is coated, the breath is foul. Imperfect digestion is a factor and constipation becomes of serious importance at times. Bodily weight suffers in both forms: in the maniacal from exhaustion, and in melancholy, from indisposition to eat.

Nutritional disturbances may invade purely central nervous organs and cause arrest of the skull growth and further signs of degeneration extending to the hair, nails, and even the bones themselves.

CLINICAL DESCRIPTION.

Now the clinical description of the disease is best shown by the recital of several cases illustrating the various types.

CASE I.—The patient, female, aged 19, single, father died insane, grandfather insane. At the age of 16 puberty was well established. She had been more or less capricious ever since, but it was only within a few months preceding her commitment to an insane hospital that her conduct, etc., commenced to attract attention from her friends.

Ethical changes first noticed, a lack of respect was shown her elders, she became pert, self-willed, and would brook no authority. Her conduct next became more turbulent on account of opposition which she received because of her fondness for male society. She would fall in love with every male who would pay her the least bit of attention. This grew worse until attraction for the male sex caused her to become lewd. She solicited men openly on the street. Her conduct otherwise became more degenerate. She would steal and lie, and on account of her stealing she was apprehended and then found to be insane. On admission to the hospital for the insane she burst into maniacal fury, jumped, kicked, swore, destroyed her clothing, exposed her person by denuding herself of clothes. She offered stubborn resistance to everything, would bite, scratch, etc. She was sleepless and noisy. This outburst lasted for some time, but as her physical health improved through treatment, there resulted improvement first in conduct, then in reason, and at last she recovered and is to-day well.

It is to be remarked that the prognosis in such a case is good, if treatment is begun early. To this end the existence of mental disease might be recognized early, and the capricious conduct, the mental aberrations, be attributed rightly to disease and not to the whimsical conduct of girlhood.

It is too frequent, indeed, that physicians snap their fingers with disdain at such cases and say it is nothing; it will all pass away. My experience as a family physician (for I am in general practice as well as

being interested in the special practice of mental and nervous diseases,) leads me to say that the diagnosis of mental disease will not be tolerated in a family, as a rule, until some gross act of impropriety or criminal act impresses them with the fact that something is wrong. An early diagnosis in such mental disease and immediate treatment give a favorable prognosis. Delayed treatment increases the danger of chronicity, alarmingly.

CASE II.—This patient illustrates the sensory-motor symptoms as well as the intensity of mental abstraction. Male, aged 22, single, mother insane. He was a college student, and while engrossed in his studies which, by the way, were carried without apparent effort, he became very much interested in a young lady. His devotion was peculiarly distressing to her because of its persistence. She liked the young man, but his attention seemed so utterly at variance with the established customs, that she thought him peculiar beyond reason. He developed jealousy, became somewhat demonstrative, harbored delusions of suspicion, and at last declared that he was confident she was immoral.

He became convinced that she was pregnant, and that she had accused him of being the parent of the unborn child. His vagaries grew and all centered upon sexual thoughts. At last his friends declared he should be treated; especially were the young lady's friends emphatic in denouncing his ideas as purely delusional, which subsequent history found true. He was committed to the hospital, having previously become decidedly melancholy, introspective and inclined to suicide. On admission he presented cataleptic symptoms which became more pronounced, and, ultimately, very profound. For seven months he was in the condition described by Kahlbaum as katatonia. He had to be fed with a tube, nursed in every way. His urine was drawn for weeks at a time, and then again it would involuntarily flow from him. The same condition of the bowels existed. Sensory changes, vaso-motor and trophic symptoms were present, and, for a time, it looked as if death would result. However, he began to improve, and in four months from the cessation of the cataleptic state he left the hospital recovered. To-day he manages a large farm with success, and frequently calls in to see me.

Thus is shown the intensity of mental abstraction, how the whole cortical area, even the spinal cord, was involved in the profound inhibitory disturbances.

CASE III.—It is not unusual to note a combination of the melancholy type with the maniacal, in fact, they merge one into the other. In such cases it has been my observation that masturbation is very frequently a factor, possibly in all these cases, if we could obtain full information regarding it.

The following is an illustration: Male, aged 20, a peculiar boy given to introspection, and anti-social in his make-up. Loved solitude and sombre things, given to excessive piety. His condition finally became of such a nature as to attract attention. He seemed afraid, would cry easily and did peculiar things, attempted suicide, feigned epilepsy and injured his brother. He became morose and would not eat, said that he had committed the unpardonable sin, would read his bible by the hour,

could not get forgiveness, etc.; then imagined he had lost his manhood.

He was placed under my care in a general hospital, where for several weeks he improved. His parents thought best to remove him to his home, where he soon relapsed. I suspected that masturbation was a complication, for in my experience such relapses are usually due to this practice being resumed.

The delusions, too, are in line with the insanity of masturbation. This patient is no better to-day than he was six months ago, although a special attendant is with him constantly and every effort is made to keep him from the pernicious habit of self-abuse.

The prognosis in such cases should be guarded for the reason that this practice not infrequently occurs as the result of the disease, and in such cases degeneration is a factor, and terminal dementia sooner or later occurs.

CASE IV.—The following case illustrates a type of which ovarian derangement is a prominent symptom, amenorrhœa being present. I believe with Bevan Lewis that the amenorrhœa is coincident with the mental disturbance, and not the cause of it. He says: This period is a great cyclical developmental stage in which the unfolding of the generative stage goes on, *pari passu*, with the changes in the innermost penetralia of the central nervous system. In other words, what is going on in the pelvis and in the brain are but expressions of the same functional nervous disturbance.

The trophic system of nerves is especially disturbed by this nervous upheaval. Again, I have seen in cases of arrested development where up to puberty a fair intellectual development had been attained, that when the period of adolescence is entered upon, there was evident check in development, eventuating in imbecility and arrest in ovarian-uterine evolution.

The case is as follows: Female, aged 17, menstruated once at 16 and not since. Soon after the appearance of menses she became morose, secluded herself, would not eat or speak. This condition persisted for several months, when she suddenly became hilarious, noisy, destructive, impulsive, and would expose herself indecently. She became pert, vulgar, and talked incessantly about love, marriage and sexual indulgence. She endeavored to attract men, even colored men were approached, and every attempt made to satisfy her sexual desires, which indeed became great. She was noisy on admission to the hospital, whistled, pounded on the doors, cursed and used vulgar language. With the improvement of her physical health she became more quiet, but was inclined to be hilarious and restless for several weeks. In due time I hope the excitement will abate, for it usually does and recovery follows, when the patient gains in physical health coincident with mental improvement. The improvement of the physical health without mental improvement should be regarded as unfavorable for recovery. (This patient recovered.)

I could cite other cases, each illustrating some of the peculiarities of adolescent insanity; no one case embraces them all, but time will not permit. Sufficient has been shown to enable me to conclude that:

1. Adolescent insanity is a pure psychosis, dependent upon hereditary

factors and acquired conditions which especially inhibit the higher psychical centres, and later the sensory-motor functions of the cortex.

2. The vaso-motor and trophic centres are involved in this form of insanity.

3. The sympathetic nervous function is disturbed and a result there is apt to eventuate in the female suppressed menstruation or over excitation of sexual impulse, producing nymphomania.

4. That masturbation is a complication which in the male is apt to causes relapses and may determine chronic or terminal dementia.

5. There is no period in the life of an individual more important than adolescence, and all the safeguards which education, morality and religion can throw about this period are conducive to a life of future usefulness for the youth of our land.

[Ed.—We are inclined to think that catalepsy is not as frequently found as might be inferred from this article.]

NEW YORK VIEWS OF TYPHOID FEVER.

Communicated to *Atlanta Medical and Surgical Journal*, New York, December 15, 1897.

The fact that, like the poor, cases of typhoid fever are always with us, probably explains the degree of interest, even approaching enthusiasm, evoked by the announcement that typhoid fever has been selected as the theme for discussion at a medical meeting. This spirit of interest reaches even to those *fin de siecle* practitioners who ordinarily look with disdain on "general medicine" as not being an up-to-date specialty; and they will even admit, on these occasions, that there are a few topics worthy of attention outside of the domain of surgery and gynæcology. Certainly, such an opinion finds ample justification; for one who listens to a general discussion on the treatment of typhoid fever cannot fail to be impressed with the great diversity of opinion and the almost total lack of guiding principles that have become crystallized in the practice of the medical fathers. Thus, one practitioner of many years and large experience with hydrotherapy will declare, unreservedly, his abiding faith in the Brandt method of treatment, and will be ably seconded by a younger, but equally enthusiastic, professional brother, who confidently asserts that, although a few years ago many of our leading physicians were opposed to this treatment, hardly any can be found now who are willing to oppose it. Another speaker will admit that the "tub-bath treatment is the best routine method in the hospital," but adds, that he is not sure that it has, in itself, been the means of saving many lives. Still another will express his entire disapproval of tub-bathing as a *method* of treatment, and will insist that, both at the bedside and in the post-mortem room, he has observed disastrous results from its employment. After swords have been crossed and honors divided over the matter of the bath treatment, the impartial listener and earnest seeker after the truth is likely to be treated to a sharp tilt between the advocates and opponents of intestinal antisepsis, as a prominent feature of the

management of typhoid fever. After these important questions have been disposed of for the time being, there usually follow a scattering fire and a good deal of skirmishing over the advisability of using alcoholic stimulants, the coal-tar antipyretics, opiates and cathartics.

The foregoing is not a mere fanciful description, but is a picture drawn from real life, and is intended to introduce and, to some extent, explain what follows.

In a paper on methods of typhoid bathing, based on analysis of 200 cases of typhoid fever observed in hospital practice, Dr. J. P. Thornley stated that of forty-eight patients treated by the tub-bath alone, three died, giving a mortality of 6.2 per cent. Relapses and complications were observed in 37.5 per cent. Twenty-six patients received sponge baths, and the mortality was 15.3 per cent. Of the fifty-eight who received both sponge and tub-baths, 13.7 per cent died, and relapses occurred in 55.1 per cent. Of seventeen who received neither sponge nor tub-baths, three died, and these three were really moribund on admission to the hospital. The cases treated by both forms of bathing were of a very severe type, while the others were comparatively mild. In discussing this paper, Dr. William H. Thomson said, that out of sixty-one typhoid fever patients treated by him in the Roosevelt Hospital in four months, only five died, and only eleven had delirium. He attributed these good results to the treatment, which consisted in giving a bath as often as necessary to keep the temperature below 103° F., a purgative dose of calomel and jalap twice a week, large doses of saccharated pepsin and bismuth, and a diet of equal parts of milk and lime water. Dr. S. Baruch, who is an ardent advocate of the Brandt treatment, said that as the diagnosis could not be positively made before the fifth day, it should be made the rule to begin bathing all suspicious cases early, and without waiting for a positive diagnosis. He followed Brandt's rule of giving a bath at 65° F., every three hours if the rectal temperature was 102° F. or over, and paid no attention to the patient's protests; but if the chattering of the teeth showed that the patient was really too cold, the bath was discontinued. In discussing the same subject on another occasion, Dr. S. S. Burt stated that he very seldom resorted to cold baths, because he had come to the conclusion that while they lowered the surface temperature and stopped heat radiation, the generation of heat still went on, and consequently, after a short time the body temperature was likely to be as high, if not higher, than before the bath. Dr. William Henry Porter said that he had abandoned the cold bath treatment after seeing the bath powerless to reduce the temperature below 105° F., and after the autopsy had shown in this case a remarkable degree of congestion of the kidneys. In his opinion, the whole treatment of this disease consisted in decreasing toxin absorption and stimulating the glandular organs to activity. So much for some of the opinions regarding this oft-disputed part of the management of typhoid fever.

At one of the meetings of the Society of Alumni of Bellevue Hospital Dr. Condict W. Cutler took up the other aspects of this subject. Of the one hundred cases forming the basis of his paper, seventy had been treated by the heroic methods now largely in vogue, and thirty by a less en-

ergetic plan. In brief, this latter treatment consisted in the use of calomel and quinine at the very outset, and subsequently in the free use of morphine to quiet the nervous system, and of small doses of whiskey to *anticipate* vital depression. The smallest daily dose of morphine that he had used had been one-fifth of a grain, and the largest, two grains. Delirium was quieted by it, and the action of the heart improved; but the drug was contraindicated if there was coma or much stupor already present. High temperature he controlled by sponging with tepid water, followed by frictions. The patient was kept on a diet of peptonized milk until convalescence was assured. In the discussion of this paper, Dr. A. Alexander Smith stated that he was in the habit of controlling marked restlessness by the use of some preparation of opium, or before the eighth day, by combining an opiate with small doses of one of the synthetic coal-tar preparations. He had come to rely almost exclusively on morphine for the control of intestinal hemorrhage, to the exclusion of the ice-bag, which he suspected was sometimes responsible for the recurrence of the hemorrhage. The great danger in this disease is not from the pyrexia, but from the depression of the vital forces; and, therefore, it seems probable that physicians have made a mistake in becoming such slaves to the clinical thermometer. The body temperature is not in itself a trustworthy guide to the use of baths; the physician should take into consideration the condition of the nervous and circulatory systems, and of the skin, and, in private practice at least, the "bed bath" will be found the most convenient and effective. In the opinion of the writer, Dr. Smith performed an important duty when he uttered a warning against the tendency of the medical profession to adopt a too meddlesome plan of treatment. He clinched the argument by citing cases illustrative of what Nature could do in the way of restoring the sick one to health, even under seemingly very adverse circumstances, when not interfered with in her beneficent work by the injudicious efforts of the physician. In continuing the discussion, Dr. Egbert le Fevre said, that in studying the pathological findings, one must be impressed with the fact that this is normally a disease of two weeks' duration, and that accordingly our treatment during these first two weeks is of vital importance. He favored at the outset an eliminative treatment, consisting in the administration of small doses of calomel and of large quantities of water. A case was often made severe by giving too much food. Dr. W. H. Katzenbach also emphasized the importance of the early treatment, by stating that the prognosis depended largely upon absolute quiet and good nursing during the first week of the disease. Unless the physician took pains to secure for his patient perfect quiet, both of body and mind, he had not done his whole duty in this very important respect. High temperature could be safely and conveniently controlled by a warm pack, or by sponging with tepid water. In giving such a sponge-bath the nurse often made the mistake of giving it under the bed-clothes, whereas unless the patient were freely exposed to the air during the bath it was almost valueless.

It is evident from the views here expressed, that medical practitioners in this city are far from being of one mind in regard to what constitutes the most approved treatment of this very important disease. It is rather

difficult to reconcile the statement, that the routine administration of opiates is highly important, with that which claims that the most successful and rational treatment of typhoid fever to-day is essentially an eliminative one. I may here say that we do not hear as much now as formerly about the great value of intestinal antiseptics. Some of the most earnest advocates of this treatment have become tired of waging war with these inadequate weapons against the hordes of microbes, and are now content to use the "eliminative treatment," or such other measures as tend to promote intestinal asepsis. Finally, it must be obvious to all that the claim, already quoted, that but few physicians in New York City are now opposed to the cold-bath treatment of typhoid fever is preposterous.

OGDEN G. LUDLOW, M.D.

NATURE AND TREATMENT OF MANIERE'S DISEASE.—In an editorial in the *Boston Medical and Surgical Journal* of September 30, 1897, after discussing the causes of Meniere's disease, the writer says:

"As for the treatment of this disease, that by large doses of quinine (for which we are indebted to Charcot, who first formulated it from theoretical considerations) is now the most in favor, at least in the French hospitals. It has been a matter of frequent experience since Charcot first published the remarkable results which he had himself obtained from this remedy that full doses of sulphate of quinine administered every day for two or three weeks produce a positive amelioration of all the symptoms. During the first few days of the treatment the head symptoms (tinnitus and the vertigo) are worse, and the vertigo is so intense that the patient must be kept in bed to avoid the falls which he otherwise might receive. The medicine, too, is likely to upset the stomach, so that Gilles de la Tourette advises to prepare the patient by a milk diet before commencing the quinine treatment. It should be the aim to give the patient from seventy-five centigrammes to one gramme (ten to fifteen grains) during the twenty-four hours. This may be given in divided doses, or one-third of the daily quantity well diluted in water after each meal. At the end of eight or ten days the vertigo and tinnitus diminish, in many cases to completely disappear after a few days more of treatment.

"Naturally many obstinate cases are only benefited, not cured, and in all a frequent return to the remedy after a period of suspension is necessary."

TINCTURE OF IODINE FOR HERPES ZOSTER.—Painting with tincture of iodine has proven very satisfactory for herpes zoster.—*Cleveland Medical Gazette.*

[We should suppose that this would depend entirely on the time at which applied. If used after the very earliest stage it would be simply irritating.—ED.]

PAROXYMSAL TACHYCARDIA.—In a recent issue of the *British Medico-Chirurgical Review* P. Watson Williams contributes an article on this topic. After discussing the general aspects of the condition, he states that in his opinion the results of treatment, on the whole, are eminently unsatisfactory in controlling or arresting the actual attacks. The writer has already remarked that in one severe case the only drug that in any way seemed to benefit the patient was digitalis, and that in both cases digitalis had given good results. Bouveret states that digitalis has proved of only moderate value. Oettinger, keeping his patient in bed, found the pulse improved and the quantity of urine increased under digitalis; but Pye-Smith has found digitalis and strophanthus "most disappointing in these cases. Absolute confinement to bed in the recumbent posture for a length of time led to the slowing of the pulse, and often to complete cure." Yet the author's own experience, and a consideration of recorded views of others, tend to the conviction that although digitalis has but a limited action in controlling or aborting the actual attacks, it is the most useful drug for improving the circulation in the intervals between the severe and prolonged attacks. When the mitral valve has become incompetent from secondary dilatation of the heart, when the urine is deficient in quantity and albuminuria has occurred, when anasarca supervenes and the respiratory function is embarrassed, then we shall find that digitalis in some form affords the best chance of restoring the failing circulation and improving the heart generally.

Some have given morphine with advantage—at least, it sometimes calms the patient without cutting short the attacks. Oliver considered he had cured his patient with belladonna.

Caffeine, nitrate of amyl, and nitroglycerin have been tried with no result. Sometimes a strong dose of brandy or whiskey stops an atttack, and in Nothnagel's case the attacks were arrested by deep inspiration.

In several cases faradization of the vagi has been tried, and failed to have any effect; but pressure on the vagi in the neck, and in one case compression of the thorax, would stop the attacks. These proceedings have been tried in other cases, however, and failed.

It is important to attend to the general health, and especially to rectify any gastric disorder; anemia should be treated with iron and general tonics. Tea, coffee, smoking, undue exertion or excitement, and anything which tends to excite the nervous system, should be carefully avoided.

Dr. Rumbold, sr., says that the functions of the middle ear muscles are to select and amplify such sounds as the listener desires to hear most distinctly; making it appear that the ears have muscles of accommodation quite analogous to those of the eyes.

NERVOUS DISEASES AND ELECTRO-THERAPEUTICS.

IN CHARGE OF

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THE DIAGNOSIS AND TREATMENT OF MULTIPLE NEURITIS.

BY CHAS. LEWIS ALLEN, M.D.,

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The comparative frequency of multiple neuritis, its varied etiology, its prognosis, favorable as compared to the hopeless outlook in the chronic diseases of the spinal cord, with which it is most liable to be confounded, make its study of interest and importance, as well to the general practitioner as to the specialist. To the former I would more particularly address myself, in asking attention to some points in its diagnosis, prognosis, and treatment, studied in the light of recent advances in our knowledge.

A knowledge of the etiological factors of a disease plays an important part in its diagnosis and treatment, and multiple neuritis is usually divided into different forms, according to its different causes.

With the exception of certain senile and degenerative forms—which differ considerably in their course and in the distribution of the lesion from the other forms—probably all cases of multiple neuritis are due to the presence in the blood of some poison, introduced from without or developed in the body, in a course of a morbid process. The poisons derived from without are definite in character and of known composition. Among them alcohol and lead play the greatest role, but arsenic, mercury silver, and copper among the metals, and carbon bisulphide, nitrobenzol, aniline, and carbon monoxide among the non-metallic poisons, are capable of causing neuritis.

The poisons developed in the body have no such definite composition, or at least we have not yet been able to make out just what their composition is. Among these, that of diphtheria is the most apt to produce a neuritis, but neuritis may develop also as a result of typhus, typhoid, tuberculosis, variola, scarlatina, erysipelas, pneumonia, septicæmia, etc., as well as in rheumatism and diabetes. In lepra, a peculiar and characteristic form of neuritis occurs; while in the very fatal beriberi or kakke, endemic in the East and in Brazil, we have a multiple neuritis, apparently infectious in origin and presenting a well-marked clinical picture, which differs considerably from that with which we are familiar in this country. A malarial form of neuritis closely connected with remit-

tent fever has been described as coming from India and other countries, where severe malarial fevers are prevalent. In American books malaria is mentioned as a possible cause of neuritis, but it does not seem to be regarded as a common one. Possibly a closer study of cases of paralysis of the legs, which occur in the malarial regions of the Southern States, may show that neuritis from this cause is not so rare. Cases of neuritis due to cold are not uncommon. Perhaps they are rheumatic in origin; if not, they are most likely due to the action of some poison, developed in the system as a result of exposure to cold.

A neuropathic constitution is undoubtedly predisposing, and two or more causes may combine to produce an attack. As to the pathological anatomy of the diseease, it will suffice to call attention to the fact that multiple neuritis is primarily a parenchymatous inflammation, while neuritis of single nerves is interstitial, confined at the start to the connective-tissue sheath, and involving the nerve fibre proper secondarily only. Multiple neuritis may be acute, but is more usually sub-acute or chronic. The acute cases may run a course not unlike acute ascending paralysis of Landry, or may present the same symptoms, only in more violent form, as the more chronic cases, being accompanied in addition by fever and constitutional disturbance.

The symptoms of multiple neuritis "are of three classes—motor weakness, sensory disturbance, and inco-ordination" (Gowers). According to the predominance of one or another of these, we have a motor, a sensory, and an atactic form of the disease. These symptoms vary in degree in different cases, but are generally combined.

Alcoholic neuritis is by far the most common, and can very well be studied as a type of the disease. It results from the continued use of alcohol, especially in the form of spirits, is a disease of adult life, and is said to be more common in women drinkers. Neuropathic constitution and exposure undoubtedly predispose to an attack. It begins with tingling and numbness in the finger-tips and soles of the feet. Sooner or later this spreads up the limb, and is followed by pain and loss of power, the legs suffering earlier and more than the arms, often exclusively.

The pain is located along the nerves and in the muscles. It is burning, boring, or aching in character, and varies much in degree. The affected muscles are tender and painful on pressure, on account of involvement of the muscle nerves.

The disease shows a tendency to involve special nerves—in the leg, the peroneal; in the arm, the posterior interosseous—supplying respectively the flexors of the ankle and extensors of the toes, and the extensors of the wrist and fingers—homologous groups of muscles, which, when paralyzed, give rise to the "foot drop" and "wrist drop," so characteristic of neuritis.

Any other nerves may be involved in the progress of the disease, those of the extensor muscles suffering most. The "knee jerk" and perhaps other tendon reflexes are lost, or very much diminished; the skin reflexes suffer less. As the disease progresses the muscles atrophy and show altered electrical reactions. In mild cases the atrophy may be slight and electrical reaction only quantitatively altered; but in bad

cases atrophy is great, "reaction of degeneration" is found, and recovery is very slow. Normally both nerve and muscle respond to stimulation by either galvanic or faradic current, and with galvanism the strongest contraction is produced by the negative pole (cathode) at the moment of closing the circuit. When degeneration of nerve fibres is present, however, there is loss of faradic irritability by both nerve and muscle. To galvanism the nerve does not reply at all; the muscle responds, and to a weaker current even, but no longer gives a quick, sharp contraction. It contracts with a slow vermicular movement, and may show greater irritability to the positive pole than to the negative. This change constitutes "reaction of degeneration." If the peroneal group of muscles is alone involved, the patient can walk, but cannot lift his feet well. If the other muscles of the legs are attacked he may be completely paraplegic. Sensory disturbance begins with tingling and numbness in the affected region, and hyperæsthesia and painful sensations are soon added. Later, anæsthesia, more especially to touch, comes on. Temperature sense is little affected. Inco-ordination may occur to a greater or less extent. It is generally combined with motor and sensory disturbance. When it is the chief or only symptom, we have a special type of the disease, the atactic, and to it I would invite attention, as it is the form which above all others may give rise to an error of diagnosis, its resemblance to locomotor ataxia being marked. The idea that inco-ordination of the legs, with disturbance of sensation, was due always to sclerosis of the posterior columns of the cord was universally prevalent until, in 1883, Déjerine published the clinical histories and results of autopsy in two cases, which showed that these symptoms could be produced by lesions of the peripheral nerves, the cord being entirely uninvolved. For this new form of ataxia he proposed the name of "nervo-tabes periphérique," and as peripheral neurotabes (or pseudo-tabes) it is described in English books. Déjerine's cases presented many of the chief signs of locomotor ataxia, viz., inco-ordination, diminished sensibility, pains in the legs, Romberg's symptom (inability to stand with the eyes shut), and loss of knee jerk. The spinal cords were found absolutely normal, while the nerves showed degeneration; and, specially to be remarked, this degeneration was almost entirely confined to the cutaneous nerves, the muscle nerves being but slightly affected. The resemblance to locomotor ataxia is still more striking in the rare cases in which the eye muscles are affected.

In neuritis, besides atrophy of muscles, trophic changes in skin, bones, and joints may occur. Slight œdema and "glossy skin" are most common.

In alcoholic neuritis the general symptoms of alcoholism—tremor, coated tongue, and gastric disturbance—are apt to be present. Aside from delirium tremens, there occur more chronic forms of mental disturbance, often following the course of the neuritis in its extension or improvement. The characteristic psychosis is hallucinatory confusion, with a forgetfulness which lasts a long time, being often as slow to improve as the paralysis. Such is the picture of alcoholic multiple neuritis, and sketches fairly well the symptoms of the disease in general.

Lead neuritis, the next in frequency, has a special tendency to involve

the extensors of the wrist and fingers, and produces the "wrist drop," which when seen alone at once suggests lead poisoning. The long supinator usually escapes. The homologous muscles of the legs are sometimes affected, but not nearly so frequently as in neuritis from alcohol.

Arsenic affects the same groups of muscles as lead, but the legs are more frequently involved and sensory symptoms are more prominent. Mercurial neuritis has been described, occurring usually during a course of mercurial injections for syphilis. The legs are chiefly affected. Neuritis from poisoning by other metals is not common, but when it occurs it resembles neuritis from lead. Neuritis following acute infectious diseases is far more variable in its distribution, and tends to involve a greater number of muscles than the forms just mentioned. Of all diseases diphtheria is the most likely to be followed by neuritis, which assumes here its most dangerous form, having tendency to involve the nerves to heart and respiratory muscles. The palate is usually affected first; the voice becomes nasal, and liquids which the patient attempts to swallow regurgitate through his nose. The eye muscles are next attacked, there is loss of power of accommodation and so of vision for near objects. The muscles which move the eyeball may also show weakness. Next in frequency the limbs are involved; less commonly the muscles of the trunk, neck, and larynx, the heart, the diaphragm, the bladder, and rectum. Neuritis is less common after other infectious diseases, and when it occurs its distribution is not very characteristic. Malarial neuritis is said to affect specially the legs.

Beriberi is an acute infectious multiple neuritis. It attacks particularly the legs and heart nerves, the resulting heart weakness giving rise to anasarca more or less widely distributed. In this country it is practically never seen, except in patients who have recently come from regions where it is prevalent.

Leprous neuritis differs considerably from the type we are studying, and will not be discussed in this paper.

An investigation as to possible cause is necessary, as well to diagnose the disease and its form as to institute suitable treatment. The presence or absence of antecedent infectious disease can usually be learned without difficulty, but it is well to remember that a sore throat too slight to have attracted much attention may have been due to diphtheritic or rheumatic poison, and be followed by neuritis. Alcoholic neuritis occurs not infrequently in persons unsuspected of alcoholic indulgence, especially in women who for years have been tippling in secret. The occupation of the patient should be considered. Lead poisoning is apt to be present in painters, plumbers, and others who work with the metal or its compounds. Accidental sources of lead are drinking-water containing lead, lead glaze on earthenware, and cosmetics. The character of the paralysis has been mentioned. Other signs of saturnism are anæmia, colic, and especially the blue line on the gums. Arsenical neuritis may result from one toxic dose, but chronic arsenical poisoning is not so rare, the chief sources being wall papers and dies—especially some of the aniline colors prepared with arsenic and not properly freed from it. Other metals are rarely a cause of neuritis, but the possibility of their being

should be remembered. Rubber workers are exposed to the action of carbon bisulphide, dyers to that of aniline and its derivatives. When multiple neuritis begins acutely with pains in the limbs and fever, it may be mistaken for rheumatism, unless attention is paid to the seat of pain —whether in joints or in muscles and nerves—and inquiry as to subjective symptoms of tingling and numbness is made. Neuritis differs from neuralgia to the greater persistence of the pain, in its more symmetrical and wider distribution, and in the loss of function, which is soon apparent.

Very acute neuritis may closely simulate acute ascending paralysis. The latter—a spinal-cord disease apparently—attacks the legs, and ascends rapidly to the trunk, showing no tendency to pick out different muscle groups, causes no loss of sensation, and generally proceeds rapidly to a fatal issue. Diffuse myelitis may at times resemble neuritis, as may spinal meningitis. There is usually wanting, however, the symmetrical distribution of neuritis. There is not so much atrophy and less altered electrical reaction. The tendon reflexes are exaggerated rather than lost, as in neuritis, and the bladder and rectum are apt to suffer. Sensation of constriction about the body, "girdle sensation," is common in myelitis, but almost never occurs in neuritis. Poliomyelitis anterior and locomotor ataxia are, however, the two diseases of all others with which multiple neuritis is apt to be confounded. Poliomyelitis, like neuritis, may run an acute or a chronic course. The acute form, however, is by far the most common, and, unlike neuritis, has a special tendency to attack young children. It begins with fever and constitutional disturbance, and loss of power comes on quickly, but sensory symptoms are wanting. There are wasting of muscles and change in electrical reactions, as in neuritis, but the distribution is quite irregular. A few muscles of one leg, both legs, or a leg and an arm, may be affected, or any other combination may occur. The age of the patient, the rapid onset of paralysis, its irregular distribution, and the absence of sensory symptoms are the chief diagnostic points.

(To be continued.)

SALOPHEN FOR PRURITUS.—A drachm a day of salophen is said to be very efficacious in itching from many causes.—*Medical News.*

FURUNCLES OF EYELID:

Tinct. camphoræ.............................min. xv
Sulphur. precip.............................gr. xv
Aquæ calcis.................................
Aquæ rosæ...................................āā ℥ ijss
Pulv. acaciæ................................gr. iii

—*Medical Record.*

NOSE AND THROAT.

IN CHARGE OF

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FAVORABLE RESULTS IN OBSTRUCTION OF THE TRACHEA BY DIPHTHERIAL MEMBRANE FROM THE INTRODUCTION OF CREASOTED OIL THROUGH THE TRACHEOTOMY TUBE.

BY WM. EWART, M.D., F.R.C.P., AND W. A. HUBERT, L.R.C.P., M.R.C.S.,

Physician to St. George's Hospital and to the Belgrave Hospital for Children. House Physician to St. George's Hospital.

The following case is of interest as an instance of recovery from a desperate condition, and it is of some importance as showing that we need not regard cases of tracheal and bronchical diphtheria as beyond the scope of active treatment even after tracheotomy has failed to relieve the obstruction. It may be of use to others in similar emergencies.

A. S., aged two years and 4 months, admitted on October 31st, 1897. Laryngeal stridor and dyspnœa since the middle of the night. Face dusty, lips bluish; temperature 102°; tonsils and fauces red, but no membrane to be seen; nose free; much inspiratory recession of lower intercostal spaces. Tracheotomy was performed, low down, with instant relief; no membrane was coughed up or seen *in situ;* 4,000 units serum were injected.

November 1st. Temperature remained above 101°, pulse 160, respirations 52. Throughout the day the breathing was gradually getting worse, but no membrane was coughed up.

November 2nd. Temperature 99° in the morning, 101.8° in the evening. There was now some inspiratory recession of intercostal spaces. At 4.30 the breathing became very difficult; the tube was changed, an oiled feather passed into the trachea, and oxygen given to inhale, with much relief to the patient, whose color was improved. Dr. Ewart, being informed of the child's dyspnœa, had prescribed creasoted oil (1 in 20) to be dropped into the trachea. Owing to an accident this was not supplied to the nurse, but olive oil was used instead, the oil being dropped from the feather used for clearing the tube. This supply of oil was kept up every half-hour from 4.30 p.m. Still, in spite of the oil, there was no effort at coughing and no membrane brought up. At 6.30 p.m. there was

urgent dyspnœa, the face dark and sweating, the teeth clenched, and much inspiratory recession of lower spaces and ribs. Mr. Eames passed a silk catheter down the trachea twice through the outer tube; each time it was withdrawn covered with membrane; some coughing was set up, large quantities of membrane being expectorated through the tube. Brandy and oxygen administered. 8.30 p.m. 4,000 units antitoxin injected.

November 3rd. Had a fairly good night. At 2.30 a.m. a piece of membrane the size of a two-shilling piece was coughed up; this was the only piece coughed up since the catheterisation. At 9 a.m. the treatment by creasoted oil was begun; a large drop of the oil being introduced into the trachea through the tube every half-hour. Each time this was done cough was set up, and membrane expectorated freely.

November 4th. The temperature had dropped to normal after a good night. Three doses only of creasoted oil of two or three drops each were used during the night, with the same result. The treatment was continued during the day with much success, the membrane coming up easily; the total amount expectorated during the last two days being very large.

November 5th. Breathing easier. No membrane expectorated. At 12 noon the tube was plugged, with very little discomfort.

November 7th. Tube removed; voice returning; child much improved.

November 15th. Wound healed; child practically well. The child was treated internally, with quinine, strychnine, and brandy.

REMARKS BY DR. EWART.

Recovery in this case was due to the careful way in which the treatment was carried out, and to the timely and skilful catheterisation of the trachea. I had long made it a rule to introduce twice a day carbolised oil into the nostrils as part of the toilet of diphtheria during the acute stage and during convalescence; but the idea of the systematic use of oil first occurred to me whilst writing an article on Plastic Bronchitis for the forthcoming volume of Professor Clifford Allbutt's *System of Medicine*, and it happily came to mind again at the moment I heard of the child's danger. It happened that simple olive oil was used at first instead of the creasoted oil which had been prescribed. We gained experience from this accident which, owing to Mr. Eames' successful operation, did not affect the result. The effect of the olive oil was to facilitate the removal of the membrane by the catheter, when this was used; but the olive oil did not save the child's life, as it failed to set up spontaneous cough or expectoration of membrane, and cannot therefore be credited with having done more than assist the work of the catheter. The quantity of membrane which was discharged during the next two days showed that all danger had not ceased; enough remained or was freshly formed in the air tubes to have led to further obstruction or to pneumonia. The moment, however, the creasoted oil was substituted for the olive oil, cough was set up, and large pieces of membrane were expectorated with conspicuous ease. In this respect this treatment carries out the objects of the time-honored treatment of croup by emetics, but in a more easily regulated fashion.

The direct access to the trachea rendered the introduction of the oil a simple matter, so that it could be entrusted to a trained nurse. Whatever the results may be in future cases, we are glad to think that in this instance there was not even a suspicion of any drawback. The satisfactory effects witnessed suggest that the usefulness of the treatment may not be limited to cases of urgent danger, and perhaps not to cases in which tracheotomy has been performed, and that when tracheotomy has shown that the membrane extends below the larynx its systematic employment might be begun early.

The application of creasoted oil might safely be tried in diphtheria of the fauces, and its action could then be watched with relative facility. Whether it may be possible or expedient to use it as an intralaryngeal injection is a question for future consideration. Our experience for the present is limited to the case narrated, and we shall have to feel our way with the details of the treatment. Dropping the oil into the trachea is clearly better than the sudden injection of a quantity of it. In this way we escape the danger of adding to the obstruction by the bulk of the oil. When creasoted oil of proper strength (1 in 20 in this case) is used this danger is much less likely to arise, since the effect of the remedy is to excite cough and clear the air passages. If due caution be exercised in respect of the strength and of the quantity of the oil used, the publication of the case may lead, it is hoped, to none but satisfactory results.

THROAT LESIONS IN ENTERIC FEVER.

BY DR. TRESILIAN.

This was a communication on eight consecutive cases within the last two months, four of which exhibited throat lesions.

1. A very severe case in a young man, aged nineteen. He had chronic enlargement of the tonsils, and had an attack of scarlet fever two months previous to the attack of enteric fever. The onset of the latter was fairly sudden, with marked delirium as an early feature. Temperature 104° to 106° in the first week; diarrhœa, sixteen to twenty-three motions daily; and several sharp attacks of epistaxis. He also had three attacks of hæmorrhage from the bowel. The rash of typhoid was well marked, and he had a bad relapse.

At the end of the first week he complained of soreness of the throat and pain on swallowing, the voice became thick and husky, and the patient became deaf. On examining the throat, the fauces and pharynx were found covered with thick shiny mucus. A spray of boric acid and borax was ordered to be used frequently, and the next day the mucus had all cleared away. The condition of the throat was then as follows:—On the right tonsil and adjacent faucial pillar was a circular, shallow ulcer, about the size of a threepenny piece, with a stippled appearance; another similar ulcer occupied the base of the uvulva, on anterior surface; and a third on the anterior surface of the left tonsil. The tonsils and fauces were congested and swollen. The posterior wall of the pharynx was intensely inflamed and raw looking. An examination of the larynx could not be made owing to the patient's condition

An examination of the ears showed slight pink color and cloudy swelling of the membrane. The stippled appearance of the faucial ulcers somewhat resembled that of the lamina cribrosa of the optic nerve, as seen on direct examination. The throat lesions improved on continued use of the spray, and were practically well in about ten days, when the deafness also disappeared. The deafness was considered due to the throat lesions, a specific septic pharyngitis causing a similar condition of both Eustachian tubes and tympani, with swelling of the mucosa of the tympanic cavity, and an obstructive deafness resulting. When the patient's condition permitted it an examination of the larynx was made, with negative results.

2. A young lad of ten years of age, who had, previous to being first seen, complained of soreness of the throat, and had enlargement of the cervical glands beneath the angle of the lower jaw. The throat was normal when examined, but the glands were very enlarged. He subsequently went through a mild attack of enteric fever, with slight continued diarrhœa, the pyrexia lasting for three weeks. When last seen and convalescent the cervical glands were still somewhat enlarged. The glands must have been infected from a primary throat lesion.

3. A young woman, aged twenty-two, who had a sharp attack of enteric fever. She complained of soreness in the throat in the first week and became deaf. The condition of the throat after spraying was one of acute pharyngitis, and the membranes when examined showed a similar condition to that observed in the first case.

4. A young man of twenty-six years of age. In an early stage of the fever complained of soreness of the throat, which was found to be due to an acute pharyngitis. His ears were unaffected.

These cases showed that in enteric fever an inflammatory, and, in some cases, a specific, ulceration of the throat may occur in an early stage of enteric fever, and that at a period before the diagnosis of enteric fever can be easily arrived at—even within the first week. It also shows that in a case in which such specific lesions have occurred, contagion by the breath might occur to those in proximity with the patient. Reference was made to some similar cases recorded by Dr. Watson Williams in his book on "Diseases of the Respiratory Tract."

Mr. Lennox Browne, so far from agreeing with Dr. Tresilian that these cases had no particular inherent interest, expressed the opinion that they enforced a most useful lesson. The speaker had seen more than one case of typhoid with throat lesions which had been admitted to hospital on an outside diagnosis of diphtheria; and if, as had been done, complications in throat and ear could be recorded in eight consecutive cases by one observer, it was reasonable to believe—as his own experience confirmed—that faucial lesions were much more common in typhoid fever than is usually taught, and the reason why it is not taught is that so few physicians of infectious hospitals take the trouble to make a routine examination of the throat and larynx, or of the ear.

Dr. Tresilian made allusion to the remarks of Watson Williams in his book on the danger of contagion from the throats of enteric fever patients to nurses and attendants. He (Dr. Tresilian) thought there was great benefit in cleansing the mouth with alkaline lotion.

HEADACHES FROM NASAL CAUSES.

Dr. Sargent F. Snow, Syracuse, said that he had selected from his records thirty cases of headache that had been referred to him, and which had proved to be due to nasal causes. Sixteen of these were treated between 1891 and 1894, giving three to five years in which to judge of the results; ten of them showed from ninety to one hundred per cent. relief of their headache. The youngest patient was seventeen, and the oldest sixty-five years of age. A large number were females; sixty per cent. were over forty years of age. Of the sixteen who received a full operative course, twelve reported from ninety to one hundred per cent. improvement from the treatment. Operative work gave the quickest and best results. A little more of the offending overgrowth should be taken away than was necessary to relieve the pressure, because of the tendency to frequent congestions, but not enough to impair the natural functions of the nose. The theory of headaches being due to stasis was supported by several eminent authorities, and should be given due weight. He was of the opinion that recurrent attacks were due to the irritability of the nasal membrane and recurring pressure on sensitive points. The relapses might be due to stasis. If stimulating applications were given once or twice a week, these patients remained comfortable. The best method was to spray the parts with iodol and ether (three grains to the ounce). There was a certain number of cases that could be successfully treated by relief of pressure contacts alone. About seventy or eighty per cent. of cases of hemicrania were due to removable causes located in the nasal passages. In some, on examination, a bluish red or relaxed appearance of the membrane would be all there was to indicate that at times there were points of pressure. These cases did not require operative interference, but certain changes in the habits of life and occasional stimulating applications. Many cases of acute headache could be given at least temporary relief by cleansing out the nostrils and using a spray of iodole and ether, preceded by a light cocaine spray to dull the smarting.

The good result following the iodol and ether spray was much more lasting than from cocaine. Nasal headaches were usually neuralgic or hemicranial in their character. We should not be satisfied with simply securing good nasal respiration, but should secure a free normal passage through the upper portions as well as the lower. It was true that in many cases the middle turbinate pressed against the septum without causing headaches, yet if such a condition existed in a neurotic subject we are very liable to get reflex disturbances, as hemicrania, asthma, or epileptic seizures. Pressure at this point with a cotton-wrapped probe or gauze dressing is often sufficient to cause intense suffering.

THE OBSTETRIC BINDER AFTER LABOR.—Jewett believes a firm binder is frequently of material service in the second stage of slow labor, especially in relaxed condition of the abdominal wall, by furnishing a *point d'appui* for the intra-abdominal pressure.—*Medical Age.*

PAEDIATRICS.

IN CHARGE OF

ALLEN M. BAINES, M.D., C.M.

Physician, Victoria Hospital for Sick Children; Physician, Out-door Department Toronto General Hospital. 194 Simcoe Street, and

J. T. FOTHERINGHAM, B.A., M.B., M.D., C.M.,

Physician, St. Michael's Hospital; Physician, Outdoor Department Toronto General Hospital; Physician, Hospital for Sick Children. 39 Carlton Street.

THE SIGNIFICANCE OF INFANT STOOLS.

BY LOUIS FISHER, M.D.,

Professor of Pediatrics in the New York School of Clinical Medicine, etc., etc.

Stool.—The stool of a nursling or a baby on an exclusive milk diet should be yellowish in color, smeary or pasty-like in consistency, and have an acid reaction. The smell should be faintly acid but not disagreeable. The color is due to bilirubin and the reaction depends on the presence of lactic acid, the source of which is the milk-sugar. The only gases present are H. and CO_2. According to Escherich H_2S and CH_4 to which the odor of adult stools is due are not present. There are no peculiar albuminoids. Those existing in mother's milk seem to be entirely absorbed. Peptone exists in trifling amount. Sugar is not present. Pancreatic ferment is absent and sometimes traces of pepsin have been found.

Mucus.—Mucus is also present in considerable quantity, also columnar intestinal epithelium.

In the stools of nurslings large quantities of lactate of lime can be found, so also we frequently find oxalate of lime depending on the quantity of oxalate of lime ingested. Uffelmann has noted the presence of bilirubin crystals in the stools of nurslings in perfectly healthy children. Miller, who carefully studied the various micro-organisms in the mouth, found that most of them could again be found in the intestinal canal. He further found that certain germs possessed diastatic properties and were capable of producing lactic acid fermentation. In the milk fæces of nurslings Escherich found two germs; the one he called Bacterium lactis ærogenes (or Bacterium aceticum Baginsky) and the other the bacterium coli commune. In the meconium he found proteus vulgaris, streptococcus, coli gracilis and bacillus subtilis.

Number of Stools.—The number of stools during the first two weeks is from three to six daily; after the first month two stools daily is the average; many infants have one, others three stools daily; that is largely due to the excessive quantities of water given to infants. As soon as the exclusive milk diet is changed to the mixed diet we then lose the char-

acteristic infantile stool and they resemble more those of an adult, though remaining softer and thinner throughout infancy, they become darker in color, assume the adult odor, and have more varieties of bacteria than those previously mentioned as found in the stool of a milk diet.

Reaction.—Reaction of stools in diarrhœal disease and in health chiefly acid or next in frequency neutral, alkaline stools rare. Green grass stools usually acid, seen in early stage of dyspeptic diarrhœa, color from a pale greenish yellow to grass green. Wegscheider has shown that the green color is the result of transformed biliverdin. The condition in the intestine upon which the transformation of bilirubin into biliverdin depends has been generally regarded as one of acid fermentation. Pfeiffer's experiments (*Verdauung im Saeuglings Alter bei Krankheits-zustaenden*), (*Fahrb. fuer Kinderheilkunde Bd.* xxviii. S. 164) show this former opinion to be wrong. He found that none of the acids formed in such fermentation, lactic, acetic, butyric, propionic, etc., added to yellow stools outside the body turned them green, but made them deeper yellow. But dilute alkaline solutions added to fresh yellow stools turned them green after an exposure of thirty minutes to sixty minutes, and strong solutions turned them first brown, later, after exposure to air, intense green.

Typical green stools can be produced by giving an infant two or three grains of bicarbonate of soda. This I have tried dozens of times. The soda must be given for a few days. This explains Pfeiffer's alkaline theory.

Typical Green Stools.—Typical green stools can also be produced by giving small or even large doses of calomel. If, after having given bicarbonate of soda and produced green stools, we give diluted hydrochloric acid in five to ten drop doses, the yellow color will again reappear in a few days. This is also true of rheum. Stools which are pale yellow when discharged, and which afterwards become green, are often seen in disease. They may themselves be neutral or alkaline in reaction. This latter may, however, depend on the admixture of urine. An excess of bile may often cause very green stools.

Brown Stools.—Brown stools may be due to changed biliary pigment and to drugs, *i.e.*, Bismuth causes the well-known dark stool; so also tannic acid and all iron salts give the dark stool, which vary from a deep brown to a black color.

Blood from the stomach or small intestine frequently gives the stool a black color resembling tar. Thus a practical point in (*Boas' Diagnostik der Magen und Darmkrankheiten*) is, that the brighter the color of the blood the lower down near the rectum and anus must the pathological lesion be looked for; the darker the blood the higher up must the cause be found, *e.g.*, in the stomach, duodenum, jejunum, etc., if the stool contains black blood. If the corpuscular elements of the blood are wanting, then the presence of blood can only be positively diagnosticated by either a micro-chemical examination or by means of the spectroscope. The presence of red blood corpuscles must always be regarded as a pathological factor.

A brown stool in an infant is frequently caused by a diet of animal food, or by a diet principally of broth. This stool has no distinct consis-

tency nor reaction. In dyspeptic diarrhœa, or in some forms of enterocolitis, we have very offensive stools, and they resemble muddy water; with the latter there is considerable flatus during each movement.

White or light gray stools usually are of a putty-like consistency, sometimes like dry balls on a diaper, sometimes they appear like ashes, usually very offensive, consisting principally of fat. In the latter there is scarcely a trace of bile, or it is even absent altogether.

Mucus is always present in all healthy stools, and is so well mixed with the stool that it does not appear as mucus to the naked eye. Any appearance, therefore, of mucus easily visible should be regarded as abnormal. Mucus is present in every form of intestinal disease. Very abundant in inflammatory conditions affecting the large intestine, more so than in those affections of the small intestine, and especially so in inflammatory conditions of the colon, both acute and chronic.

Jelly-like Masses.—Jelly-like masses or shreds of mucus, and where the stool consists chiefly of mucus, shows that the affection is confined to the lower portion of the colon, or that it is located in the rectum. Long shreds of mucus frequently resembling false membrane are frequently found in catarrh of the large intestine. If the shreds of mucus are intimately mixed with the stool, then we must look for the lesion quite high up, and if it comes from the small intestine it is usually stained from bile. If the lesion is low down the mucus is not intimately mingled with the stool.

Dyspeptic Stool.—Dyspeptic stool. The first change noticed in the dyspeptic stool is the increase of fat. Often the stool is quite green, and contains small pieces of yellowish white color, which vary in size from a pin-head to the size of an ordinary pea.

Hitherto from their color they were supposed to be casein lumps. Wegscheider has taught us that they consist principally of fat. Baginsky has shown that large colonies of bacteria are contained in the lumps of fat. Frequently they are so numerous that it looks as though the stool were composed only of these cheesy lumps. They can be easily differentiated from real casein lumps by their solubility in alcohol and ether.

Fat Diarrhœa.—Biedert and Demme have devoted considerable attention to this subject. See Biedert (*Fettdiarrhœa im Jahrbuch für Kinderheilkunde*, 1878.) In some children the fæces showed 50 to 60 per cent. of fat whereas the normal percentage in ordinary fæces varies from $13\frac{9}{10}$ per cent. (which is the normal quantity) according to Uffelmann.

Casein is not nearly as common an ingredient of fæces as is commonly supposed, as I have previously stated. Casein lumps can be seen in abundance in the course of diarrhœa, during an exclusive diet of milk.

Rachitis is usually first noticed by persistent constipation. This is encountered soon after birth, and from the history we hear that it is of long standing, due to an atonic condition of the muscles. Associated with rickets is usually a large, flabby abdomen, the so-called pendulous belly.

Escherich in (*Jahrbuch fuer Kinderheilkunde, Beitraege zur antiseptischen Behandlungsmethode der Magendarmkrankheiten des Saug-*

lingsalters) says: "If albuminous decomposition with very foul, offensive stools exist, these articles should be withheld from the diet and carbohydrates given; dextrine foods, sugars and milk. If acid fermentation is present, with sour but not offensive stools, carbohydrates are to be withheld and albuminous food given, such as animal broths, bouillon, peptones, etc. In the decomposition of milk, the sugar of milk, and not the casein, is usually broken up.

Proteids of Milk.—The proteids of milk are so thoroughly absorbed that only small traces of them can be found in the fæces. Normal milk fæces contains large quantities of bacteria, but chiefly two kinds:

1. Bacterium lactis aerogenes (Escherich.)
2. Bacterium coli commune, other germs, especially those of the proteolytic type (*i.e.*, that render gelatine fluid) are not found under normal conditions. Albuminous decomposition and its products, tyrosin, indol, phenol and skatol are not found in milk fæces. But lactic acid, acetic acid and formic acid, and other fatty acids, are present, causing the acid reaction. V. Jaksch found a saccharine ferment in the fæces of children. Baginsky found a peptonizing ferment. The amount of infants' fæces varies, but it has been found that 100 grm. of milk food will produce about three grm. of fæces, according to Baginsky. This is a vital point, but I have found it very difficult to determine, for in most cases the napkins of the infants are soiled with urine plus the fæces, thus adding to the gross weight.

Guide for Value of an Infant's Food.—The guide for the proper determination of the value of an infant's food consists in noting:

1. The child's increase in weight.
2. The proper assimilation of food by an inspection of the fæces.
3. The absence of all gastro-enteric disturbances. *a.* Vomiting; *b.* diarrhœa; *c.* constipation; *d.* colic or flatulence.
4. The child should go to sleep, and appear satisfied after feeding.

—*Pædiatrics.*

THE TREATMENT OF CARDIAC DISEASE IN CHILDREN.—In the more severe forms of cardiac inflammation, which is the most characteristic feature of rheumatic fever in childhood, opium, digitalis, and strophanthus, with an alkali, are the drugs of most service. The former is best given as nepenthe, in frequent small doses, and it does more than any other drug to relieve distress, lessen dyspnœa, and subdue pain. Alcohol is also a useful agent, as much for its sedative as for its stimulating properties. As a last resort in older children, when the heart shows signs of failure, and the pulse becomes small and irregular, hypodermic doses of liq. strychniæ, an eighth of a drop to one drop, combined with one to three drops of digitalis, given in the same way, afford the most powerful means of resting the flagging heart.—*Treatment, Edinburgh Medical Journal.*

ANTITOXIN RASHES.

BY FRANK L. MORSE.

(*Annals of Gynecology and Pediatry.* 1897. Vol. X. No. 7.)

The author reports 249 cases of eruptions following the use of antitoxin in 1,972 cases of diphtheria. The rashes seem to depend directly upon the amount of antitoxin injected, children receiving a second and third dose being more commonly affected than those receiving single doses.

If the rash is due to antitoxin there is little or no suffusion of the eyes, no cough, no eruption on the palate, and the initial lesion of this eruption may appear on any part of the body, while in measles the rash appears behind the ears and on the neck and chest, and extends downward. If due to antitoxin it will have disappeared in from 24 to 48 hours, at which time a measles eruption would be at its height.

The rashes due to antitoxin assume various forms. Cases have been observed in which it resembled an eruption of tinea; others where it had the appearance of rose spots, and in two instances the eruptions have been remarkable on account of their character. In one of these it was a true eczema, involving the greater part of the trunk, and also the head. It persisted for about ten days, and then disappeared completely. It was accompanied by scales and crusts, but not by the usual amount of infiltration expected from the extent of the process. The other eruption commenced as a diffuse erythema of various parts of the body, and was quite general in character. It persisted rather longer than usual, but the diagnosis of its being an antoxin rash was never questioned. As it faded, it assumed a marked hemorrhagic type, and over various parts of the body were seen these large black and blue areas, as if due to some external violence. They all, however, faded in a few days.

Combinations of these several eruptions have occurred, and it is not unusual to observe a macular or papular eruption with a diffuse erythematous blush, and sometimes accompanied by an urticaria on the same patient.

A typical erythema multiforme has been observed in a few cases, and an erythema or an urticaria have been also observed, localized at the point of the injection of the antitoxin.

The time of the appearance of the antitoxin rashes has been particularly interesting, and also very instructive when a diagnosis is to be made; especially when the rash simulates an eruption of scarlet fever. The earliest cases appear on the second day after the injection; but it is rather unusual to expect any rash uutil the fourth day, and most of them appear at about the end of the first week or ten days. The latest appearance has been on the twenty-seventh day, as observed in cases staying in the hosptial; but one case has occurred when the patient was discharged from the hospital on the sixth day after entrance, but returned three weeks later with an urticaria, and in two months and three days later with a second well-marked urticaria. Second urticariæ may, of

course, appear at any time; but the experience in the hospital shows that they most likely appear at about the end of the second week, between fourteen and twenty days.

The septic rashes of diphtheria are also sometimes seen, but not as frequently as before the days of antitoxin, and are usually present only in those cases which have gone untreated from the outset of the disease, and are markedly septic on their admission to the hospital. The rash is usually a diffuse general erythematous blush which appears suddenly, thus resembling an antitoxin erythema, or in exceptional cases it is a coarse punctuate eruption, too coarse, however, to stimulate scarlet fever, and in one case it has been hemorrhagic in character. They can usually be differentiated from other rashes on account of the profound septic condition which the patient presents. Following the administration of the sulphate of atropine for its stimulating action, it sometimes happens that a flush appears, usually upon the face only, but occasionally extending so as to involve the whole body. It thus may resemble an antitoxin rash, a septic rash, or an eruption of scarlet fever; but the history of the administration of the drug is an important matter, and will usually decide whether the rash is or is not due to the use of atropine.

A SIMPLE REGIMEN FOR OBESE PERSONS.—Dr. Cathell reports that he has had more than ordinary success during several years with a plan of treatment outlined below. In his view obesity is due to one or more of the following causes: Congenitally small lungs with a defective oxygenating capacity; eating excessively of all kinds of foods; want of lung-expanding exercise; using alcoholic drinks to excess. Many of the drugs which have a known fat-reducing power exert an injurious action on the other tissues of the body, and if used persistently for any length of time, or in efficient doses, become dangerous to health. While the various obesity cures are so rigorous that few carry them out conscientiously, the treatment of the author is very simple. The patient has only to drink after each meal a glass of the artificial Kissingen water to be found at drug stores and soda water fountains, and on the succeeding day a glass of artificial Vichy water also, half an hour after each meal. This is to be continued week after week until the patient comes down to a normal degree of stoutness, and the waters are then discontinued. While taking the waters the person should keep a weekly record of his weight, always using the same scales, and wearing the same clothing, and should also for his own satisfaction, record his chest, waist and hip measurements. If the loss in weight exceeds two pounds a week, the amount of each water should be made smaller; and if the loss has not equalled two pounds a week, a few teaspoonfuls of lemon juice should be added to each glass of the Kissingen water to increase its acidity, and a teaspoonful of aromatic spirits of ammonia to the Vichy to increase its alkalinity. The diet should be light and contain only small amounts of fat, starch, sugar and alcohol. Moderate outdoor exercise should be included in the day's programme. The mode of action of these waters taken in the manner described is not clear, but their efficiency is too well established to admit of doubt.—*Maryland Med. Jour.*

MEDICAL SOCIETY REPORTS.

PATHOLOGICAL SOCIETY OF TORONTO.

An exceedingly interesting open meeting was held, as is the Society's custom, on the Wednesday evening of Christmas week. Among those present on invitation were Professor Adami, of McGill College; Drs. W. H. Ellis, Grasett, Hastings, Bascom, J. H. Ferguson, G. Badgerow, G. S. Ryerson, Montizambert, Cuthbertson, Pattullo, Hay, Price Brown, Patton, A. A. Macdonald, A. B. MacCallum, Silverthorn, D. McGillivray and others, in addition to a very large number of members. The appended programme will suffice to show the "*embarras de richesse*" provided by the Committee. Professor Adami's paper cannot be properly reviewed within the limits at our disposal, but was an excellent resumé of our knowledge of the subject to date, with the original results of special examination of the omentum in 150 consecutive autopsies at the Royal Victoria Hospital in Montreal. His figures suggested the reflection made in his paper that it almost appeared as if the omentum had the power of attaching itself, as if by its own motion, to points in any region of the abdomen or pelvis, where operation or other cause had produced a localized inflammation, with a view to assisting in the effort at localization.

A hearty vote of thanks was passed to Dr. Adami, on motion of Dr. R. A. Reeve and Dr. Fotheringham. A most interesting series of slides illustrating different eye-conditions, especially glaucoma, was shown by Dr. Reeve, by the projection microscope, an instrument that will, in the immediate future, revolutionize the teaching of certain subjects in medicine.

PROGRAMME:

Living Specimen:

Syphilitic enlargement of the tibia in man of 70 years.

Papers:

1. The omentum with its relation to abdominal injury.
   Dr. Geo. Adami, Montreal.
2. Suppurative cholangitis
   Dr. H. C. Parsons.
3. Notes of a case of carcinoma of the stomach with multiple sub-cutaneous metastases.
   Drs. J. E. Graham and H. J. Hamilton.

Card Specimen:

1. Cirrhosis of the Liver.
   Dr. Alex. McPhedran.
2. Varicose veins.
   Dr. Geo. A. Peters.
3. Sarcoma of a testis.
   Dr. Geo. Bingham.

4. Frozen sections through the head and neck in a case of carcinoma of lip and neck.

Drs. G. Silverthorn and F. N. G. Starr.

5. Malignant endocarditis.

Dr. Herbert Bruce.

6. Organs from a case of Leukæmia.

Dr. Geo. H. Carveth.

7. Glaucomatous eyes.

Dr. R. A. Reeve.

Card Specimens:

8. (*a*) Gummata and cirrhosis of the liver.
(*b*) Softening of the brain from embolus in the left internal carotid.

Dr. R. J. Dwyer.

9. Specimens illustrating lesions of bone.

Dr. A. Primrose.

10. (*a*) Carcinoma of cardiac end of stomach.
(*b*) An extremely atrophied stomach.

Dr. J. E. Graham.

11. Heart. From a case of death from thrombus in R. auricle and ventricle and pulmonary artery.

Dr. Gibb Wishart.

12. (*a*) Atrophic cirrhosis of liver with œsophageal and gastric varices.
(*b*) Stenosis of rectum with lipomatosis.
(*c*) Subperitonæel cysts of stomach and intestine.

Dr. H. B. Anderson.

Refreshments.

JOHN A. AMYOT,
Cor.-Sec.

TORONTO MEDICAL SOCIETY.

The regular meeting was held in the Council building Jan. 14th, 1898. Dr. T. F. MacMahon presided.

Present: Drs. Graham, Oakley, Wm. Oldright, W. J. Wilson, G. Badgerow, H. Hamilton, Langstaff, Small, A. G. Smith, Kelly, Carveth, Parsons, Bascom, Ross, McKeown, McPhedran, Rudolf, Guinane, Dwyer, Primrose, A. R. Gordon, C. R. Dickson, A. O. Hastings, Eadie, F. Starr, G. Gordon, Webster, and J. Brown.

Dr. G. A. Peters presented a boy aged five, who had fallen and dislocated his elbow, both bones of the forearm being dislocated inward.

Drs. A. Primrose and J. E. Graham discussed the case.

Drs. J. F. W. Ross and W. McKeown reported a case of hysterectomy for rupture of the posterior vaginal wall during parturition, the child having escaped through the tear into the abdomen.

Dr. J. E. Graham read a paper on "The Prognosis in Cardiac Disease." The discussion of this paper was adjourned until the next meeting.

At the meeting of the Society held on the 20th the following programme was carried out:

Clinical report of a case of fatal peritonitis, by Dr. F. Oakley. This was discussed by Drs. Macdonald, McIlraith and Carveth.

Dr. G. Carveth reported a case of apnœa.

Dr. John Noble reported a similar case.

Dr. McPhedran discussed the subject.

Dr. MacMahon reported a case of diphtheritic paralysis; a case of asthma, due to dilated stomach, and a case of puerperal eclampsia.

Drs. McPhedran and Scadding briefly discussed the first case.

Dr. H. H. Oldright reported a case of morphia poisoning.

Dr. Noble reported a case of the same, in which he had given gr. 1-32 of morphia to a child a few weeks old. Recovery followed active treatment.

Dr. Noble reported a case in which a patient took four grains of strychnia and two ounces of laudanum.

THE TORONTO CLINICAL SOCIETY.

The forty-second meeting of the above Society was held in St. George's Hall Jan. 12th, 1898.

Fellows present: Peters, Trow, Graham, Baines, Spencer, Fenton, Boyd, Garratt, Wm. Oldright, A. A. Macdonald, Chambers, Pepler, Anderson, Ross, Hamilton, Britton and J. N. Brown.

Drs. H. A. Bruce and G. Elliott were elected Fellows of the Society.

Dr. F. Fenton presented for Dr. G. A. Bingham a patient who had been operated upon for umbilical hernia. The result was good.

Dr. F. Fenton presented a patient who had sustained a compound fracture of the skull with loss of brain substance.

Dr. Peters discussed the case.

Dr. Wm. Oldright presented a patient upon whom he had operated for necrosis of the femur; a second patient with compound fracture of both legs; a third with exfoliation of a rib. He related a case of osteomyelitis.

These cases were discussed by Drs. Anderson, Britton and Ross.

Dr. Albert A. Macdonald reported a cast of double ovariotomy for a uterine fibroid. The ovaries were cystic.

Dr. Anderson reported on the condition of the ovaries. One was the seat of a dermoid; the other showed a number of cysts of the Graafian follicles.

Dr. J. F. Ross discussed the case.

Dr. J. E. Graham reported two cases: one of aspermatism, another of neuralgia of the liver.

Discussion by Drs. Anderson, Britton and Ross.

The Society then adjourned.

A PRESCRIPTION FOR ASTHMA.—The *Journal de Médecine de Paris* of April 14th, 1897, gives the following prescription:

℞ Tincture of opium, 1 drachm;
Sulphuric ether, 2 drachms.

Fifty drops every half hour until the patient is relieved.

"APENTA"

THE BEST NATURAL APERIENT WATER.

Bottled at the Springs, Buda Pest, Hungary.

"We know of no stronger or more favorably constituted Natural Aperient Water."

L. Liebermann

Royal Councillor, M.D., Professor of Chemistry, and Director of the Royal Hungarian State Chemical Institute (Ministry of Agriculture), Buda Pest.

Approved by the ACADÉMIE DE MÉDECINE, PARIS.

"The proportion of sulphate of Soda to sulphate of Magnesia is 15.432 to 24.4968 in the litre, so that this Water may be classed with the best Aperient Waters, and be pronounced one of the strongest."

PROFESSOR OSCAR LIEBREICH,
University of Berlin ("Therap. Monatshefte").

"A most useful Aperient."

"The presence of lithium in Apenta Water explains why a course of the latter is **so useful in warding off attacks of gout, and in moderating their intensity when present."**

JULIUS ALTHAUS, M.D.,
Consulting Physician to the Hospital for Epilepsy and Paralysis, London; author of "The Spas of Europe," etc.

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Pneumonia Following La Grippe.

BY M. E. CHARTIER,

Docteur en Medecine de la Faculte de Medecine de Paris, Membre Correspondant etranger de la Grande Encyclopedie, Section de Philologie.

As a rule certain diseases prove more fatal, not only in given districts, but during certain periods of time, along particular areas of territory. We have La Grippe, decreasing in intensity for the present; it has been replaced by pneumonia, which is not only raging in the United States, but in European countries. The bacteriologists will have to explain this fact; the truth remains however, that the mortality from pneumonia in its various forms is now far in excess of any previous record.

Twenty years ago, and preceding the re-appearance of La Grippe in its epidemic form, pneumonia proved as dangerous as it does at the present time. Many cases fell under my personal observation, and I must admit that my Parisian confreres were at a loss, not for a remedy for the disease alone, but even for a logical line of treatment. Dujardin-Beaumetz became so skeptical that he prescribed stimulants, regardless of therapeutical conditions. The mortality in his ward at the Hotel Dieu proved that his patients fared no worse than the others submitted to the antiphlogistic remedies then en vogue.

At that time, I advocated in my treatise on therapy, the administration of sulphate of codeine in two to five centigrammes doses—one-fourth to one-half grain. Codeine is the only remedy known to me possessing a marked and distinct effect upon the hypersecretions of the bronchial mucous membrane. What I then wished was an analgesic possessing antipyretic properties, which I could safely use. This I have since found in antikamnia and I believe it can be exhibited safely, especially on account of its not having a depressing effect on the cardiac system.

Experimental doses of from one-half to one gramme—seven to fifteen grains—of antikamnia administered under ordinary conditions did not develop any untoward after-effect. The following trace, taken with the sphygmograph was made ten minutes after the administration of one gramme—fifteen grains—of antikamnia.

Pulse, 112. Temp., 101 1-5 Fahr.

The above trace shows plainly that unlike other coal-tar products, antikamnia has a stimulating effect upon the circulation. In this particular case the temperature was sensibly reduced—102° to 101 1-5°. The analgesic effect of the drug was satisfactory.

My conclusion is that in the treatment of pneumonia, antikamnia is indicated as a necessary adjunct to codeine, on account of its analgesic and antipyretic properties and particularly because it acts as a tonic upon the nerve centres. The tablets of antikamnia and codeine containing four and three-quarter grains antikamnia and one-fourth grain sulphate of codeine, to my mind, present these two remedies in the most desirable form. I also find one tablet every hour, allowed to dissolve slowly in the mouth, almost a specific for the irritating cough so often met with in these complications. For general internal medication, it is always best to crush the tablets before administration.

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The quality of these products is in every respect as unexceptionable as that of our regular lines of compressed and triturate tablets. The ingredients are of the finest material; the excipients carefully chosen; the solubility as nearly perfect as the formulæ will permit.

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The new tablets cannot fail to meet with the admiration of all who give due weight to pure materials, conscientious manufacture, and exquisite finish. Samples and price list furnished on request.

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Editorial.

OBITUARY.

Both Toronto and Hamilton, and wider circles indeed than they represent, have been recently called upon to mourn the untimely decease of well known and much loved practitioners. Dr. J. H. Burns, of College Street, Toronto, died with tragic suddenness while standing at his telephone—and leaves behind him a memory of cheery *bonhommie* that will not soon fade from the recollection of his wide circle of friends both in the profession and out of it. Dr. G. M. Shaw, of Hamilton, died of pneumonia, with almost equal unexpectedness, and leaves a gap in the ranks in Hamilton that will not be soon filled. Both gentlemen were members of the Council of the College, Dr. Burns having just gone successfully through a somewhat acrimonious contest, which may have been the exciting cause of his sudden decease.

We beg leave to tender to the bereaved families the very sincere condolence of the entire profession.

ANOTHER MALPRACTICE CASE.

We offer our hearty congratulations to Dr. Armstrong, of Alliston, on the outcome of the protracted litigation to which he has been subjected at the hands of the usual combination of ungrateful charity patient and impecunious and litigious lawyer. The circumstances as reported are as follows, and they justify the assumption that the attempt was being made as usual by the plaintiff to get his case before a jury and get a verdict independent of the merits of the case. As in most such cases, the loss both pecuniary and otherwise to the physician is great and entirely undeserved.

On December 7, 1896, Ellard called in the doctor to attend his wife, Lily Ellard, during child-birth. The doctor came, but as an operation was necessary he asked that Dr. Island, of Barrie, be called to assist. Before Dr. Island came, however, Dr. Armstrong performed the operation himself, and then returned home. The condition of Mrs. Ellard became worse, and although the defendant was repeatedly sent for he did not come to attend her, and she died on the 19th of December, 1896. The plaintiff then sued for $10,000 damages for alleged neglect and non-fulfilment of contract.

The case was tried at the Barrie Assizes in April last, when the defence put in the plea that Dr. Armstrong himself was unable to attend the sick woman on account of illness, and that he had never been paid or tendered his professional fees for attending her, and the plaintiff was non-suited by Mr. Justice Robertson.

Ellard's counsel then carried the case to Osgoode Hall, when the Divisional Court was asked to grant a new trial, on the ground that there was sufficient evidence for the case to be given to the jury, and that they should have been allowed to determine the question of contract. The plaintiff claimed that the evidence fully justified the inference that Mrs. Ellard would not have died had the defendant performed his duty as a medical practitioner.

The judgment of Chief Justice Armour is as follows: "I do not see upon what principle we can relieve against the non-suit in this case. Upon the non-contradicted evidence of the defendant, which was read by the plaintiff and made part of his case, it appeared that the excuse of the defendant for the non-performance by him of the contract was his (the defendant's) illness and consequent inability to perform the contract; and that illness is a valid excuse in law for the non-performance of such a contract as the one cited, as shown by several eminent authorities. The motion must, therefore, be dismissed."

Mr. Justice Falconbridge said: "I concur. I feel the less regret at being obliged to refuse to relieve from the consequence of an apparent slip, because it is manifest that the plaintiff would, in any event, have had great difficulty in succeeding in the action."

AN INJUSTICE TO MEDICAL OFFICERS.

As a class medical officers are the most long-suffering of men, and it is only when patience ceases to be a virtue that their voices are raised in protest against a regulation or an order.

The Militia regulations distinctly state that no combatant officer shall be appointed to a higher position than that of second lieutenant on joining. Medical officers are appointed either as surgeon-lieutenants or surgeon-majors on joining. The appointment of gentlemen to the rank of surgeon-major over the heads of scores of surgeon-captains and surgeon-lieutenants who have served for years is a gross injustice to these officers. It is bad enough when these gentlemen have served for a year or two, and by the resignation of their regimental superior medical officer, the junior receives sudden promotion, but it is still more unjust when medical officers are appointed to batteries of artillery or cavalry regiments with the rank of surgeon-major without having served a single day in any capacity, and over the heads of all surgeon-captains and lieutenants. The Minister of Militia should give this matter his immediate and earnest attention especially since, as a medical officer, he must well know what the feeling of the medical staff is on the question.

Apropos of the editorial we submit the following from the *British Medical Journal*:

"NON-COMBATANT" HEROES.

In the *World* of December 15th the following paragraph appears: "Letters from the Indian frontier speak in the highest terms of the services rendered by the officers of the Army Medical Staff. To such an extent, in fact, have many of them distinguished themselves that general officers in command have brought their names specially to notice, and it is more than likely that three, if not four, will receive the Victoria Cross for acts of heroism which come well within the terms of the warrant governing that honoured distinction." Not the medical profession alone, but the army of which they are so essential a part, and the nation which they serve so faithfully, have reason to be proud of the officers of the Army Medical Staff. In proportion to their numbers they have among them, we believe, more holders of that most coveted distinction, the Victoria Cross, than any other branch of the service—a circumstance which makes the persistent discourtesy of certain officers of high rank in treating them as "not soldiers" but "camp followers" all the more remarkable. To insist on the fact that a class of men who seem to have greater opportunities than any other of winning a decoration which is awarded specially "for valour" are "non-combatants" appears to show that the military mind is somewhat wanting in a sense of humour, if not of fairness.

At the risk of being too reiterant, we reprint from the *British Medical Journal* the appended note, showing what we may expect from

the Victorian Order of Nurses if not specially safeguarded. The very difficulty here discussed was raised last month at our meetings in Toronto, and we were virtually assured that it did not exist. The adroitness and fairness of the comments of the Editor are worthy of all praise.

DISTRICT NURSING ASSOCIATION AND THE MEDICAL PROFESSION.

The development of district or parish nursing in the country and rural towns induces us to offer a few words of counsel to those philanthropic persons, frequently ladies, who control and direct the services of the nurses. The local medical practitioner may be placed in a dilemma because he is not consulted and placed *ex officio* on the committee. Yielding to none in his wish to secure efficient nursing for his poorer patients, he may yet be obliged to ignore the good work that is being done, because the services of the nurses are requisitioned independently of medical advice. The medical practitioner can only regard the independent visits of a qualified nurse as a form of irregular practice, which he is bound to discountenance. The difficulty would be at once removed if it were made the rule that the local practitioners were placed on the district nursing committee, and that a nurse should be sent only at the request or with the consent of the medical attendant. We believe that the omission is due to inadvertence, and we draw attention to these matters because we are convinced that by so doing we are furthering the cause of the home nursing of the sick poor, which in a few instances has been hindered by the want of these simple rules.—*Brit. Med. Journal.*

The profession at large is interested in the announcement that Dr. G. S. Ryerson has definitely decided to retire from political life. Regret will be felt that we no longer have in the Local House so staunch and loyal a guardian of professional interests as he has always shown himself to be. He has rendered us immense service, particularly on the occasion of the assault by the Patron element upon the Medical Act. On the other hand, satisfaction will be felt at his return to active work in the practice of his specialty, to which he intends again to devote himself.

THE AMERICAN SOCIETY OF SUPERINTENDENTS OF TRAINING SCHOOLS FOR NURSES.

This important Society will meet for the first time in Canada in the near future, and its proceedings must be of interest to the profession at large. The officers for this year are:

President—Miss Snively, Toronto General Hospital, Toronto, Canada;
Treasurer—Miss Drown, Boston City Hospital, Boston, Mass.;
Secretary—Miss Dock, 265 Henry Street, New York.

The sessions begin at 10 a.m. on Wednesday, February 9th, and will be held in the Lecture Hall (Educational Department), Normal School Building. A short opening address is expected from the Hon. G. W. Ross, Minister of Education.

Papers will be read on the following subjects:

1. How to Obtain Greater Uniformity in Ward Work.
2. Practical Diet Kitchens as part of a Uniform Curriculum.
3. Hospital Diet from the Standpoint of the Hospital Superintendent.
4. Hospital Laundries.
5. How far Training Schools are Responsible for Lack of Ethics among Nurses.
6. The Superintendent of Nurses.

After the close of the Convention, members of the Association will spend some time in visiting the various city hospitals, and other places of interest in Toronto.

Toronto feels honored in being chosen as the city in which this Association will hold its Fifth Annual Convention.

This Association was organized in Chicago, at the World's Fair in 1893, The following year the Convention met in New York, then in Boston, then in Philadelphia, and last year in Baltimore.

It is expected that representatives will be present from all the larger American Schools—about eighty delegates in all.

The completed programme will appear later.

EDITORIAL NOTES AND CLIPPINGS.

SYPHILIS.

The Zittmann treatment, latterly much spoken of, consists in keeping the patient in a room at 80° F. and administering certain decoctions according to a prescribed rule. For the reason that he finds a large number of practitioners have difficulty in discovering the really correct method of using this remedy—for this means of treatment is unfortunately generally ignored in surgical text-books, as well as in monographs dealing with syphilis—he appends the details as described in his work on Syphilis.

The course of treatment extends to a fortnight, during which time the patient is put upon a strict diet and regimen. The decoctions and pills are made from the following formula:

ZITTMANN'S DECOCTION NO. 1.

℞ Rad. sarsæ. cont., ℥ iv.;
Sem. anisi,
Sem. Fœniculi, ʒ j, ℈j;
Fol. senna, ℥j;
Rad. glycyrrh. contus., ʒ iv.

And in a linen bag:
Sacchar. alb.,
Alum. sulph., ʒ ij;
Hydrarg. subchlor., ʒ j, ℈j;
Hydrarg. bisulph. rub., ℈j;
Aquæ Cong., O vj.

Boil gently down to one gallon, strain, and put into four forty-ounce bottles. Label "The Strong Decoction."

ZITMANN'S DECOCTION NO. 2.

To the dregs from No. 1 decoction add:
Rad sarsæ. cont., ℥ ij;
Cort. limon.,
Sem. cardam.,
Rad. glcyrrh., ʒ j;
Aquæ Cong., O vj.

Boil gently down to one gallon, strain, and put into four forty-ounce bottles. Label "The Weak Decoction."

℞ Hydrarg. subchlor., gr. ij;
Ext. coloc. co., gr. v;
Ext. hyoscyami, gr. ij.

Ft. pil. ij. Label "The Pills."

The patient is kept in a room at 80° F. The diet consists of: Breakfast—Boiled egg or bacon, tea; no sugar or spices. Lunch—Butcher's meat, vegetables; no fruit. Dinner—Soup, fish, poultry.

The evening before beginning the treatment the two pills are taken, and the next four days, at 9 a.m., 10 a.m., 11 a.m. and 12 m., half a pint of the strong decoction drunk very hot. At 3 p.m., 4 p.m., 5 p.m. and 6 p.m., half a pint of the weak decoction cold.

The patient is kept in bed, except for one hour every morning. On the fifth day he is allowed to get up; he may have a hot bath, and dress, and is allowed, if he asks for it, a little brandy or whiskey and soda.

In the evening two pills are administered, the patient starting the decoctions the next day as before. So the treatment goes on until the fifteenth day, when it is discontinued.—*Cooper, in Treatment, April 8th, 1897.*

THE DANGERS OF CHLORATE OF POTASH.

For many years the medical profession, with but little knowledge of the pathological conditions connected with diphtheritic infection, and with still less information in regard to the influence of chlorate of potassium upon the human body, were in the habit of employing this drug in large quantities in the treatment of diphtheria, some using it because it was supposed to exercise a favorable influence upon the local diphtheritic process, both when it was swallowed and when it was eliminated by means of the salivary glands; others, still more ignorant of its influences, employed it with the ridiculous idea that it was capable of yielding oxygen to the body and so supporting the system; while still others believed that the additional oxygen which it gave forth actually aided in the elimination of the effete products of the disease, and thereby enabled the patient to resist its ravages. With our increased knowledge concerning the bacillus of diphtheria and the pathological changes which its toxins produce in the body, this method of treatment became less and less popular, and finally, when the profession grasped the idea that chlorate of potassium was not the innocent drug that it was thought to be, its use in diphtheria became still more limited. We have reason to believe, how-

ever, that there are still quite a number of physicians who continue to employ it either as a matter of routine practice or because they are unaware of its deleterious influences. The literature of medicine will be found to contain as each year goes by more and more cases in which the abuse of this remedy produces poisonous influences in the body, which are recognized to-day, although put down to other causes years ago. The object of this note is to insist upon the fact that the chlorate of potassium is, next to the cyanide of potassium, the most poisonous of the potassium salts. As an instance of this we may quote a case which recently occurred in Vienna, in which a boy of sixteen who was suffering from sore throat was given a gargle consisting entirely of chlorate of potassium. Either because of misunderstanding of the orders or through inadvertence the patient swallowed a considerable amount of the drug, and death speedily resulted, the inquest revealing all of the usual signs of death from this substance.—*Therapeutic Gazette.*

FATAL HEMORRHAGE FROM THE REMOVAL OF ADENOID VEGETATIONS.

Schmiegelow (*Monatsschrift für Ohrenheikunde*, 1897, No. 3; *Centralblatt für Chirurgie*, August 14th, 1897) reports a case, not his own, but occurring in the practice of a surgeon who had often done the operation without mishap. The patient was a boy, twelve years old, who showed nothing strikingly abnormal beyond a pronounced adenoid habitus and scrofulus glands in the neck. The operation was done without anæsthesia, and the ordinary Gottstein annular knife was used. Without any warning, a sudden gush of arterial blood issued from the mouth and nose. In spite of prompt tamponing and subcutaneous and intravenous saline injections, death occurred in a few minutes. The internal carotid artery was found to have been opened just in front of its point of entrance into the carotid canal of the pars petrosa ossis temporis. The author supposes that swollen glands had pushed the vessel forward so that the pressure of the knife caused its rupture, for it was not cut.

CONSERVATISM IN THE TREATMENT OF DISEASES OF THE PELVIC ORGANS IN WOMEN.—In the March issue of the *University Medical Magazine*, Drs. S. Weir Mitchell, Wharton Sinkler, Charles K. Mills, and others, in discussing the relation of nervous disorders in women to pelvic disease, said: "We have never seen a case in which ablation of the ovaries and termination of menstruation cured an epilepsy, and in all our life have met with only four reflex epilepsies, none of which were from uterine, ovarian or tubal diseases; and we are inclined to think that some at least of the cases classed as epilepsies of ovarian origin are in reality excessively violent hysterical convulsions, and we conclude that insanity is aggravated by the menstrual epoch whether normal or not, but that it is very rarely caused by that alone. A great deal of uterine and ovarian disease should escape the knife by the use of patient medical treatment —no grave surgery of the pelvis should be allowed without medical consultation."

Among the many services done to the Turks by Greece in the last few weeks, not the least is to have given them an opportunity to show how and what they can endure. The *Times* correspondent is much struck with their eagerness to fight and with the difficulty of killing them. He mentions one man whose abdomen was penetrated by a bullet, and who not only kept his place in the ranks till the battle ended, but marched ten miles afterwards. Another man with three wounds—two in the legs and one in the shoulder—continued on duty twenty-four hours, until an officer noticed his condition and sent him to the hospital. Sometimes our alcoholism has been associated with our daring and our endurance as cause and effect, but here are qualities of the same sort in a non-alcoholic nation. Our contemporary's correspondent remarks further on the rapidity with which the wounds heal, and says that medical men attribute it to the abstemiousness of the Turks. Here we should scarcely be able to match the race whose soldiers are ill-clad, ill-fed and who take no alcoholic stimulants.—*The Lancet.*

Book Reviews.

The fourth edition of the work on Bacteriology by Dr. A. C. Abbott has been received The writer has retained all that was good in former editions and made many valuable additions. The historical section is brief, but contains references to most of the important steps which have served to place bacterio'ogy in its present important position. The section on the place occupied by bacteria in nature is splendidly put, and gives to the beginner a clear idea of the subject. The same may be said regarding the explanation of sterilization. The methods of preparation of the different media are so simply brought out as to appeal to everyone interested. The nutrition, growth, morphology and products of bacteria are explained. The simplest methods of isolation and identification are alone referred to, and these are applied to surgical and post-mortem work in a most comprehensive manner. The pyogenic organisms are dealt with at length, and the gonococcus, the plague and influenza bacilli, and the spirilla are treated of in their morphological staining and culture pecularities and pathogenesis or otherwise, as the case may be.

The cuts of the tubercle bacillus and others are good. The infections by tubercle pneumococcus and tetragonus are followed out, and methods are given for the differentiation of tubercle from the organisms of pneumonia, syphilis and leprosy. Diphtheria is fully considered. and the typhoid and colon bacilli minutely compared. Elsner's medium and method for the isolation of typhoid bacilli and the serum reaction are fully explained.

The anærobic bacilli are given considerable space, and methods for their cultivation referred to such as may be most simply applied

The section on infection and immunity is terse, but brings out the various theories as to infection. the retention and exhaustion hypotheses, phagocytosis, bactericidal power of blood serum, anti toxines etc., most clearly, concluding with a series of facts as now accepted.

The examination of water and soil, and the experimental work on disinfectants close the work.

Bacteriology is a series of methods. which when properly applied and the reactions intelligently noted have given great results The manner in which Dr. Abbott's book treats of these matters recommends it most highly as a guide not only to the beginner. There are numerous foot notes containing references to literature on the more exhaustive and complex subjects.

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The prescribed dose produces a feeling of buoyancy and removes depression and melancholy; *hence the preparation is of great value in the treatment of nervous and mental affections.* From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of secretions, its use is indicated in a wide range of diseases.

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Publishers' Department.

Dr. W. E. Hamill has removed to 88 Yonge St., where the Canadian Medical Practice office will be in future conducted. Among the advertisements in this issue will be found a full page list of offers of practices for sale which will be repeated and revised each month.

LIFEBUOY SOAP.—We desire to call your attention to this soap. As a bath soap it has no superior, being neutral, and containing, as it does, great antiseptic properties, it cannot but commend itself to the profession at large. It is now largely in use in the European hospitals, and was lately introduced into many of the Canadian hospitals.

AYER'S PETROLEUM EMULSION is comparatively a new preparation in Canada, but has been in use in the United States and England for years. It is devoid of the unpleasant fishy odor of cod-liver oil, and proves about as efficacious, and, like creosote, possesses a tonic action on the stomach, and is also a germ destroyer, and wherever it has been used it meets with general favor by the profession.

BOVININE.—There cannot possibly be any better proofs of the value of Bovinine than we find in the reports of the Sound View Hospital, Stamford, Conn. As a general tonic and blood maker, it is highly recommended in all cases of chronic ulcerations, as a local application, ulceration of the stomach and rectum, varicose, ulcers, etc. Dr. Pratt, of Chicago, reports a case of gangrene of the scrotum, treated by iodoform gauze, saturated with Bovinino; result, marvellous.

Dr. N. F. Cunningham, Dartmouth, N.S., Lecturer on Surgery, Dartmouth University, Halifax, N.S., used Parke, Davis & Co's. Anti-Diphtheritic Serum in fifteen cases diphtheria last September, with satisfactory results in every case. Last week was called to a case at Waverley, which terminated fatally, owing to the child being in a hopeless condition before the serum was administered. He immunized the four other children with 250 units each; ten days have elapsed, and no symptoms of diphtheria have developed.

MASSAGE.—Massage being a very scientific treatment when given by a skilful masseur, but so little understood by the medical profession although advised extensively by them, we take great pleasure in recommending Mr. Thomas J. R. Cook, masseur, 204 King St. West, who thoroughly understands the treatment, having graduated from the School of Massage and Electricity in connection with the West End Hospital for Nervous Diseases and Epilepsy, Walbeck St, London, England. During his seven years' practice in this city Mr. Cook has been very successful.

IN SMALL-POX.—Unguentine has proved to be extremely valuable in the treatment of small-pox, as it immediately arrests the excessive burn-

ing and itching of the papular stage, and soothes the irritation in the vesicular stage, and, moreover, from personal experience of Dr. B. F. Neal, of Ellenville, Ulster County, New York, who gave it a very thorough trial during the small epidemic that raged in that town and vicinity during the winters of 1895 and 1896, he found that Unguentine in every case prevented the spitting, and the soothing effects greatly modified the patients' desire of scratching themselves, and the results in all cases were extremely satisfactory.

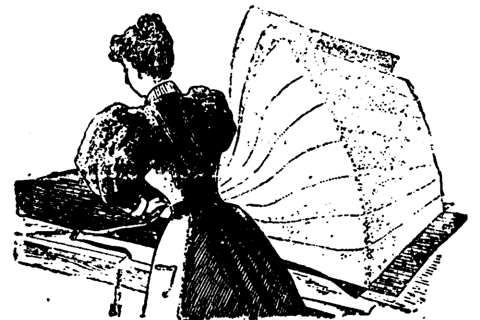
COUNT OKUMA'S WOODEN LEG.—Ordered from New York, as no one in Japan can make one. It is not often that the Consular service of a country is called upon to secure a wooden leg for a general, but that is what has just happened in the case of General, the Count of Okuma, the prime minister of Japan, says the *Commercial Advertiser*.

The Japanese minister to the United States was instructed weeks ago to obtain the best artificial limb in this country for Count Okuma, and he turned the order over to the Secretary of the Legation, who instructed Consul-General Ucheida to consummate the negotiations. The latter gave an order to the firm of A. A. Marks, 701 Broadway, New York.

MEDICINES FOR THE KLONDIKE.—The E. B. Shuttleworth Chemical Company, manufacturing chemists, of this city, have received large orders for their products to be supplied to physicians going to the Klondike. These orders consist of a very large quantity of compressed tablets and pills. Owing to this convenient method of preparing drugs as medicines, physicians going a long distance prefer having them prepared in this form, as they are more easily handled in transit than liquid medicines.

The above firm is a strictly Canadian concern, making a specialty of manufacturing this form of medicinal preparations. Heretofore, American firms did most of this class of business, but since the Shuttleworth Chemical Company has been established, they have had strong indications in the shape of orders that, all things being equal, the Canadian physicians and druggists are prepared to support home manufacture.

FUROR DISINFICIENDI.—*The Berliner Klinische Wochenschrift* writes: Realizing the risk that we run of being the victims of an April joke, still we cannot help reporting the following little history: "In K, a Silesian town of 30,000 inhabitants, several cases of typhoid fever were reported at the Police Department. The protecting angels of K. were up to the occasion, and determined to carry out all hygienic orders most rigidly. They ordered at once that 'all stools should be disinfected without delay.' A few strong policemen entered the disinfected house, and there they compounded secundum artem, a mixture of water and lime, with which the fearless germ-killers faithfully painted all the *chairs*; and, not content with that, they also extended their instructions to the tables, bedsteads, etc. Only one chair, which the nurse had saved for herself, escaped the deluge."



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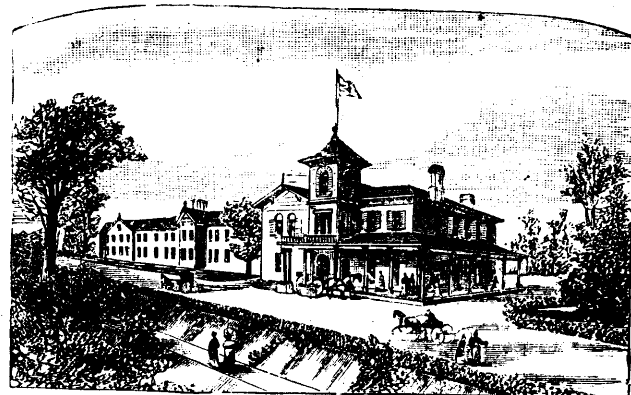

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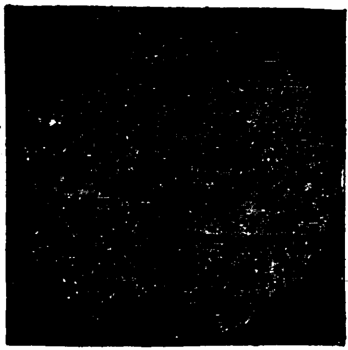

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In short, it is now an established fact, that if Nature fails to *make* good blood, *we can introduce it.* Nothing of disease, so far, has seemed to stand before it.

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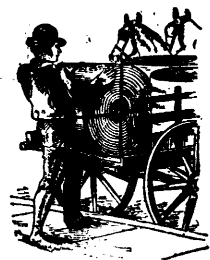

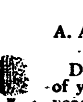

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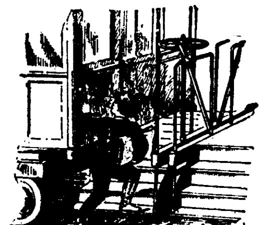

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The examination of the sample of "Lifebuoy Royal Disinfectant Soap," furnished to me by Messrs. Lever Brothers, Limited, of Port Sunlight, England, gives the following results as to its action as a disinfectant:—

Solutions of 1, 2 and 5 per cent. of Lifebuoy Royal Disinfectant Soap in water were made. These solutions were brought to bear on a variety of clean cultivated microbes (Bacillus), in each case a certain exact time being allowed for the operation; and thus the capacity of this Soap for destroying the various live and growing germs was proved. To carry out this the following species of germs or microbes, amongst others, were used:—

1. Typhoid Microbe.
2. Cholera Microbe, taken from Hamburg and Altona.
3. Diphtheria Microbe.
4. Carbuncle or Boil Microbe.

THE RESULTS were as follows:—

1. The obstinate Typhoid Microbes, with the 5 per cent. solution, were dead within 2 hours.
2. The operation of this Soap on the Cholera Microbes was very remarkable, and showed this soap to be in the highest degree a disinfectant. These were taken from persons who died of Cholera in Hamburg, and showed a result as follows:—
With the 2 per cent. mixture, Cholera Microbes were dead within 15 minutes. With the 5 per cent. same were dead within 5 minutes.
3. The Diphtheria Microbes were killed after 2 hours with the 5 per cent. solution.
4. The 5 per cent. solution was tried on fresh Carbuncle germs, and the result showed that the Microbe life was entirely extinct after 4 hours.

From the foregoing experiments it will be seen that the Lifebuoy Royal Disinfectant Soap is a powerful disinfectant and exterminator of the various germs and microbes of disease.

(Signed) KARL ENOCH,
Chem. Hygen. Inst. Hamburg.

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LIFEBUOY SOAP is guaranteed perfectly pure, and free from any injurious chemicals. As a Cleanser, Purifier and reliable Disinfectant it is simple in use and pleasant in operation.

DIRECTIONS FOR USE: You can use LIFEBUOY SOAP in the same way that you use SUNLIGHT SOAP—in hot water, cold water, hard water, or soft water. Its daily use in every household will conduce in every way to health, long life and happiness.

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. . and Cod Liver Oil

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Ferrol contains 6 grains of Phosphate of Iron to the ounce and 50% Cod Liver Oil, together with Glycerine and other ingredients to make a most pleasant and desirable preparation.

The advantage of thoroughly breaking up iron and oil into minute particles in a pleasant and permanent Emulsion must be apparent to every physician, and in order to give the profession an opportunity of thoroughly testing FERROL we will send a full-sized bottle (16 oz.) to any physician sending his name and address.

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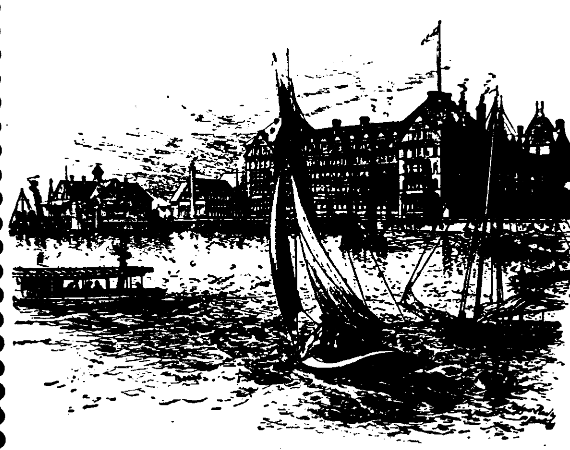

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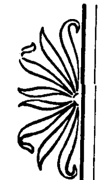

January Bulletin, No. 13,
OF THE
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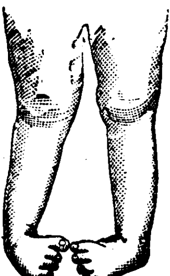

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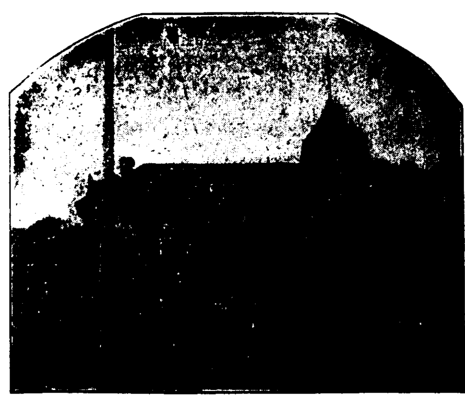

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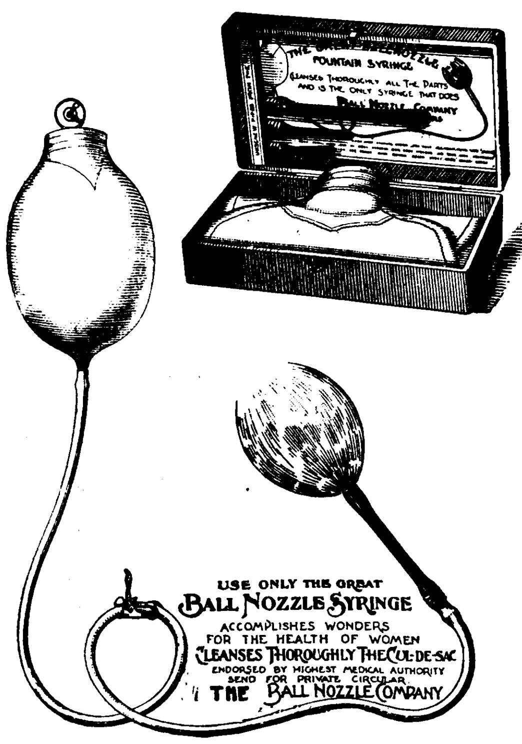

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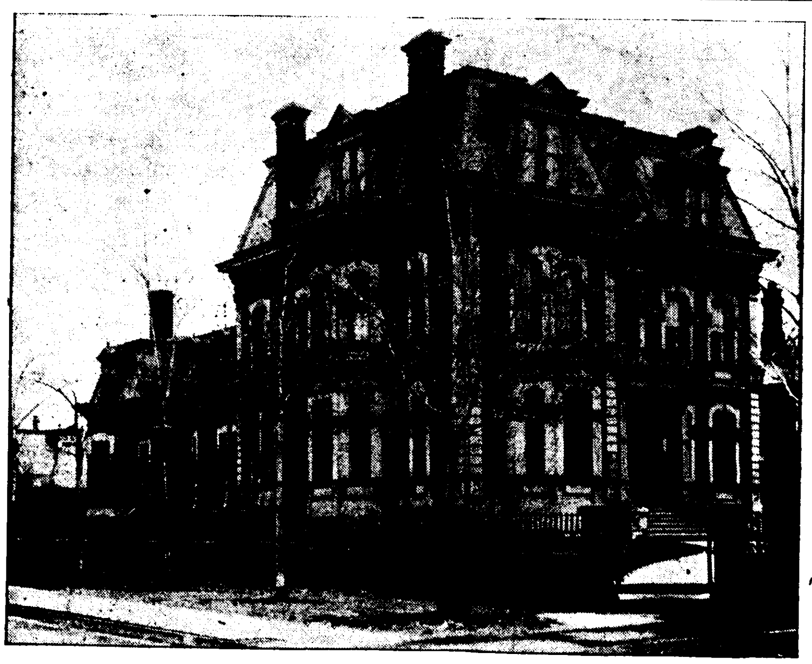

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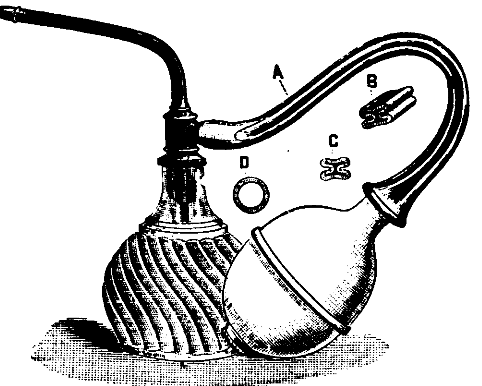

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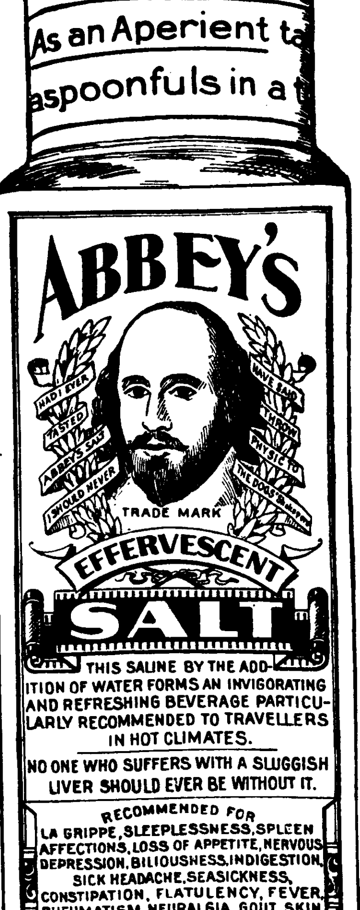

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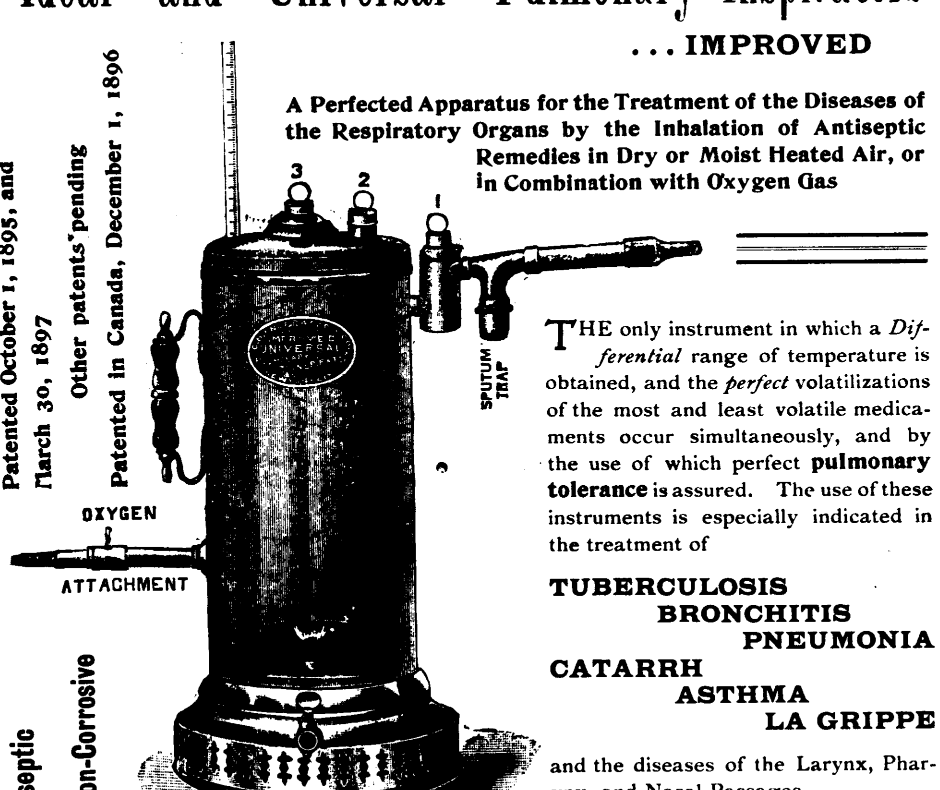

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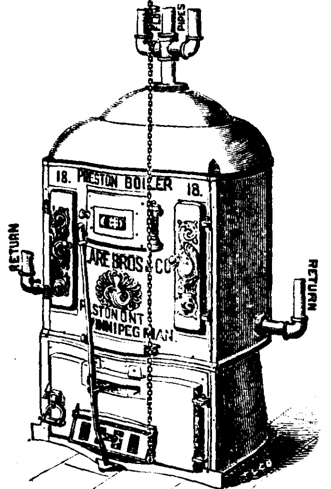

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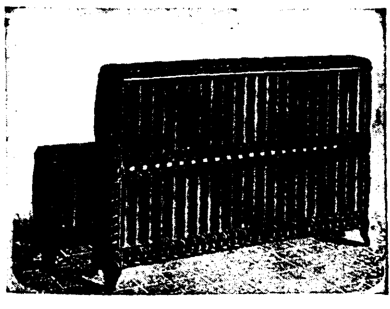

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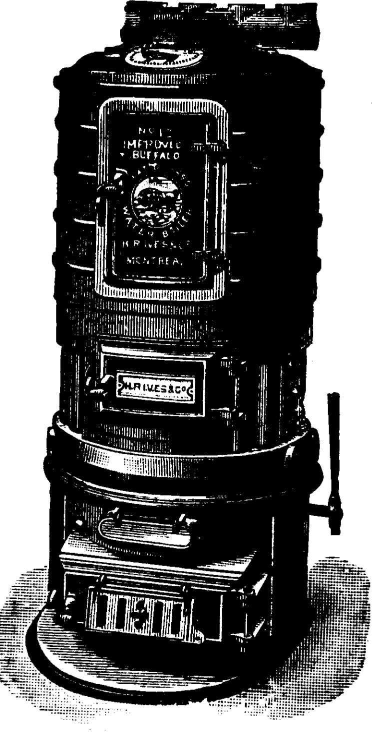

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