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Vol. XXXI.
No. 10.

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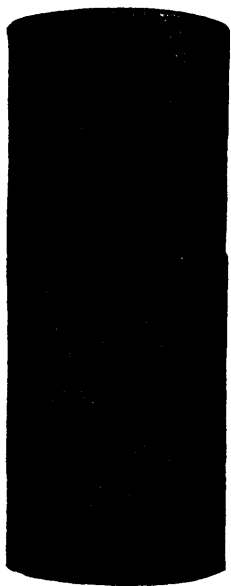
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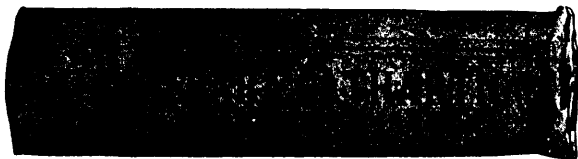
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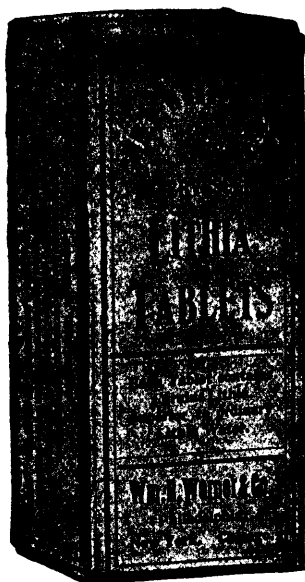
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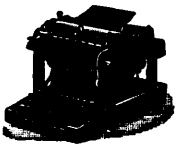
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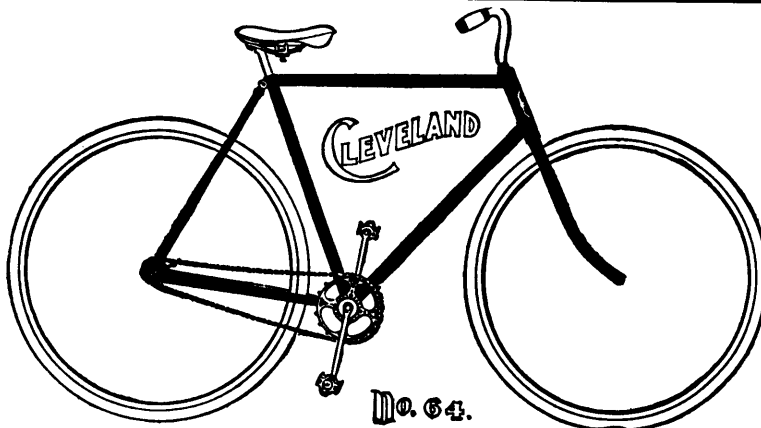
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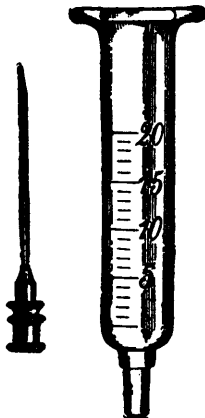
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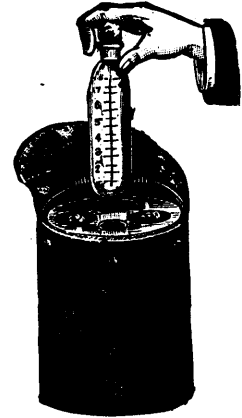
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THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS WITH TREATMENT.

BY DR. GILBERT GORDON.

Mr. President and Gentlemen of the Toronto Medical Society :

I offer no apology to you for calling your attention this evening to this, one of the most living subjects of to-day in the domain of medicine. The great importance of the early diagnosis of this world's plague has been forcibly impressed upon me during the past two or three years in the Toronto General Hospital in connection with the work that has fallen to my lot there.

The fatality of this disease appalls us. The victims claimed by it are greater in number than by all other infectious diseases put together. We see it everywhere. We have become accustomed to the sight of its fearful ravages. Until lately, when brought face to face with it, we, hopeless of victory, have retired from the field, satisfied if we have been enabled to make some ignominious compromise with our dreaded foe. This dread upon us, have we not often wasted valuable time, and by carelessness or ignorance allowed this hated enemy of mankind to strengthen unnecessarily his position. Let me quote from Dr. Pryor, of Buffalo, in the *Medical News* of February last, he, speaking of the State of New York, says, "About 14,000 die from consumption in this state each year. About eleven per cent. of all deaths are due to this one disease, and approximately one of every five more than twenty-one years of age suffers from it. There are more than 50,000 consumptives in this state. Of the 5,000,000 now living in New York State about 600,000 will probably die of consumption." In our own country the proportion is about the same. In 1898, for eighty per cent. of the population, as far as made up, the deaths were as follows :

Scarlet Fever.....	174	
Diphtheria	387	
Measles	84	
Whooping Cough	102	
Typhoid	579	
Total	1,326	Consumption
		1,791

Changes come so gradually that we often have to stop and think in order that we may realize where we are.

Not many years ago we were forced to acknowledge with sorrow, often with shame, that we could do nothing for our consumptive patients but help them to die easily; now, with delight and with pride, we can say that this disease can be cured in a large percentage of cases. The credit of cure is due to the man who makes the diagnosis early. The blame is often on the man who fails to discover the disease until cavity formation has begun.

There are many difficulties in the way of early diagnosis. Especially is this so when the trouble is preceded by such diseases as bronchitis, emphysema or pleurisy. But even here, a careful physical examination, together with the aid we receive from the microscope in the discovery of the tubercle bacillus or the elastic fibres, will enable us to make a diagnosis. The fight with this disease has been long and grievous. Let us look at some of the work done by our predecessors.

In the *Edinburgh Medical Journal*, January, 1856, John Hughes Bennet writes: "Extensive examination of sputa with the microscope has up to recent periods served to persuade most scientific physicians that it was of little scientific importance, inasmuch as percussion and auscultation yield us more efficient and exact means of determining the changes which go on in the lung. The recent examination of sputa by Dr. Andrew Clark may induce them to modify that opinion." Prof. Van der Kolk, of Utrecht, the first to direct attention to the presence of these elastic fibres, claimed that they existed at *exactly the commencement* of phthisis. Dr. Bennet says again, while considering a case: "The facts of this case serve in my opinion to establish that there are instances in which the occurrence of disintegrated lung tissue may be detected by the microscope in the sputum before any auscultatory signs are audible."

In the *British Medical Journal* in 1860, Dr. Andrew Clark writes: "The elastic trabeculae are present in the sputa during the elimination of the tubercle and constitute the diagnostic work of the elimination stage. . . . The physician can confidently declare that phthisis exists when he finds the elastic tuberculae in the sputa."

In the *American Journal of Medical Science*, October, 1858, Dr. Scott Alison, considering 2,000 cases in Brompton Hospital, writes: "Numbers have returned to their employment, muscle and fat have increased, cough removed; result due to early diagnosis, not to any particular treatment. . . . Early diagnosis would be secured by a complete inquiry into all symptoms, by complete physical examination instituted at once, chest freely exposed back and front."

Truly much is due to the valuable work done by great men in those early days.

Although Villemin, in his article on "Tuberculosis," published in 1868, declared his opinion that it was due to a disease germ, and that it was of an infective nature, it was not till 1883 that the great Koch was able to demonstrate a specific bacillus in tubercular lesions. Now the perfection and ease with which this bacillus is stained gives us a perfect means for early diagnosis in most cases.

"The term "early stage case" must, of course, be more or less relative. Before Koch, an early stage case to many was any stage before the patient showed any signs of failing in general appearance. Now by careful observation of physical signs and the aid of the microscope the diagnosis may be made before the patient is aware that he is falling off.

In the *New York Medical Journal* of Feb. 12th, 1898, Dr. D. C. Auber, of Ashville, N.C., writes:

"While we still rely on the microscope to confirm our diagnosis absolutely we are beginning to recognize that there is a possibility of making a diagnosis before expectoration begins." He adds:

"The profession to-day have almost without exception recognized that the disease is curable, the prognosis depending in great part on the diagnosis being made early." He adds also that few cases sent there are "early cases." He describes a "pre-tubercular" stage, this stage found generally among friends accompanying patients to health resorts or those coming in contact with those infected. He declares "that all in this stage do well regardless of treatment provided certain hygienic laws are observed."

Although symptoms may not be of much use in the diagnosis of pulmonary tuberculosis in its earliest stage, yet they are valuable as a means of guiding and confirming.

An inherited tendency should make the physician more careful in examining and lead him to make more frequent examinations.

PAIN may often be complained of before any sign is noticed.

A slight rise in temperature, especially in the afternoon, may exist early and is often most important.

A cough without expectoration should prompt a careful physical examination, as also should general failure of strength, loss of weight or appetite. The physical examination should be made with chest and back both exposed, and in some regular order thus:

INSPECTION may exhibit that contour of the chest predisposing to the disease such as nervousness, acute epigastric angle, oblique ribs, prominent clavicles, winged scapulae, also a diminution in expansion at a particular spot.

PALPATION shows increased vocal fremitus. Here it is well to remember that on the right side the fremitus is slightly increased normally.

PERCUSSION does not give us much information in the very early stage.

AUSCULTATION.—Here the signs are very valuable such as inspiratory sound on quiet breathing scarcely audible. This is generally accompanied by a slightly prolonged expiratory sound. A harsh inspiratory sound is often one of the first indications of disease. We may not have all the characteristics of bronchial breathing at the beginning.

BRONCOPONY we may count as one of the early signs in most cases. A careful comparison of one side with the corresponding region on the opposite should always be made.

The difficulty of early diagnosis is greatly increased by the many and diverse ways in which the disease begins. We see the insipient form where the disease is well advanced before the patient complains. The disease may be ushered in by gastric symptoms, or symptoms of malaria.

A pleurisy or bronchitis or a laryngitis may be the beginning of the trouble. In these cases even a careful physical examination of the lung and sputa will assist us in making an immediate diagnosis.

Haemoptosys, while it at times, is the first indication of a serious lung affection, in most cases, must, I think, be preceded by a condition which would have yielded physical signs pointing to the disease had examination been made.

Another means which in the future may be of great use in early diagnosis is the use of the X Ray.

In the New York *Medical Journal* of February the 18th of this year, Dr. J. Rudis-Jicinsky gives the results carefully tabulated of twenty cases diagnosed by the ordinary methods, and by the X Ray and adds :

"It is of interest from a practical point of view to note that the application of the X Ray in nearly all our cases yielded good results. This number of experiences and experiments, with many selected from direct practise, go to show that the X Rays were accurate and very useful for comparative diagnosis equally applicable in all stages of tuberculosis."

He quotes also in the same paper, Dr. J. Edward Stubert, physician in charge of the Loomis Sanitarium for Consumptives, thus :

"They were used not only as factors corroborative of results arrived at by consultation and percussion, but in some instances for discovering isolated foci of infection not recognizable by ordinary methods."

The use of tuberculin as a means of diagnosis is by general consensus of opinion ruled out as too dangerous a means simply for diagnostic purposes.

The treatment of pulmonary tuberculosis in this day seems to have resolved itself into one only, viz., Fresh air administered in the most favorable hygienic surroundings. However, I must say that in my own experience in private as well as hospital practice the results obtained by the use of creosote have been most gratifying, if not in curing certainly in arresting the disease, and in relieving symptoms.

In considering the open air treatment for our patients we will have to settle these questions.

FIRST: Can this treatment be carried out more effectively in a sanitarium or out of one? So far the sanitarium seems to furnish the most satisfactory results.

In connection with this subject Herman Weber, consulting physician to the Royal Hospital for Consumptives at Ventnor, in an article to the *Practitioner* last year says :

"This treatment can scarcely be done satisfactorily in a great many cases excepting in a well arranged sanitarium with resident medical men." He says also: some years ago I collected public and private results as far

as I could and found amongst sanitarium patients 13-14 % of perfect recovery, 15-17 % nearly perfect recovery, 26-28 % great improvement, while about 22 % remained stationary. The remainder 22-23 % had become worse. He also says :

There ought to be Sanatoria for the wealthier classes, for those without means of their own, and for those with slight means. "Of much greater importance, however, than the Sanatoria for the rich are those for the poor."

The results published in the *Lancet*, p. —, British Medical from 1897-98, on Sanatoria treatment are most satisfactory.

It is early to report statistics of systematic treatment of patients by the open air method in private. In suitable cases, however, I see no reason why, in this climate, this could not be carried on perfectly satisfactorily at home, for at least seven months of the year.

The second question we will have to settle is the location of the district where our patients will receive the most good. With regard to this point, Theodore Williams, consulting physician to the Brompton Hospital, in the *Practitioner* for June of last year, writes: My experience of over 350 cases treated at high altitude Sanatoria has enabled me to come to some decided conclusions as to what influence this climate exercises on pulmonary tuberculosis in general, and as to the special forms most benefited. The general effect on selected cases of chronic tuberculosis of the lung is excellent. Improvement takes place in 80% or in $\frac{7}{8}$ of the patients. Great improvement in 70%, and cure of the disease *i.e.* disappearance of all symptoms in 41%, 2% remaining stationary and 14½% becoming worse.

The following figures, giving results of treatment in different localities, I select from the same journal :

	Arrest.	Stationary including arrest.	Stationary.	Worse.
High altitudes	45.2	75.5	5.3	19.1
Sea voyages	7.7	53.3	10.7	33.8
Riviera	5.9	36.6	17.8	45.6
Home climates	2.	38.9	20.	41.1

In the same number of the *Practitioner* Arthur Ransome, consulting physician to the Manchester Hospital for consumptives, after considering certain facts as to the prevalence of tuberculosis in different districts, writes: "Such facts as these might well lead us to the conclusion that mere locality and climate are absolutely of no importance either in the prevention or the cure of tubercular disease, but I am inclined to believe that we should be wrong in so deciding, at any rate so far as locality is concerned."

One other point well worth considering by the medical profession is this: Should pulmonary tuberculosis be placed among the list of reported diseases? I think most of us will agree that such reporting would be of untold value in the prevention of the disease. No one would advise isolation especially compulsory isolation, but the advantage our Health Officers, would have if they were able to locate infected cases would be very great. For then printed circulars of information could be distributed to patients and friends, giving directions as to disinfection, etc. Furnishing of

sputa cups by the state and means for collecting by the state, sputa for examination, could be made use of. Of course in early cases patients still in employment would suffer hardships—but why should so many be exposed to danger by infection from this awful disease any more than from other infectious diseases. There is less reason, it seems to me, for exposure in this disease than in many others, for so much can be done to prevent its spread.

In the *Lancet* of February the 4th, 1899, Arthur Newsholme, medical officer of health for Brighton, writes:—

Similarly the healthy members of a phthisically invaded household may be able to withstand infection if precautionary measures are begun as soon as the nature of the disease is detected, and are continued thereafter, but they finally fall victims to the repeated doses of infection if a fatalistic inertia is allowed to prevail and no efficient precautions are taken. The following circular is the one used in Brighton for distribution among those infected:—

PRECAUTIONS FOR CONSUMPTIVE PERSONS.—Consumption is to a limited extent a contagious disease. It is spread chiefly by inhaling the expectoration of patients which has been allowed to become dry and float about the room as dust.

Do not spit, except into receptacles, the contents of which can be destroyed before they become dry.

If this simple precaution is taken there is practically no danger from infection.

The breath of consumptive persons is free from infection.

The following detailed rules will be found useful, both to the consumptive and to his friends:—

1. Expectoration, indoors, should be received into small paper bags and afterwards burnt.

2. Expectoration, out of doors, should be received into a suitable bottle, to be afterwards washed out with boiling water, or into a small paper handkerchief, which is afterwards burnt.

3. If ordinary handkerchiefs are ever used for expectoration, they should be put into boiling water before they have time to become dry, or into some disinfectant solution to be ordered by the doctor.

4. Wet cleansing of rooms, particularly of bedrooms occupied by sick persons, should be substituted for “dusting.”

5. Sunlight and fresh air are the greatest enemies of infection. Every consumptive should sleep with his bedroom window open, top and bottom, and during the day should occupy a well ventilated room. Re-breathed air is the main cause favouring consumption. If the patient is warmly clad he need not fear keeping out of doors in any weather. N.B. The patient himself is the greatest gainer by the above precautions, as his recovery is retarded and frequently prevented by renewed infection derived from his own expectoration.

6. Persons in good health have no reason to fear the infection of consumption. Over fatigue, intemperance, bad air and dusty occupations, favor consumption.

VAGINAL COELIOTOMY, WITH REPORT OF CASES.*

BY A. LAPTHORN SMITH, B.A., M.D., M.R.C.S., ENGLAND.

Fellow on American and British Gynecological Societies, Professor of Clinical Gynaecology in Bishop's University, Montreal, Surgeon in Chief of the Samaritan Free Hospital for Women, Gynecologist to the Montreal Dispensary, Surgeon the Western Hospital.

Although the author's experience has been limited to ten cases, yet these have been such instructive ones that he has been enabled to arrive at the following definite conclusions as the relative merits of and indications for vaginal coeliotomy.

1. Vaginal coeliotomy is indicated in retroversion with fixation, in minor diseases of the ovaries and tubes and in small fibroid tumors of the uterus. But in the author's experience the vaginal method of freeing the retroverted adherent uterus is, on the average, more difficult than the abdominal method; and vaginal fixation is not so reliable in curing the retroversion and prolapses as is ventrofixation.

2. If the uterus be movable and there are no adhesions to be broken up, one is not justified in opening the peritoneal cavity either by the abdomen or the vagina in order to shorten the round ligaments. In such cases Alexander's operation is easy, quick, safe and more reliable. The author has had no failures in his last hundred cases.

3. For the removal of pus tubes the operation by the vagina is more difficult than by the abdomen in all cases excepting those in which the uterus is removed at the same time. When the uterus is split in halves, and each half is removed with its corresponding ovary and tube, and when clamps are used, the vaginal operation is easier than the abdominal in which ligatares are employed. The vaginal operation is a little safer on account of the drainage which it affords, but on the other hand it offers more risk of injuring the ureter. The author is opposed to the removal of the uterus even when both ovaries and tubes are removed, owing to the bad moral and physical results; and he is opposed to the use of clamps as compared with ligatures, because, although easier and quicker, the clamps prolong the convalescence, owing to the bruising of the nerve in the broad ligaments.

4. For the removal of chronically inflamed ovaries and tubes vaginal coeliotomy has the following decided advantages: (*a*) It is less dangerous because the intestines are not exposed to the air or to bruising by the hands, or infection through diseased tissues passing over them so much as when the latter are removed by the abdomen; (*b*) vaginal coeliotomy is less painful, the incision in the vagina causing almost no pain, while the abdominal incision and stitching are exceedingly painful; in vaginal coeliotomy morphine is rarely required, in abdominal coeliotomy it is cruel to deprive the patient of it, although we know that her chances of recovery are lessened and her convalescence is prolonged by its use; (*c*) there is no tell-tale scar after vaginal coeliotomy which is sometimes a matter of great moment to young single women who intend to marry,

* Read before the American Gynecological Society, Philadelphia, 23 May, 1899.

the presence of the scar has to be explained and the patient is suspected of having been unfitted for marriage by the removal of both ovaries, when in reality one or both ovaries remain; (*d*) the danger of hernia, although the author has had no case of hernia during the last three years owing to his method of suturing and leaving in the silk worm gut either permanently or at least a month, and he considers this accident entirely preventable, yet for those who meet with it its possibility should have great weight in balancing the merits of the two operations. There is no hernia after vaginal coeliotomy.

5. Much good conservative work on the ovaries and tubes, and even on the uterus can be performed by vaginal coeliotomy with almost no risk or pain to the patient. The uterus and appendages can be brought out at the vulva through an opening in the anterior vaginal wall and cysts can be excised or burned out; one-half of one ovary can be amputated and the remaining bivalvular flaps neatly brought together with fine silk or cat-gut; the closed tubes can be opened or a piece of the pavilion removed and a probe passed into the uterus and the mucous and peritoneal layers of the remainder of the tube brought together with interrupted cat-gut sutures, and small fibroids not larger than the normal uterus itself can be cut out and the hole in the wall of the uterus closed with two or three rows of fine sutures. But it is very dangerous to open at closed tubes as long as there is any active inflammation or infection going on, because by doing so we break down the wall of defence made by nature around the infected tubes to save the general peritoneal cavity from invasion.

6. Tubal pregnancy before rupture and not later than the sixth or eighth week can be readily removed by vaginal coeliotomy; the author had one successful case compared with twelve successful cases by the abdomen. But vaginal coeliotomy is contra indicated when the pregnancy has advanced to twelve weeks or has returned into the abdomen. In several of the author's cases the abdomen was full of clots as high up as the liver, and the foetus was floating among the bowels higher than the umbilicus. These cases could not have been successfully operated by the vagina.

7. In general terms all cases in which the trouble is small in size and located low down can and should be operated by vaginal coeliotomy, while everything large and located high up should be reserved for abdominal section.

250 Bishop street, Montreal.

SHOCK.

BY ROBERT H. M. DAWBARN, M.D., OF NEW YORK.

Professor of Surgery in the New York Polyclinic Medical School and Hospital; Visiting Surgeon to the New York City Hospital.

If we study, the world over the causes of fatality following major operations, we find either sepsis or shock at the head of the list. Of recent years there has progressively been a lowering of the mortality due to infection of wounds: but is this true of the proportion of deaths from shock? It has seemed to me that for many years little advance has been made in our method of handling shock. No surgical topic more deserves our research; none receives it so little. An infinite number of minor topics takes up the time of our investigators; but this, the great lion in the road to recovery, is avoided to a degree that is surprising. How can one help feeling astonished at such neglect who observes that even the most recent surgical text-books almost ignore it? For example, in New York State, two prominent works, recently issued, of 1240 and 1600 pages each, respectively, devote the one, four, and the other, three pages to the entire topic of shock! The same is true of the largest and most recent London work on surgery, of 2272 pages, which devotes four of them to the greatest cause of surgical deaths (next to infection)—not much more space than is devoted to bunion!

Space precludes a discussion of the pathology of shock, and yet a few sentences are necessary in order to make clear the views upon which at least in part the treatment is based. Doubtless the last word has not yet been written on this topic. Nevertheless, the experiments of Professor Golz of Strassburg have never been successfully contravened. They are well known to all surgeons.

We may divide our cases of shock into, *first*, those in which the cause, whether a physical or a mental blow at the nervous system, partially abrogates the functions of the sympathetic nervous centers; *second*, where the cause partially abrogates the functions of the cerebro-spinal nervous centers, as well as of the sympathetic.

In the first group the brain does not succumb to the blow. It is still capable of performing its functions fairly well. The sympathetic nerves, however, no longer properly invigorate the cardiac ganglia, and the tone of all the blood-vessels is also lost. Because of the weak heart-action the blood tends to accumulate in the veins. The patient bleeds inwardly, that is, into his own veins. The blood, like any fluid, must move in the direction of least pressure, and so it accumulates in the relaxed, dilated veins, leaving the arteries partially emptied. The condition in its resultant symptoms is identical with internal hemorrhage. I know of no surgeon capable of making a diagnosis between this not very uncommon type of shock and inward bleeding. It is interesting to note that Professor Hare has recently shown that death from chloroform narcosis is really death from shock; his words are: "The man is suddenly bled into his own veins and capillaries as effectively as if into a bowl."

We should note that in this, sometimes called the *erethistic* type of shock (to distinguish it from the commoner *torpid* or *apathetic* type), the victim is usually perfectly conscious until nearly the moment of death; occasionally toward the end, is a little delirious or even convulsive from cerebral anemia. He is restless, tossing about; he is thirsty, and yet often nauseated; he sighs for more air; his skin is cold, pale and wet; his pulse is rapid and feeble. Are not these, each and all, the signs of inward bleeding? But they are just as truly the signs of the *erethistic* type of shock. I am personally cognizant of two instances in which a famous gynecologist—a man of great surgical experience—treated a patient *post-operationem* for shock, but the autopsy showed the abdomen to be full of blood, due to a slipped ligature of the stump.

In the one case (shock) the bleeding is *into* the paralyzed and dilated vessels; in the other (hemorrhage) *out* of the vessels. But the symptoms are one and the same, and are due mainly to lack of blood in the brain and heart.

In the second and commoner type of shock—the *torpid* or *apathetic*—not only the sympathetic system, but also the cerebro spinal centers, have felt and partly succumbed to the blow. The patient is, in the milder cases, mentally benumbed; in the worst ones, quite unconscious. Because of this benumbing of the higher centres, the signs of this, the commonest type of shock, necessarily differ very much from those of the first type described. He does not suffer, as would an active brain, from dyspnea, nor is he restless, nor does he complain of nausea nor of thirst. He has however, the cold, pale, sweating skin, the rapid, feeble pulse, the shrunken features, of inward bleeding. Often he has lost control of his sphincters. Sometimes he is a little delirious or convulsive—more commonly, simply in stupor. His symptoms are precisely those of hemorrhage, except as just stated; and the reason for the difference is obvious.

The only condition (save inward hemorrhage and occasionally a form of extreme sepsis) which can be confused with shock is fat embolism, and the differential diagnosis is not difficult. It is a special danger of fractures, and lacerations of, or operations upon, fatty tissues. At first, the lungs suffer most from the infarction; later if the patient survives and the fat is forced on through the pulmonary capillaries, the kidneys and other organs may also undergo fatty embolism. Five points aid in clearing up the diagnosis: (1) The time at which fat embolism develops. This, as compared with shock, is usually late, from two to three days after the injury. (2) The cyanosis, due to plugging of the vessels of the lungs. (3) The extreme dyspnea, with very rapid breathing and sometimes bloody foam or even hemoptysis. (4) The mental excitement which often ushers in the symptoms. (5) The presence of fat in the urine.

CAUSES OF SHOCK:—These are properly divided into I. *predisposing*, and II. *exciting*.

I. Under the first head, fear is a considerable factor. I know personally of one fatal case in which the subject, shown by an autopsy most

carefully made to have no apparent lesion or disease of any organ, died apparently of sheer cowardice, some hours before the time set for operating upon piles. His agitation and fright rapidly increased, and he suddenly collapsed, dying within an hour, and with symptoms of shock. All measures tending to reassure patients and to calm them are of utmost value in preventing shock. This is one reason why the writer always prescribes whisky and a little morphine with atropin an hour before operation. The patient, otherwise more or less frightened, takes his anesthetic in a calmer, an almost cheerful, frame of mind. Also, as these drugs are analgesics, less ether or chloroform is needed than otherwise, and hence there is less danger from it.

We should not forget, as one peril from *major* operations under *minor* anesthesia, that a conscious patient must be nervously affected in an unfavourable way by hearing the saw grating through his bone, or by seeing the bloody paraphernalia used, etc. All this tends to invite shock. To illustrate, an aspiring needle may safely be introduced in several directions into the brain of a patient who is under general anesthesia; whereas, the same needle would probably cause prompt death from shock if driven into the brain of the same patient while conscious. Furthermore, a conscious patient whose thoughts are diverted elsewhere, at the time of being cut, is apt to feel much less shock than one who is nerved to the suffering he is expecting. It is easier to snap a tense thread than one relaxed. All military surgeons have noted that a soldier severely wounded in battle may not realize it at all, for some time thereafter, and will suffer less from shock than if he were to lie down on the table in a state of expectancy, and while conscious receive an equally grave physical injury.

From the above points it follows that although one may, for example, amputate a thigh painlessly under cocain or other minor anesthesia, it may very possibly result in a greater degree of shock than would have followed general anesthesia.

Under the heading we are discussing comes also impairment of vital energy by uremic or lithemic or diabetic troubles, or other constitutional dyscrasias; by opium or certain other habits; by prolonged sleeplessness; by business worries or other anxieties; by recent illness; or by either infancy or extreme old age. Sometimes, too, there is a family inheritance whereby the slightest operation proves perilous; whereas, on the other hand, we occasionally find a man whom the most scientific surgeon can hardly kill—such is his vital resistance to shock.

II. Exciting Causes of Shock.—These may come in the form of either mental or physical blows. We are now discussing the latter, mainly; and regarding operations, there are four of chief importance. These are: (1) loss of blood; (2) length of operation; (3) excessive major anesthesia; (4) loss of vital heat during operation.

1. As to the first of these four: with advancing years a surgeon has an increasing respect for a drop of blood. Hemorrhage is not the only cause of shock; indeed, one may die from shock produced by a blow on the

abdomen, and without any bleeding. Nevertheless, hemorrhage is certainly the main cause. Shock is apt, in its severity, to be directly proportionate to the amount of blood lost.

2. As to the length of the operation, here is a matter too often neglected. In abdominal work, especially, speed is only second to asepsis as the leading factor in success. If the operation lasts an hour or more, in a given case, the patient is apt to "die cured," whereas, with half the time, or less, the great sympathetic centers do not suffer so terribly from the exposure. The most successful gynecologist I know operates with a speed like a sleight-of-hand trick.

Since the introduction of anesthesia, the really rapid operators have become few; and not all surgeons seem to realize how prejudicial to the patient it is to prolong an operation for the purposes of demonstration to the bystanders. I think it would be well if certain operations of grave peril were more often *parted in the middle*, so to speak. In the enucleation of some great tumour of the neck, for example, which has already taken much time, and promises with the careful dissection needed to occupy as much more, and in which the patient is weak—here let us leave our work unfinished, apply a sterile dressing, and wait two or three days if need be, until he is fit to bear the remainder of the cutting. Of course this is no new idea, but it is much less often adopted in practice than would seem wise.

3. As to excessive depth of major anesthesia, we all know that quite aside from the severity of the accompanying operation, this jeopardizes the patient's chances of escaping shock. Occasionally we see the surgeon permitting his assistant to keep the patient snoring heavily throughout. As a rule this, which is an indication of deep paralysis of the velum palati, is needless, and worse.

4. It invites also the fourth main cause of shock enumerated—loss of vital heat. Prolonged and profound anesthesia, as we all know, results in a heavy fall of bodily temperature. And too often, careless exposure of the subject upon the table adds to this chilling.

Treatment.—It is the chief purpose of this paper to endeavour to emphasize the extreme value of certain means of *preventing* shock which would otherwise develop. Upon this plan of campaign against this great enemy can we alone rely for better figures of mortality than those of the past. If we wait until shock has actually struck its blow, too often that blow proves deadly. Where the gravity of the operation or severe loss of blood or other cause makes shock a probability, let the surgeon use the "ounce of prevention" by *striking first!*

Of course we should endeavour to build up the patient's vital resistance by all means in our power. Where weakness from a constitutional dyscrasia or from any removable cause exists, the indication for a preparatory line of treatment is plain. In most cases it is also well to exhibit strychnin in minute doses for several days before a major operation, thereby invigorating the nervous system. But the chief reliance, the one which is already working wonders in the hands of those who know

how to use it, is the free use of intravenous, hot, saline infusion, injected while the patient is still upon the operating-table and asleep from the anesthetic, in cases where the advent of shock, otherwise, seems a probability.

The use of saline solution to treat a patient already collapsed from shock is not a new thing. Neither is it a brilliant success, because nothing is, when severe shock has actually arrived. Some text-books mention it with dubious praise; others almost or quite ignore it. But the thing which is my own suggestion (so far as a study of the "Index Medicus" and the New York Academy of Medicine Library enables me to judge) is the use of this great weapon for good at the right time, and the right temperature.

This plan for the *prevention* of shock has been in use in my clinic since the autumn of 1891, as a consequence of conclusions reached after several months of experimental work upon dogs, with hot and cold vascular saline infusion after bleeding, testing intra-arterial pressures at differing temperatures of the injected fluid, with the kymograph and the mercurial manometer, under the kind supervision of Professor Curtis in the Columbia University Physiological Laboratory during the winter and spring of 1890-91. So far as I have seen printed evidence, other surgeons did not until later adopt this plan in prevention of shock,* and it is commonly ignored even to-day by the bulk of the profession.

In evidence of priority is submitted a brief quotation from the writer's paper read before the Surgical Section of the New York Academy of Medicine, November 9th, 1891, and published in the *Medical Record*, January 2nd, 1892: "Whosoever has noted the vigor with which unstriated muscle everywhere reacts to the use of heat—for example, the much stronger and decidedly more permanent uterine contractions which result from hot post-partal injections as contrasted with cold ones—must believe it probable that such unstriated muscle, forming as it does a most important tonic of the blood-vessels, would be greatly aided by hot saline infusion in regaining its lost tone. Perhaps, too, the central sympathetic centers would feel and respond to this stimulus. Now, since a more vigorous cardiac action (for the heart, though striated muscle, responds to the heat), accompanied by a somewhat restored vascular tone, would go far toward recovery both from hemorrhage and its attendant shock, I have felt that the experiment was well worth trying. (I had tried it as a preventive of shock upon dogs only, before the paper was written.)

Again a quotation from the writer's article in the *Medical Record* for November 12th, 1892: "And why would it not be well at the end of any and every operation grave enough to make shock a probable result (though, because of the ether, not as yet at hand), to inject subcutaneously (*i. e.*, intravascularly) a quart or two of hot salt water? It would be painless, the patient not yet being out of anesthesia. It would certainly be

* Dr. F. Fänge did, however, in 1888, advocate diluted claret by rectum to prevent shock, where a very bloody operation was anticipated; and Drs. Weir, Tiffany and others in the discussion approved of water in this way. ("Trans. Am. Surg. Asso.," vol. iv, p. 540, *et seq*)

harmless. And I believe it would do much to prevent, by maintaining filled blood-vessels, otherwise fatal shock from developing. It seems not improbable that we shall ultimately see this done as a matter of routine after all severe operations." At that early date the writer had tried the method in but very few instances to prevent shock, using a half litre or more within the vessel and as much more in the cellular tissues; and could not, of course, speak as all can to-day who have used it properly, with absolute certainty as to its value upon human patients.

In this connection five points deserve especial consideration: (a) the place of entrance, (b) the proper solution, (c) the proper temperature of that solution, (d) the proper amount, and (e) the speed of introduction.

(a) In most cases the median basilic vein is chosen for the cannula. Occasionally a vein in the operating wound will do. The writer demonstrated some years ago that if one is caught short of tools—has no scalpel, no cannula, no dissecting forceps nor retractors at hand—the saline infusion can safely be made to enter the common femoral artery (which, being large enough to admit a lead pencil, can always be felt pulsating if the patient still lives) by aid of a hypodermic needle attached to a Davidson syringe or a fountain syringe.*

We must not neglect to mention that when speed is not a factor—when a prompter stimulant effect is not essential—the rectal route is an excellent one. Even during the operation the maintenance of a full large bowel by means of Kemp's rectal irrigator can only be of benefit, and is additionally a means of safeguard against dangerous chloroform narcosis—by maintaining filled vessels. And after the patient is removed to bed it is sometimes wise (in order to continue the good effects of the intravascular infusion until the danger-point is well past) in bad cases to give the hot colonic irrigation alternately, an hour on and an hour off, for perhaps a half day.

When, following confinement, the accoucheur has a partly exsanguinated patient, he adds wonderfully to her comfort if he injects high up a couple of litres or more of very hot salt water by rectum. It is instructive to note that not a drop of the amount thus poured into the colon will ever be seen again. It is taken up greedily by the thirsty blood. In an emergency, elevating the foot of the bed upon a high chair, and pouring in the salt water through an ordinary tin funnel inserted in the anus, suffices. If the loss of blood has been extreme, intravascular infusion should also be employed; for the condition of the bowel-wall, and of the refuse material coating it, may, at times, have an adverse effect upon ready exosmosis of the salt water from the intestine, rendering this route perhaps less trustworthy.

As to hypodermoclysis, it is the slowest of all methods. The lymphatics are not very speedy in permitting the diffusion of water entering the connective tissues. Also, if the proper bulk of fluid is so introduced, it means quite a number of punctures, painful the next day. To prevent

*For details, again discussed, as to this emergency method see *Medical Record*, December 10th, 1898.

shock, then, I advocate other routes in preference to this. Upon its special value at times in choleraic infant diarrhea I have heretofore written.*

(b) The fluid used should be the so-called normal, really decinormal, salt solution, which is six parts of common table salt per thousand, boiled and filtered: roughly a heaped teaspoonful to the litre or quart. So far as we are able to observe, this is as good, practically, as more complicated formulæ resembling more closely the exact chemical composition of the blood-serum. The use of *blood* transfusion, both for treating post-hemorrhagic conditions and shock, has been entirely dropped, as no more effective at the moment than saline infusion, and as being dangerous later, both from possible embolism, and from the certainty that every bloodcell so introduced will speedily break down, threatening to clog the liver and kidneys with the waste products of destructive or retrograde metabolism of tissues.

It does not seem so widely known as should be the case that plain, warm water, devoid of sodium chlorid, must not be used intravascularly. For example, in a recent article, in the *Medical Record*,† upon "Saline Infusion," the author, Dr. Reilly, copies without adverse comment a most dangerous bit of advice from Messrs. Bose and Vedel; namely, that "ordinary water is non-toxic, not very destructive to the red corpuscles, and might be used in an emergency." Also, in the "Transactions of the London Obstetrical Society" (meeting of December 6th, 1894), may be seen a similar suggestion by a member, Dr. Horrocks, who was of opinion that the salt was a luxury, but not a necessity. He did not claim however, actually to have ever used plain water in this way, and no member present agreed with him in advising it. It is certain that whoever tries this, will, if the water be used in the customary large amount, kill his patient with quite indecorous speed by a wholesale disintegration of the red discs. The addition, however, of even so small a proportion of salt as six-tenths of one per cent. renders it safe for vascular infusion. Perhaps a quotation from an experiment of mine at the Columbia University Physiological Laboratory may emphasize this point, which surely needs emphasis.‡ "On May 15th, 1891, I operated on a large dog, weighing before operating 16.77 kilos. On the one-in-thirteen hypothesis (of blood to body weight) his weight of blood would have been 1290 grams, or, allowing for the specific gravity of blood, about 1222.75 c. c. The canula of the mercurial manometer was introduced into the right carotid. The right femoral was used for bleeding, the left femoral for injection of the hot salt solution. Professor Curtis superintended the working of the kymographic needle. Dr. F. J. Brockway assisted me. We drew 563 c. c. of blood."

Upon attempting to replace this, and a smaller subsequent bleeding, by the salt solution, with which at various temperatures I was experimenting, a mistake—a most interesting and instructive one—was made. "Dr.

* *Medical Record*, November 12th, 1892; also December 10th, 1898.

† *Medical Record*, November 12th, 1898.

‡ See *Medical Record*, January 2nd, 1892.

Brockway and I each supposed that the other had added the salt to the hot water, whereas, in fact, neither had done so. And within a minute after receiving a considerable amount of this plain-water injection the animal died." Previous dogs, bled to an equal degree, had done beautifully and recovered under saline infusion. Hence, we were much puzzled until Professor Curtis asked if the salt had been added, and stated that without it water in considerable amount will kill almost as quickly as prussic acid—and in the way already named.

(c) The proper temperature for the injection fluid is *as hot as the hand can bear*, and this is about 120° F. or 49° C. (Of course the temperature at the heart, when the great bulk of blood was diluted the slowly entering fluid, will be much lower than this.) There need be no fear of injuring the blood or other tissue by such heat. Very many times the writer has now used it, and never with cause for subsequent regret. This point seems not at all well known as yet in the profession, and nearly all the textbooks still advice infusion at about 100° F. The higher temperature here recommended is very stimulating to the flagging heart, and maintains the tone of the muscular tunic of the vessels. This is well illustrated in the photographs I now show you of kymographic carotid tracings at various temperatures. So recently as last winter Dr Robert Coleman Kemp, at the Columbia Physiological Laboratory, in pursuing some investigations in a somewhat different line, had occasion to repeat my manometric and kymographic experiments of some seven or eight years ago, and re-verified their correctness—he, too, finding that at 118°-120° F. the tracings showed the best results upon heart and vessels. His statements were published in the *Record* early last autumn.

To maintain the desirable degree of heat, the reservoir containing the water should be wrapped in a large towel or sterile blanket during the time occupied by the act of infusion.

In Dr. Reilly's article, quoted, he mentions a conclusion of Athansin, a French experimenter, upon this matter of the proper heat, which I must believe to be an error. He says: "In animals, at least, solutions having a temperature of 165° to 175° F. can be safely used." Now, upon reference to Kirke's "Physiology," eleventh edition, p. 846, it will be seen that globulin coagulates at 70° C. (158° F.), and Dalton's "Physiology," seventh edition, p. 80, affirms that serum-albumin clots at 72° C. (162° F.).

It will be noted, however, that both 158° F. and 162° F. are about 40° F. hotter than the hand can support, as above stated. So that the temperature which I advice is a long way from being unsafe. The hand-test of the heat, as suggested, will be found both safe and accurate enough in actual practice.

(d) The proper amount of the injection fluid may be set down, for the adult, as never less than a litre, often two litres, and occasionally, perhaps even three litres, injecting always very slowly. To give a half-litre or less if, for the prevention of shock, almost valueless. The limit of

safety as to large quantities has not as yet been very exactly formulated. The kidneys readily remove any water from the blood in excess of its needs. Should these be diseased, a less amount must of course be employed than otherwise.

(e) The time occupied in introducing the fluid into a vein should never be less than ten minutes per litre. To be sure, I have seen it caused to flow with double this speed and without ill effect; but, on the other hand, a temporary period of threatening heart-failure to this cause—a rapid overstimulation—has been at times observed.

Of late we have all noticed in the journals that a few enthusiastic friends of this plan of preventing shock by saline infusion are using it at the *beginning* of the operation—before even a drop of blood has been lost, or any strain whatever put upon the nerve-centers. If this were only done by the plan of keeping the large bowel full of hot salt-water, I should find no fault for here the blood will to some extent take up water only as it needs it. But I doubt the wisdom of the preliminary distention of vessels by intravenous infusion; for one reason, because it is plain that by such a practice we add to the amount of blood lost. For every spurting point will, from increased pressure, spurt much more vigorously before it can be caught, than otherwise it would do.

Just a word as to the repetition of the dose. Many times I have read of surgeons using it once in a given case and reporting a temporary good effect, but that subsequently the patient died of shock. Now, of course no method can save all cases of every dangerous disease; but common sense would teach us that if a dose obviously does good it should be repeated, and this so long as the same indications call for it. From this it does not follow that we must open a vein again and again. The rectal hot saline douche will, if rightly used, give approximately as good results for such purposes. The bed should always have its foot elevated very high, and this should always remain so until danger of shock is well past. This position maintains a better supply of blood to both brain and heart, and also helps in the retention of the fluid in the large bowel. Alternately an hour on and an hour off seems to produce more desirable results than a steady maintenance of the flow through Kemp's tube. I think it wise not to consider the patient past his danger until the pulse becomes as low, at least, as 120 per minute, and shows no tendency to occasional increase above this number.

Thus far I have discussed the *prevention* of shock, but have said nothing as to its treatment when actually developed and threatening the patient's life. Concerning this last I have little to say, and that is not new. If we are unfortunately called to an accident case and find the victim in collapse, which is another name for shock, hot saline infusion is worth trying—but with small hope. Strychnin hypodermically is probably, when used freely, our best reliance. Some surgeons use it even to the point of producing slight spasms—if the shock does not yield earlier. Hot applications about the person are essential—elevation of the foot of

the bed, a help. But two prominent "*don'ts*" should never be forgotten, namely, *don't* over stimulate the heart, and *don't* give a particle of food by mouth, nor any medicine even remotely capable of causing nausea.

If the pulse come down to anything like reasonably safe numbers—as discussed a minute ago—let well enough alone; for if that tired heart be over-whipped it is likely to quit work. And as for the second "*don't*," what is nausea in all of its symptoms but one type of shock? There is the cold, wet skin, the weak pulse, the sensation of vital collapse; and no one should take the least risk of adding this—if not already present—to the surgical shock.

The duration of shock is not many hours, as a rule—as to its worse phase.—Certainly it is not so prolonged but that the patient may easily have his strength substained during this period, without using his stomach—by nutrient enemata, or hot coffee by rectum, etc. And any needful remedies which might otherwise possibly nauseate can surely also be administered by this route, or better still, by needle. I dwell upon this matter, because one so regularly sees this "*don't*" neglected, to the patient's detriment.

I wish that time permitted a discussion of the question of amputation of crushed and lacerated limbs during the shock, and of the relation of anesthesia to this question, but this is impossible.—*Medical News.*

THE TREATMENT OF HARELIP AND CLEFT PALATE.

This much-discussed topic continues to be the subject of a good deal of doubt in many minds as to when and how to operate for the various conditions that present themselves. Many of the procedures necessary are entirely within the range of the general practitioner, but there always remains a feeling of hesitation as to the methods most advisable to employ, and the most suitable time for operation. Towards solving such doubts an authoritative review of the recent literature of the subject, and conclusive statements as to what seems best in the therapeutic suggestions that have recently been offered by various writers will be of the greatest value to the busy practitioner.

Such a review of the treatment of Harelip and Cleft Palate is given by Dr. J. Chalmers DaCosta, in "Progressive Medicine," the new Quarterly Review of Advance in Medicine, of which Professor Hare is the editor. From it we gather that the tendency is more and more towards early operation. The third or fourth month used to be considered the earliest suitable time to operate. Murray now counsels operation in the fourth week; Mumford and Heath think it should be undertaken not later than from the sixth to the eighth week. Where cleft palate exists it is not operated upon so early. The harelip is operated upon alone, and the persistent pressure made by the closed lip helps to lessen the gap in the growing bone. The operation on the cleft palate is put off for awhile, but this, too, not nearly so long as it used to be. If the closure of the defect is delayed until the child has learned to talk, the peculiarities of speech, especially its offensive nasal character, will never be corrected. The authorities are agreed, then, that a cleft in the soft palate should be closed about the sixth month, and in the hard palate during the second year.

The practical suggestions collected from the recent literature of the subject by Dr. DaCosta are very valuable to the ordinary practitioner. Space will permit us to give but a few of them. The use of the knife in operation rather than the scissors, because the latter crushes tissue more, leaving its vitality impaired, especially at the edges where this is so important for subsequent union; the avoidance of pins or heavy sutures in securing proper apposition after the operation is advised, though these are faults of technique in this matter that we fear have been so ground into the present generation by text-book and teacher that failures of union due to these crude early methods will still continue to be frequent. The suggestion by Mumford as to anchoring the nares with shotted wire will remove a very common cause of failure due to the child's inevitable tendency to "turn up its nose" at and after the proceedings.

In double harelip it is advised to remove the intermaxillary bone by sub-periosteal operation a week before the operation on the lip. If left it is liable to undergo necrosis. Its removal leads to some flattening, but this will not be great if the bone be removed by sub-periosteal operation. and if but one side of the harelip be operated upon at a time. Among the directions for the operation for cleft of the hard palate, we note these

pre-operative measures of precaution from Owen, which are sometimes forgotten, but of which the practical value it is easy to see: never operate unless the child is in the best possible health; remove carious teeth, adenoids and enlarged tonsils before operating, and operate whenever possible in fine weather, so that the patient can get out of doors soon afterwards. The neglect to remove such ready sources of infection as carious teeth and those harborers of microbes, the irresistible tissues of adenoids and enlarged tonsils, is very probably the source of a good many of the failures in uranoplastic osteo resection.

Announcement.—CONGRÈS PÉRIODIQUE INTERNATIONAL DE GYNÉCOLOGIE ET D'OBSTÉTRIQUE.—3^e Section, Amsterdam, Aout 1899.—Secretariat Sarphatistraat 1h. Amsterdam, September, 1898. Dear Sir,—We have the honour of soliciting your presence at the 3d Intern Congress for Gynecology and Obstetrics to take place at Amsterdam from the 8th to the 12th of August, 1899, under the patronage of the Minister of the Interior. The leading questions for discussion will be the following: 1^o. The surgical treatment of fibro-myoma. 2^o. The relative value of antiseptics and improved technic for the actual results in gynæcological surgery. 3^o. The influence of posture on the form and dimensions of the pelvis. 4^o. The indication for caesarian section compared to that for symphysectomy, craniotomy and premature induction of labour. We have succeeded in obtaining the valuable concurrence as reporters of M. M. Doyen, Howard Kelly and Schauta who will treat the first question; M. M. Bumm, Richelot and Lawson Tait the second; M. M. Bonnaire, Pinzani and Walcher the third, and M. M. Leopold, Pinard, Pestalozza and Fancourt Barnes the fourth. We propose sending the reports with their translations in the official languages to all the members, a month before the opening of the Congress. As regards private communications, preference will be given to those bearing upon the above mentioned leading questions. Time will also be allowed sufficient for any demonstrations kindly afforded by the members. The official languages are: English, French, German and Italian. We venture to urge our request that you will honour the Congress with your presence and, by communicating your experience, insure scientific results as satisfactory as those obtained by the previous Congresses of Brussels and Geneva. Subscription form. —I (1) residing at (2) hereby declare my adherence to the 3rd Session of the periodical International Congress for Gynecology and Obstetrics, to be held at Amsterdam on Aug. 8, 1899, and agree to pay the sum of one guinea for my share of the contribution. Signature: I founder (membres fondateurs) (3) of the International Congress for Gynecology and Obstetrics, hereby state my intention to be present at the next Congress, which will take place at Amsterdam Aug. 8, 1899. Signature: The committee: H. Treub, President, J. Veit, Vice-President, G. C. Nijhoff, J. P. Barnouw, Treasurer, M. A. Mendes de Leon. Please address all communications to J. D. Emmet, M.D., Secretary for America, 91 Madison Avenue, New York, N.Y.

(1) Name, surname and quality. (2) Exact address.

(3) Founders (membres fondateurs) are those who having paid the sum of 300 francs, are thereby exempt from all further contribution to future congress.

TORONTO CLINICAL SOCIETY.

The fifty-fourth regular meeting of the above society was held in St. George's Hall, Elm St., on Wednesday evening, May 10th, at 8.30 p.m., the president, Dr. F. L. M. Grasett, occupied the chair.

Fellows present: Drs. J. A. Temple, E. E. King, Ryerson, H. J. Hamilton, McIlwraith, Bruce, Boyd, Primrose, Small, William Oldright, Lehman, Peters, Badgerow, Thistle, Britton, Macdonald, Bingham, Fenton, Greig, Pepler and George Elliott.

In connection with the adjourned discussion on severe injuries and crushes involving the question of amputation, Dr. E. E. King showed two cases of injury of the foot and hand respectively, both street car accidents, in both of which nature had effected the cure. Dr. William Oldright also showed a case of injury involving the question of conservative surgery and described the conditions present.

Dr. Primrose introduced a patient, a woman whom he had seen for the first time on Christmas morning, 1898. She had fallen on her outstretched hand on a piece of crockery ware. The flexors sublimus and profundus of both index and little fingers were completely severed. The superficial palmar arch with much bleeding and the cut was carried down to the metacarpal bones. The tendons were sutured with difficulty owing to the retraction, kangaroo tendon being employed. A drain was put in the outer angle of the wound and it healed without suppuration, although there was a good deal of dirt in the wound at the time of the injury. The nerve passing to the index finger was sutured, but he could not secure the other nerves. The person has sensation in that finger.

Drs. Peters, E. E. King and Oldright continued the discussion of the several cases presented.

UNUNITED FRACTURE. (Dr. J. A. Temple.)—The subject of this case was a young lad of 14 years. He was seen first by Dr. Temple on October the 31st, 1898 for an alleged dislocation of the right shoulder which had occurred five weeks previous to the time he was first seen by Dr. Temple. The injury was received in a football game. He was thrown violently to the ground and received an injury of the upper part of the right shoulder. He was seen shortly afterwards by a physician, and the diagnosis then was dislocation of the right shoulder. The arm was then put up in splints with the arm close to the body and strapped across it. The boy was kept in that attitude for four or five weeks during which time he suffered from a great deal of pain. When Dr. Temple saw him the arm was still in a sling, and when taken down it hung alongside his body. He could not raise it from the side of his body, but he could take hold of it with the other hand and lift it up. On examining the arm Dr. Temple felt quite satisfied it was not a fracture dislocation but an ununited fracture. The boy was fairly stout, but you could feel very distinctly that the lower part was very near the surface. The jagged end of the bone almost protruded through the skin.

He thought he could make out that the head of the bone was in its proper position. The lower fragment laid outside the upper one. He felt quite satisfied a fracture existed and that it was not a case of dislocation. Dr. King has made skiagraphs of the case which show clearly the nature of the accident. (Two skiagraphs here exhibited.) In the first one, looking at the arm from behind, you can see the outline of the scapula beautifully, the lower fragment lying outside the upper. In the other the front view was not very satisfactory. Drs. Cameron and Grasett saw the case in consultation. The treatment proposed was to try under chloroform to reduce the fracture. But it was absolutely impossible to dislodge the fracture. It could not be brought down although two surgeons pulled at either end. Dr. Grasett made an incision but he could not dislodge the fracture even then. After breaking down the fibrous union it could not be done. We then removed a piece of the lower fragment and brought the ends into very fair apposition. The bones were not wired. We put the arm up in an extended condition, out from the body, with a rectangular splint along the outer side and up over the shoulder, and another one on the inside making extension. He was kept in that position for a week or two and then Dr. King made a second skiagraph about ten days after the operation. This shows the arm looking at it from the interior surface, and you will see the bones are in position. We got the bones in as normal a shape as we possibly could, but not completely plumb together. For a period of six weeks the part was not disturbed, then the splints were taken off and the injured boy has the most complete use of his whole arm. He can play hockey, baseball, etc., and has complete movements. The result has been most gratifying without wiring. Dr. Temple asked for an expression of opinion from the Fellows regarding the treatment of these cases.

Dr. Grasett: When we made that incision and tried our very best, even using levers to throw the lower fragment in, we could not do it. We then took off half an inch of the lower fragment, and then it came together comparatively readily. He further stated that Dr. Cameron thought there was no occasion to wire. He had treated these cases, sometimes wiring and sometimes not.

Dr. Peters discussed the case at some length. He did not think the case one of ununited fracture and could not see why it should be called such. Any other treatment than opening up the parts would not have resulted so well.

Drs. Primrose, Oldright, E. E. King and Britton continued the discussion for some length of time, instancing similar cases seen in their own practices.

Dr. A. A. Macdonald spoke in reference to the use of screws in cases where the fractures were oblique.

Dr. A. A. Macdonald showed an appendix removed from a scrofulous lad, who had been the subject of two or three previous attacks of appendicitis with a good deal of pain in the region of the appendix.

2. A specimen of cystic ovary somewhat bound down, occurring in a woman who was insane. The irritation of the ovary, he thought, had something to do with the mental condition

3. A specimen of fibroid tumor of the uterus, growing sub-peritoneally from the upper part of the fundus. This he enucleated, tying off the vessels.

4. A specimen of a sub-mucous fibroid from the interior of the uterus. The woman from whom Dr. Temple and he himself, had removed this was suffering from an ovarian cyst. The peculiar condition was not recognized before, owing to the hardness in the vicinity. It was not recognized until the patient was on the table.

ELECTION OF EXECUTIVE COMMITTEE.—The following Fellows were elected the Executive Committee for 1899-1900: H. B. Anderson, H. A. Bruce, G. Silverthorne, Geo. W. Badgerow, Geo. A. Peters.

GEORGE ELLIOTT,

Recording Secretary.

Yellow Oxide of Mercury in Surgery.—It seems rather late to advocate the use of salves in surgery but the results achieved by A. J. Ochsner, at the Augustana Hospital in Chicago, with the use of an ointment containing yellow oxide of mercury, is worthy of extended notice. The impossibility of sterilizing the skin has long been recognized. No matter how thorough the cleansing nor how strong and penetrating the antiseptics employed, it is only the outermost portion of the skin of the hands or of the field of operation that can be rendered aseptic. This will be denied by some who claim that under a particular technique the hands of the surgeon can be rendered thoroughly aseptic. This is probably true for a short time, but after the hands are employed in manipulating the wound, tying sutures, or other movements, the bacteria in the glandular appendages of the skin make their way to the surface. The same thing is true of the field of operation—only the more superficial layers of the skin can be rendered aseptic and the passage of a needle or the drawing of a suture through the skin may effect the deeper layers of the wound. These reasons have led Ochsner to employ an ointment of the yellow oxide of mercury for its powerful antiseptic properties. With its use he claims to have practically eliminated stitch abscess and infection from the skin in his operations. There would seem to be a reasonable basis for this belief in the known antiseptic properties of the drug. There is no question as to its value in inflammation of the meibomian glands of the eyelid. Rubbed into the edge of the lid, it penetrates the ducts and unquestionably in many cases it aborts a purulent inflammation already established. The same sort of action is claimed for it upon the edges of the wound in preventing stitch abscess or deeper inflammation.

A DIP INTO AN OLD NOTE BOOK.

In these modern days, when everything is placed briefly by authors to publishers and by them before a keenly critical public, we would ask ourselves is it waste of time to con over the note book of a student in medicine who studied earnestly and leisurely when this century was young?

Such a book lies before us, bearing the imprimater "Arthur Mower Edinburgh, 1817," and presented to the writer by the nephew of this old-time student.

Is it worth while, in the face of of modern medicine, serum-therapy and antitoxines, elegant Pharmacy and pure alkaloids, pathology, with its handmaiden microscopy, collecting here and there from this old manuscript, in its "sear and yellow leaf"—its faded ink, some oldtime clinics, diagnoses and treatment—leaving the *via. recta*, the "cinder-path" and x-rays, to deviate into an unfrequented lane and delve a little in the mould or peel the lichen off a long past mile-stone of 80 years ago?

Would any lesson be learnt or curiosity satisfied—a half an hour whiled away in reverie?

"Elephantiasis: John Paterson at 16th March, 1817." "The features are very much deformed and the face is almost completely occupied by hard tuberculated elevations of the cuticle. Those deep seated are large and irregular, in some places covered with white thin furfuraceous scales of a higher color than the natural skin, while the more superficial tubercles are of a still more dark complexion and exhibiting a number of small blood-vessels ramifying on their surface. The alæ of the nose are swelled and the apex of it is occupied by a dark brown thick scab, the lips are tumid and covered with scales. The external ears are considerably enlarged and thickened, and the right more particularly is beset with tubercles.

The voice is hoarse and obscure, deglutition is painful and difficult and on examination the tongue, roof of the mouth, inside of the lips and cheeks, velum, tonsils and uvula are perceived to be occupied with numerous small white tubercles with considerable erysipelalous inflammation of the parts and slight ulceration of the velum near the base of the uvula.

In the upper and interior part of each thigh, there is a cluster of large lymphatic glands, forming a moveable, rather soft prominent swelling, more particularly in the left, without any discoloration of the integuments, or pain. The thighs retain their natural form, but are everywhere covered with large, irregular patches of a light brown, copper color and numerous small flattened tubercles. The parts of the skin thus dissolved and tuberculated, are in a great measure devoid of sensibility; and piercing it with a sharp pointed body so as to cause a flow of blood, does not produce the slightest degree of pain.

At no period of the disease does it appear to have been attended with uneasiness. He constantly experiences a sense of constriction across the chest, with pain under the short ribs of the left side and palpitation of the heart on exertion, without cough.

For three weeks past he has been subject to gastrodynia, cardialgia and acid eructations after taking food. The abdomen appears slightly tumid, but no distinct induration is to be felt in any part of it. P. 93, T. moist, urine high-colored and depositing a copious, lateritious sediment. The ankles and feet are swollen towards evening.

℞ Mist. Diaphor: Antimon: ʒi

Sig: 3a q. q. hor:

℞ Super Tart. Potass, bis in die.

Basin of tea morning and evening—table-broth for dinner.

17th March: ℞ Pi. Sub. Mur. Hydrarg Comp.

Sig. i omni nocte

18th ℞ Vin. Rub: ʒ xvi

aqua ʒ iv

Beefsteak for dinner daily."

Such is the case no looking to alterative treatment, no liquor Donovanii—no iodides.

We may infer from clinical notes that the case became a stand-by for successive students for a couple of years or so, after which aggravated cardiac trouble prevailed, ending in complete anasarca and death.

At the same time Molokaio and Tracadie have many such cases in their lazarettos, and Father Damien gazed in melancholy on just such environment,

Some Treatment:—"Isaac Ford was admitted for hepatitis P. 120 full. T. loaded, thirst considerable, B. regular. Attacked with dyspnea a week before, cough, succeeded by pain at lower end of sternum. General lassitude and indisposition.

Emitt. c brachio Sang: ʒ xij

Vesicatorum pectori Infus, lini.

20th. ℞ Pulv. Antimon. Sacchari āā ʒ i

Tere Simul et divide in dos. Vi.

Sumat i omni bihoris.

Cont. Mist Mucil. Infus. lini.

24th Breathing appears less laborious but cough is frequent and expectoration scanty.

Countenance livid, restless night with delirium p. 116. About 16oz. blood withdrawn which shows the buffy coat—blister applied this morning to right side of chest, ℞ Mist Mucil. ʒvi

Tinct. Digitalis ʒss.

Cujas sumat ʒss. 2 da qua hor.

25th. Pectoral symptoms, reported above, still continue. ʒxvi of blood again drawn which shows more of the buffy coat than the two former bleedings.

Better night, cough still frequent, expectoration scanty. P. 90 intermittent. No food taken.

T. clean and moist. Blister gave good discharge Vin. Rub. \bar{z} iv. Bov. lbi. sponge biscuit.

26th. Died this morning.

Was this not a case of pleuritic effusion rather than hepatitis? If the former, would not venesection to 44 oz. be liable to increase effusion though counteracted somewhat by blisters? Were not diffusible stimulants indicated? Was the digitalis in such doses effective? Was cyanosis and cardiac weakness not apparent? Was not the 1lb. of beef intended for the predecessor of Sairy Gamp.

The following differential diagnoses re delirium tremens are given.

"Delirium tremens appears to be distinguished from real inflammation by the absence of pyrexia, of pain in the head, at least as an urgent symptom, of determination of blood to the head and of intolerance of light and sound, while bleeding, if resorted to, produces no abatement of the disorder.

It is to be distinguished from mania by the previous history of the patient; by the tremors and by the state of the pulse; and from the delirium of low fever by the want of any previous febrile affection; by the moist and slightly furred tongue, by the skin being generally moist though varying in temperature, and especially by the disproportion between the degree of strength and the state of the pulse, for such a pulse in fever can only occur in the last extremity of weakness and would be regarded as a sure mark of approaching dissolution. Its own peculiar marks are, its occurring, as it appears, in persons who have been addicted to intemperance in drinking, the attack having been preceded by anorexia, abberation, coma vigil. The tremors and peculiar picking so different from what has been called, *collectio floccorum*, the unwearied watchfulness and delirium, sometimes moderate and tractable, at others raving and furious, but seldom irascible; the pallor and anxiety of countenance and the frequency of the pulse, while the strength is not proportionately reduced."

All this is very quaint, very Grandisonian, may we say Watsonian? Here are some of the oh-Jupiter-aid-us! prescriptions in such a case.

"℞ Pilulæ Hydrargyri

Gambogiae $\bar{a}\bar{a}$ \bar{z} ss

Misce et divide in pilulas xij, Capiat iij statim et omne nocte

℞ Magnesiae Sulphatis \bar{z} ii

Aqua Mentis Viridis \bar{z} vii

Sp. Lavendulæ Comp, \bar{z} ij

Misce. Fiat mistura cujus capiat cochlearia quatuor magna sextis horis."

Though they had no Bromides nor Chloral the following will explain itself:—

"℞ confectionis Aromaticæ \bar{z} ij

Liquoris Ammoniae acetatis \bar{z} ij

Spiritus Etheris Nitrosi *f* ʒij

Mistura Camphora *f*. ʒvi

Misce, fiat mistura cujus capiat cochlearia iij 6 tis horis.

We fancy some readers will agree with the wag who opined that prescriptions were written in a dead language out of compliment to the expected demise of the patient.

Dec. 1817 finds Mr. Mower pursuing post graduate studies in Paris :—

“ Attended the visit and lecture of Monsieur Dupuytreu this morning, at the Hotel Dieu. The visit from six till half past eight, then his lecture commenced in the Amphitheatre. It was on the patients he had just been visiting. The lecture lasted an hour ; he then opened the corpse of a man who died from a fall ; he showed the nerve, which spreads itself on the diaphragm and gives branches to the intercostal muscles, had been torn ; the muscles of respiration being thus deprived of nervous influence could no longer perform their office ; respiration ceased, then the circulation, and lastly death reached the brain itself. An operation was performed on the person of a young girl, in cutting out a fibrous (sic tumor from her breast. After breakfast went to the dissecting room, and began the lower extremities of an old subject observed the abdominal ring, the crural arch, under which come the great vessels in descending to the thigh and some of the vessels of the fore part of the thigh.

9th. There are at present a great many patients in the Hotel Dieu with small sores on their legs and arms ; these are often very tedious and difficult to cure. Monsieur Dupuytren merely applies lint to absorb the matter and linen bandages. He dissected, or rather opened, two corpses after his lecture. One was the body of a man on whom he operated for the stone, being too large to be extracted at once, it was obliged to be broken—the man died. It is to be remembered that on performing lithotomy if any outward accident should keep the patient long upon the table he stands a much worse chance than if the operation had been quickly performed.

Dissected a subject at the Pitiè, the body was that of a young man, not more than thirty, he was wasted and the face was very pale, the venous system was very turgid, which generally indicates a slow death from some disease in the organs of respiration—the venous blood not passing through the lungs with the rapidity necessary to a proper oxidation. The venous system becomes overloaded and the patient dies.

On opening the chest the lungs adhered everywhere to the pleura, and they were an entire mass of disease, filled with tubercles and several abscesses.

One remarkable appearance presented itself on the interior surface of the right lung. A large tubercle had been formed several inches long and about an inch in breadth, $\frac{1}{4}$ inch in thickness.

This tubercle consisted of an outer membrane which formed one entire cyst which was filled with greenish matter, soft and cheesy, with the same appearance as the matter afforded by a scrofulous tumor.

This seems to confirm, that scrofula is akin to consumption or rather a modification of scrofula.

Jany. 1818. Dissected the body of an old woman who had evidently died from inflammation of the bowels, the inflammation was perceptible chiefly on the jejunum, the vasa vasorum were turgid and exhibited the appearance of seaweed on the surface of the intestine. The inflammation increased as it descended, and a great accumulation of faeces was present. In the transverse arch of the colon several strictures were observable, which in one place nearly occluded the bowel. The abdominal viscera were displaced. The stomach reached nearly to the pubic region. The right lobe of the liver descended into the lumbar region of the same side. Remarked more particularly in this subject the foramen of Winslow which opens just under the lobulus spigellii into the great sac of omentum.

This body was very remarkable for a number of morbid phenomena. In the broad ligament of the womb, on its right side, between the frimbriated extremity and the upper part of the ovarium, were found 8 or 9 little bodies of a brownish color in appearance, like little bubbles or vesicles.

Womb—its neck was much thickened, and its internal cavity was occupied by a large polypus exactly shaped by the cavity. The passages through the Fallopian tubes were stopped. Observed the glandular orifices opening internally on the neck of this organ, signs of inflammation very evident about the os tincae. On the larynx was found a cyst of considerable size quite independent of cellular substance and slightly adhering by its upper neck, on opening it pus came out.

In the left kidney were four calculi of a dark color, apparently urate of lime. It was completely diseased. The hæmorrhoidal vein was found to communicate with the hepatic.

The bladder was thickened and signs of inflammation were observed about the exit of the ureter.

The aorta was curved just after giving off the cæliac branches."

Truly this was a veritable pathological mine, perhaps the mitral valves were out of gear, and cerebral tumours were in evidence.

This aged harridan had evidently lived free and easy.

" Diseases desperate grown
By desperate appliances are relieved,
Or not at all."

Napoleonic wars are over—the Peace of Paris is sustained, Alsace and Lorraine are not yet Germanized and the reader has been lured out of a precious half hour—for which we apologise.

C. O'GORMAN, M.D.,
Depot Harbor, Parry Sound.

MOVABLE KIDNEY IN CHILDREN.

Floating kidney has been considered of rare occurrence in children. Dr. Jules Comby, however, believes that it is more common than is usually supposed. In writing upon the subject in a recent number of the *British Medical Journal*, he reports eighteen cases. He has watched for these cases for several years, which no doubt, largely accounts for the number seen. He believes that the condition is not uncommon at any age, though it is evident that it is less common in children than in adults, particularly in thin and anæmic women.

Of the eighteen cases reported by Dr. Comby, two were aged respectively one month and three months, six were between one and ten years, ten were above ten years of age. But these figures corresponded only to the dates of the examination and diagnosis; the mobility no doubt dated further back than this; sixteen of the cases were girls, two were boys, the same proportion of the condition in the female sex observed in adult life. In fourteen of the cases the mobility was associated with dyspepsia and dilatation of the stomach; hereditary syphilis was obvious in two cases, chlorosis in two, lienteric diarrhoea in one, migraine in one, and psoriasis in one. In nearly every case the affection was latent, in two it had been mistaken for a chronic appendicitis, twice it had been found and treated.

As regards cause it was not possible to attribute it to the pressure of the corset, as the greater number of the patients wore neither corset nor belt. Nearly all were dyspeptic, having gastric troubles or pains in the stomach, suffering perhaps as a result of gastro-intestinal distension to which ill nourished children are subject, from elongation of the suspensory ligament and prolapse of the viscera.

The congenital origin of floating kidney is believed by Litten, Gutterbock, Ewald, Albarran to be the explanation of all cases. The kidney is possibly provided with a too lengthy pedicle, which causes it to float in the abdomen either spontaneously or as the result of some special effort of a distension of the stomach, of a tight constriction, or of a hypertrophied liver, or an injury. It is difficult to say why women are more liable to this organic displacement than men, but no doubt it has some connection with the abdominal conformation of the former.

THE SYMPTOMS OF MOVABLE KIDNEY.—The symptoms, as stated by Comby, are variable and frequently obscure, and do not afford much guide to diagnosis; often the affection is absolutely latent, and is passed over. Sometimes there is paroxysmal pain, which, on account of its seat on the right side, is attributed to appendicitis. The pains may come on after some unusual effort or fatigue.

In our own experience, movable kidneys have always been very sensitive to the touch and have continued more or less sensitive as long as they were out of normal position. Numerous cases have been reported, however, in which the tumor was neither painful nor sensitive to touch.

In rare cases the kidney may become twisted and the ureter occluded, and a hydronephrosis, which may be either transitory, intermittent, or persistent, may supervene. Dyspepsia or constipation is often associated with a moveable kidney. But no one symptom can be relied on, and the right iliac region must be carefully explored.

While in some cases of movable kidney, the diagnosis is difficult, in others it is extremely easy. In no other condition is a hard, round, movable mass discovered in the abdomen suddenly. This tumor is sometimes so distinct that it can be grasped in the hand. In other cases it is somewhat fugitive and can only be grasped through the abdominal wall by supporting the lumbar region with the other hand. The mass usually appears near the umbilicus or in the hypogastric region.

The younger the patient, the more difficult is the diagnosis. The condition is often undiscovered because there are no symptoms; investigation of the part is difficult, and a child does not lend itself satisfactorily to exploration. But none of these difficulties are insurmountable. Among the conditions, according to Comby, with which it may be confused are to be remembered: Coprosthesis, appendicitis, different cystic or solid tumors of the kidneys, perinephritis, stone. It is not impossible to eliminate these different possibilities before proceeding to diagnose the existence of movable kidney.

TREATMENT OF MOVABLE KIDNEY.—The treatment of movable kidney is not entirely surgical, in nearly every case some medical treatment is indicated, and in many cases no surgical treatment is required. When the affection, according to Comby, is latent or well borne, when the pains are moderate or intermittent in character, rest and an abdominal belt may suffice to relieve. Bandaging rarely succeeds on account of the great mobility of the displaced kidney. A flannel bandage wound several times round the body, and supporting the entire abdomen, is the best means of immobilization that can be devised. A bandage, however, tight enough to support the kidney, is apt to cause colic or distress to the child.

It is of the highest importance that straining of the abdomen should be avoided. Hence, the bowels should be kept regular and free; dyspepsia should be promptly treated and abdominal indigestion prevented if possible. Acute attacks of indigestion with vomiting should receive prompt treatment, for the act of vomiting is one of the most certain means of forcing a kidney from its normal position. It is practically impossible to keep a kidney in proper position after it has been once or twice displaced, if the child is subject to attacks of acute indigestion with vomiting.

The case should become a surgical one, if the pains persist or become unbearable, or attacks of peritonitis or hydronephrosis through twisting of the ureter occur. An operation should then be performed for fixing the kidney to the posterior abdominal wall.

THE JACOBI WARD FOR CLINICAL INSTRUCTION.—The recent opening of this ward at Roosevelt Hospital was an important event in the history of pediatrics. It is, we believe, the first ward in this country designed

for the clinical teaching of pediatrics to students of medicine. It is the result of a gift of \$50,000 by some person whose name is not announced to the public.

The ward forms part of a new pavillion erected in the grounds of Roosevelt Hospital. It is connected with both the hospital and the Syms operating pavilion. The terms of the gift provide that Columbia University shall name the clinical teachers. Dr. Jacobi is now holding clinics in the ward in addition to his regular clinics in the College of Physicians and Surgeons. The system of instruction is bed side teaching to small sections from the college classes. Such teaching is essentially different from that given in the usual amphitheatre clinic or dispensary class. It has long been regarded as one of the most important factors in medical education in other departments. It is satisfactory to know that pediatrics is at last able to boast of at least one such ward in this country. The opening of the ward, designed as it is primarily for bed-side instruction of medical students, marks an epoch in the teaching of the diseases of children. It seems very appropriate that the first ward designed for this purpose should bear the name of the man who has inaugurated so many advances in the teaching and practices of pediatrics. It is a most fitting tribute to his life of devotion to that department of medicine.

The wisdom of the person endowing this ward, whose name we do not know, is certainly deserving of more than passing mention. The first and primary object of a hospital should be to afford the best care of the patient which it is possible to give. This aim we have before had occasion to say should never be sacrificed to any other consideration. A second and scarcely less important object, and in no way incompatible with the first, should be to render the knowledge constantly gained in hospital wards, available for the common good, and to spread the humane influences of the hospital far beyond its walls. Every hospital should, therefore, be a teaching institution so far as it is possible without detriment to its patients. The advantages of instruction in its wards should not be limited to a few internes. When these principles are adopted and practised broadly and humanely, the good wrought within the hospital structure, be it ever so great, may be small compared with the good which those instructed in its wards accomplish year after year, far and wide through the community.

The influence for good of a teaching hospital is beyond computation and the individual who endows a hospital or ward of that character shows great wisdom, which, unfortunately, does not always accompany generosity and philanthropy.

TREATMENT OF INFECTED WOUNDS.

BY DANIEL N. EISENDRATH, A.B., M.D.,

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For the general practitioner, and especially for those of us who devote our energies to surgery, this is one of the most important subjects with which we have to deal. An accurate knowledge of this seemingly unimportant chapter in surgery and a clear understanding of the treatment of infected wounds is absolutely essential in order that the general practitioner may keep abreast of the constant onward march of modern surgery. Before taking up the treatment of infection in detail, it will be well for us to review shortly some of our present knowledge of the subject. It will be unnecessary to go into the history of the advancement of our knowledge from the time of the discoveries of Lister and Pasteur to those of the pyogenic microorganisms by Rosenbach.

It will be sufficient to state that at the present time the organisms concerned in pyogenic infection are the staphylococcus pyogenes aureus and albus, the streptococcus pyogenes, the bacillus pyocyaneus, and the bacillus pyogenus foetidus. The less frequent cases of infection of wounds with the colon, typhoid, anthrax, and diphtheria bacilli and the bacillus proteus may be left out of consideration here. In practice the majority of cases are due to the infection with one of the varieties of staphylococci, which on account of their manner of growth produce a circumscribed form of suppuration with more or less thick, yellowish pus of the consistency of cream, and secondly with the streptococci, which, owing to the fact that they form chains in growing instead of small clusters of organisms, have a tendency to cause a progressive infection of the wound with the production of a thinner, less viscid pus, looking more like turbid blood-serum.

Both groups act through their toxins in two ways: First, by chemotaxis they cause a hyperemia of the part infected, with the migration of leucocytes from the blood-vessels and young connective tissue cells to the spot of infection to act as phagocytes or poison destroyers; in other words, all the phenomena of inflammation, as we understand it at present, are a defense on the part of the tissues against invasion of the enemy. Secondly, if this battle has been successfully waged by the microorganisms, their poisons liquefy the tissues by peptonizing or digesting them, in the same manner as they liquefy the gelatin in our test-tube in the laboratory.

Some interesting experiments have been made during the past few years upon the rapidity with which absorption begins in infected wounds. Shimmelbusch infected the tails of mice with anthrax bacilli, and cut off the tail at different intervals proximal to the point inoculated. He found that absorption is so rapid that if the tail were cut off after ten minutes had elapsed, the animals could not be saved. Many others (Reichel

Hanel, Messner, and Henle) came to similar conclusions. These, however, were misleading, owing to the fact that infection of our wounds does not take place by pure cultures, and but rarely by pus, both of which were the methods employed in these experiments. Friedrich has attempted to reproduce the conditions as they are found in nature. He found that animals died in fifty-four hours, on an average, after inoculation with garden earth, and in thirty-one hours with dust. Absorption from the wound began about six to eight hours after infection, and if the infected surface was removed mechanically before this time had elapsed it was possible to prevent a spread of the infection. He further found that if the wound was kept open and the secretion allowed to drain out, it was also possible to keep the animal alive a longer time.

These experiments prove several points which have been observed clinically, to which I shall refer shortly.

Infection is met with in practice in a number of different forms: (1) The circumscribed, as seen in a folliculitis, a carbuncle, a furuncle, paronychia, or an acute abscess; (2) phlegmonous inflammation with supuration; (3) progressive purulent infiltration.

If we keep these three varieties clearly in mind it will be easy to change the general principles of their treatment to suit the particular anatomical region in which they occur. It is beyond the scope of the present article to treat of erysipelas, anthrax, or any chronic form of infection, such as tuberculosis, actinomycosis, glanders, etc. To come back to our first, the circumscribed, form, the only difference between the different varieties is one of extent. A folliculitis should be treated by extracting the hair which always forms the center of such infection, and then applying some antiseptic wet dressing composed of several layers of gauze covered by guttapercha tissue or waxed paper, etc., saturated with some mild solution such as the following:

R Acidi salicylic R.....gr. xvj.
 Alcoholis.....q. s. ad $\frac{3}{5}$ ij.
 Teaspoonful to one-half glassful of hot water, to be used as directed.

This is nearly a Thiersch solution. It is non-irritant, can be easily applied by the patient himself, and has proven a very satisfactory mild antiseptic lotion. I renew such a wet dressing twice or even three times daily, until all evidence of beginning infection has disappeared. The shriveling of the skin caused by this solution is not a sufficient drawback to cause it to be dispensed with. Instead of this, one may employ a weak boracic solution, a $\frac{1}{4}$ - to $\frac{1}{2}$ -per-cent solution of formaldehyde, one per-cent acetate of aluminum, 1:4000 lactate of silver lately advocated by Cr  d  , or alcohol used by Salzwedel. I seldom use bichloride wet dressings on account of their irritating action on the skin.

I must digress here to advocate the use of hot wet dressings for all forms of local infection, whether circumscribed or diffuse. The gauze saturated with liquid, even though it be salt solution or distilled water, acts through capillarity to drain away the wound secretions, including the

microbes contained therein, and thus assists the tissues to overcome the infection. They have proven of such great value that I employ them as almost routine practice with excellent results.

In furuncle the infection has invaded the connective tissue of the skin and in these, if the application of either ice or repeated hot wet dressings does not cause a resolution, an incision, preferably a crucial one, in order to better pack the wound, should be made early. With the aid of a weak solution of cocaine injected around the area, the blood being prevented from carrying away the anesthetic by constriction of the limb at some higher point by an Esmarch, the operation is practically painless. This is by far preferable to freezing the tissues with ethyl chloride or injecting a Schleich solution. The incision must be large enough to extend nearly to the edge of the infected area, and if crucial the subsequent repacking of the wound is far less painful. For packing any kind of gauze with wide meshes can be employed, and the strip should be cut off at the level of the skin in order to prevent pulling it out when the dressing is renewed. The parts should previously have been carefully disinfected and shaved, and after the operation a well-padded splint should be applied to keep them at rest. Frequently elevation of the part upon a pillow, inclined-plane splint, or sling suspended from a pole at the side of the bed, is of the greatest benefit.

For a carbuncle, which is made up of many foci of infection, the treatment is practically the same. In addition to the measures above described, injection of the surrounding tissues with five percent carbolic solution will frequently check its progress.

In paronychia, which always starts in the connective tissue, if the infection passes under the nail, lifting it up, we should not hesitate to remove the same partially or wholly at once, for neglect of this has caused some severe cases of general sepsis. We should also remember the readiness with which the infection in the hands or feet invades important structures, *e. g.*, the periosteum of the phalanges (felon), the tendon sheaths, joints, and is frequently transmitted through the lymphatic circulation with remarkable rapidity to the lymph glands, which receive the lymph vessels of any particular region. This latter may occur without the usual warning in the shape of a visible lymphangitis. Not infrequently infection from the fingers may travel along these channels, as I have observed in several cases, to the subdeltoid bursa, and the shoulder-joint thus becomes involved early.

Certain other anatomical points must be kept in mind in the treatment of infected wounds in the fingers and hand. On the dorsum, the loose arrangement of the subcutaneous connective tissue presents characteristics similar to those of any other subcutaneous infection. The presence of a large number of hair follicles favors the localization of septic processes in the cutis, which lead to the formation of typical furuncles, or rarely a carbuncle. On the palmar aspect of the fingers and the hand, instead of the longitudinal and loose arrangement of the connective tissue on the dorsum, there is a dense network of short, thick fibers enclosing a number of small acini of fat. The main direction of these fibers is

from the cutis to the periosteum or to the sheath of the tendons, to which they are closely attached, Upon this depends the tendency to penetrate the bone or the tendon. Another anatomical point to be remembered is the relation of the flexor tendon sheaths. Those of the index, middle, and ring fingers represent separate and closed receptacles, which terminate at the level of the metacarpo-phalangeal joint. For a short distance the tendons have no proper sheath, and then again enter the common palmar bursa. From these we deduce the following: In an infection of the fingers, especially of the palmer aspect, make a longitudinal incision, preferably to either side of the tendon, and kept the wound open with gauze packing. If the periosteum has been invaded, incise down to it early, and it will often be possible to save a phalanx. Remember the tendency of these infections to invade tendon sheaths. If this has taken place, open the same early, remembering the above anastomoses, and especially those of the thumb and little finger.

In the second variety of infection I have mentioned above, the same general principles hold true. In this there is a rapid extension of the disease without leading to circumscribed collections of pus. These are most frequently caused by the streptococcus. This is frequently called a cellulitis, though this is a misleading term. The inflammation does not affect cells, but connective tissue, invading intermuscular septa, tendon sheaths, and fasciæ, penetrating joints or even the larger serous cavities, and frequently ending fatally, either through toxemia, from a constant absorption of toxins from the infected areas, or through septicemia or pyemia proper, from entrance of pus germs into the general circulation. The treatment should be vigorous and prompt. Small incisions are of no avail. Long incisions, parallel if necessary, should be made, exposing the entire area involved; necrotic tissue removed; tendon sheaths and bursæ widely opened. If joints had been invaded no time should be lost in draining them with drainage-tubes and gauze. If possible, the application of an Esmarch above the point of infection facilitates the operation. The wound should be irrigated with strong (1:1000) bichloride solution or peroxide of hydrogen. The infected tissues should be touched with 10 per-cent zinc chloride solution, and then packed in every direction with iodoform or even plain gauze, and a dry dressing applied for a few hours, until a greater part of the parenchymatous oozing, which may be very profuse, has ceased. A splint or fenestrated cast in a compound fracture should always be used.

The value of packing the wound is proved by the above quoted experience of Friedrich. It drains away the secretions and assists Nature in her effort to combat the foe. After a few hours, wet dressings, constant immersion of the parts in some especially constructed bath filled with a mild antiseptic lotion, or constant irrigation with some form of apparatus, are desirable. The wound should be dressed once or twice daily, according to its severity, irrigated with 1:4000 bichloride (watching for symptoms of mercurial intoxication), or 1:4000 lactate of silver or with peroxide. It should be thoroughly repacked and a wet dressing reapplied. For the general condition, quinine, whiskey, strychnine in liberal doses

can be given. Streptococcic serum is undoubtedly of great value and should be given a trial in severe cases, especially if symptoms of general sepsis appear. If the case seems hopeless, early amputation, if an extremity be involved, is advisable.

The third variety of infection is the purulent edema of Pirogoff. It is an advanced stage of the preceding, and is always attended by extensive connective tissue necrosis. It has wrongly been called phlegmonous erysipelas. Large incisions extending to the fascia must be made, these connecting with each other or with smaller intervening, counter-drain openings. Either drainage-tubes or gauze drains may be used and a wet dressing applied. The remainder of the treatment is the same as for the preceding variety.

In short, our maxim in the treatment of infected wounds should be early and not too small incisions, disinfection and packing of wounds, wet dressings, and systemic treatment.—*Medicine.*

THE TREATMENT OF ECZEMA.

"It is never dangerous to cure an eczema, and always desirable to do so," says Holt. Basing his opinion upon an experience of 3,201 cases treated in private practice, Bulkley says that in over twenty-five years he cannot recall a case where harm resulted from the proper treatment of an infantile or other eczema. The truth of these statements should be accepted once for all, for it is the teaching of every man of experience who has recently written upon the subject.

Three plans of treatment have been advocated by recent writers: Local alone, constitutional alone, and local and constitutional combined. Those who advocate local treatment alone are found almost exclusively in the ranks of the dermatologists, not in those of the pediatricists. The latter believe that the disease is not simply a local disorder of the skin, but requires constitutional treatment, which includes diet, hygiene and medication.

As to diet, the food and management of the mother or wet-nurse should receive close attention. Particularly should all malt and alcoholic liquors be prohibited. Constipation in the infant should receive particular attention, and every detail of feeding should be scrutinized, it being remembered that many children begin to improve at once upon reducing the fat in the milk. This fact is not contradicted by the other fact that some young patients improve upon the administration of cod-liver oil. It simply demonstrates that no routine practice can be successfully adopted in treating eczema, and indicates that every case must be studied individually and treated on its merits.

It is not within the scope of this article to discuss the details of hygienic, medicinal, and local treatment of eczema, the object being only to emphasize the fact that in young children the disease is closely associated with digestive disturbances and can be managed most successfully by a judicious combination of constitutional and local measures.

AFTER OFFICE HOURS.

It was long after office hours when the doctor dismissed the inevitable young man who had been reading up his own case in the *Household Physician*, and whose song had been like unto the wail of a lost soul. But his doubts had now been half dispelled by Budweiser's suggestive therapeutics, and the latter felt assured that hypnotism and the bromides would finally do the rest.

"It is unfortunate," said he, in reply to a remark of mine, "that education even now-a-days has so little practical value. I was reading last night one of Froude's addresses in which he says, speaking of intellectual acquirements:

"The knowledge that a man can use is the only real knowledge: the only knowledge that has life and growth in it and converts itself into practical power. The rest hangs like dust about the brain, or dries like raindrops on the stones."

Now just note what the doctor is obliged to undergo during his toilsome march upward. He must burn the midnight oil in committing to memory a thousand and one dry, disconnected facts upon which he is eventually to pass a rigid examination and by which his ability as a future practitioner is duly gauged. Most of us know, however, that a large proportion of those important things are of no earthly use to anybody, and have nothing at all to do with one's future success. The wise man, therefore, proceeds to forget them immediately and sets himself to work acquiring something useful in their place. Otherwise he is bound to be superceded by the uneducated, who happen to know how.

"But as I was saying; after getting our Latin certificates—it always makes me smile to see diplomas awarded anyway—and after joining the noble army of martyrs, we have served up to us a heterogeneous mass of books, journals and essays, all of which we are compelled to read in order to 'keep up,' but which contain many painfully scientific articles by medical enthusiasts or a narrative of the personal achievements of specialists who are advertising their wares, or the histories of cases which are too unique to be true. We won't say anything about the endless and heavy packages of circulars which describe so vividly the healing power of special drugs and which the drummer entreats us to read with the eye of faith. Yes, our cross is heavy, but our craft holds the belt of Christian resignation under the trying ordeal."

"Then you place little reliance in the recent therapeutic discoveries," I remarked.

"I have faith in only what has stood the tests of time and experience. Every few years there will be a true and valuable discovery, but in the intervals we have a mass of stuff which is a grievous imposition upon a doctor's time and strength and patience. Individual inspirations as noted in our current literature, are notoriously unreliable and seldom stand investigation. There is very little which can be called new, for our

advances are on lines laid down years ago by the fathers of medicine. You remember, of course, what Emerson said:—'Every ship that comes to America got its chart from Columbus. Every novel is a debtor to Homer. Every carpenter who shaves with a fore plane borrows the genius from a forgotten inventor.' Every one who achieves prominence is expected to contribute either a new fact or a book; so, as he can't do the first, he tries to do the other thing, which is much the easier task of the two, for the text-book of to-day is apt to be little more than one of the old classics revised and brought down to date by the ambitious author."

"But some of the most important things are yet to be written," said I.

"There, now you have hit it! The books seldom tell us what we most desire to know. The usual conditions of health and disease every well educated man is more or less familiar with. We don't need any help so far as *they* are concerned. It is the strange—the unique—the enigmatical, which bothers us. Now, to whom shall we go for more light or something definite? Not to the books, for they tell us nothing, and not to the teachers, for their utterances are more obscure than those of the Delphic oracles. No, the seeker after truth must generally be content with the data which his past experience affords, and cease to look to others for a solution of his doubts and perplexities.

"Don't you have every once in a while a case the like of which you never saw before? And don't you turn over all the old trash in your library and search wildly through all the text-books from Watson to Osler, and do you ever find what you want? I guess not! And then you sit down and swear, and forthwith your thoughts wander back to the days when you valued your new diploma above gold and precious stones—when you knew it all and had no occasion to ask questions of anybody."

"I was going to write a paper for the next medical meeting on 'What the books don't tell us,' but two or three young doctors have since located in our block, so that the intellectual deficiencies of us veterans have now been fully supplied."

And even as the doctor spoke there entered one of the peripatetic medicine men who arranged artistically on his study table a row of sample bottles with accompanying therapeutic notes. After adding as peace offerings a paper weight, a blotter and a calendar, he made a memorandum in his note book and seemed desirous of saying something, but Budweiser kept right on talking in his animated way, and the visitor, after waiting in vain for an opening, finally gave it up in despair and retreated in good order.

"Did you ever reflect," asked the doctor, noting with a smile of satisfaction the effect of the remark with which he speeded the parting guest, "upon the number of people who steal a large per cent. of the doctor's working hours and pay him less than nothing for his time? These individuals either have something to sell or else they feel called upon to confide in you the history of their physical infirmities or the details of their personal affairs. Then, as a last straw, there will appear at your busiest moment, the patient who doesn't know when to go, but sits and sits

expecting you to entertain him and exhibiting a calm indifference to other people's feelings and the claims of those who are sitting on the anxious seat in your waiting room.

"What might not the physician accomplish with plenty of time at his disposal and an assurance of uninterrupted labor in some special branch of science or study?"

"Yes, and what an enormous income for the one who could make them pay for the services rendered," I added.

"But that is beyond human conception," replied he. "The gratitude of the ordinary patient is something of an unknown quantity, to say nothing of the depravity of the other half. One of the early fathers once said that patients with severe diseases are more grateful for a partial than for a complete cure. He might also have said that the most brilliant and careful work on the part of the doctor is rarely known, and if, perchance, recognized, is seldom appreciated. The memory of patient is palpably short and erratic, and all of us can think of experiences in medical and surgical therapeutics, which have brought us nothing but the satisfaction of effort scientifically conceived and successfully carried out. Wyh, I treated a clergyman once——."

"She's having terrible pains, doctor," announced the breathless messenger, "and the nurse says——."

"All right!" replied the doctor, and thrusting into his coat pocket a reprint on "The Effect of Astigmatism upon Uterine Displacements," he grasped his obstetric bag and sallied forth to possible trials and future conquests.—*Medical Monthly*.

EPITOME OF CURRENT MEDICAL LITERATURE.

THERAPEUTICS.

Pyoktanin in Cancer.—A few years ago this substance was brought out prominently in the treatment of inoperable malignant growths. A number of cures were reported with the drug and, like all new and much lauded remedies, it sprung into instant popular use. The inevitable reaction soon followed, and pyoktanin had either given place to other and more recent innovations, or those disappointed in the effects obtained in the cure of malignant disease abandoned its use entirely. During the past three or four years occasional reports in medical journals confirm much in the early statements regarding the use of this drug. It has a marvellous power for penetrating tissues, and by its absorption along the lymphatics does much to hinder the extension of malignant growths. Its use has been followed by favorable results of cancer of the stomach, as well as those of the rectal and pelvic organs. In inoperable uterine and rectal cancer it should be used as an injection, or this local use may be combined with its internal administration. It has a powerful antiseptic action, and when eliminated by the urine, it renders that fluid aseptic and exercises a favorable influence along the genito-urinary tract.

Guaiacol in Epididymitis.—The frequency of this complication in specific urethritis gives any suggestion regarding the treatment considerable value. The unsatisfactory results attending the use of poultices, strapping, or local depletion are painfully apparent. J. C. Perry says that guaiacol locally applied in this disease approaches a specific. Applied along the spermatic cord and over the epididymitis, the pain quickly disappears in about thirty minutes. There is a prompt absorption of inflammatory exudate and an early return to business. He has treated about twenty cases with the drug, some of them being so severe that it was impossible for the patient to stand because of the great pain. Relief from pain was one of the most striking things in the use of the drug, and next to that a rapid absorption of exudate, so that after two or three applications the patient was able to return to business. The relief from pain actually lasted about eight hours after each application.

A mixture of guaiacol and glycerine—one part of the latter to two of the former—was employed. About forty-five minims of this mixture was painted along the course of the cord, while one-half to one dram of the mixture is painted over the inflamed epididymitis. The application produces a slight burning sensation, but rarely causes marked discomfort. They are made twice a day, and in severe cases three times.

The Value of Thiol in Nose and Throat Practice.—Wells' favors thiol in certain diseases of the nose and throat. The agent is an artificially produced ichthyol, free from the objectionable odor of the latter. It is of special service in acute pharyngitis and tonsillitis in patients of a gouty habit.

The Treatment of Gall-Stones.—W. L. Carr divides the subject into treatment during an attack of biliary colic and during the intervals; for the paroxysm a hypodermic injection of morphine, $\frac{1}{4}$ grain, with atropine, 1-150 grain, should be given at once, repeated when needed; chloroform may be administered for anæsthesia until the morphine acts. Heat to the abdomen, large draughts of hot water, and an enema for distended abdomen are recommended. After the intense pain is over calomel may be given. The treatment between attacks consists of the regulation of the diet and mode of life and administration of drugs; of these, Carr says alkaline waters and salines, chloroform, ether and turpentine may be given. In cases of impaction, surgical procedure is the only relief.

Benzine in Anesthetic Mixtures.—Wood' assets that a careful perusal of the reports of the clinical use of Schleich's new anesthetic mixture (ether, chloroform and benzine) forces him to the conclusion, in view of his own experiments on lower animals, that benzine is a dangerous component in such mixtures.

Ichthyol in Chronic Bronchitis.—It is several years since Tanneur recommended this substance as a substitute for creosote in the treatment of phthisis. The results reached by him were strikingly better than with the latter drug, there was less disturbance of digestion and a more favorable influence upon the bronchial secretions. Tanneur gave the drug in increasing doses, beginning with two or three and increasing to eight or ten grains three times daily. As the drug causes disagreeable eruptions, he gave it in keratin-coated pills, thus securing absorption from the small intestine and avoiding the local action of the drug upon the stomach. The drug has not proven strikingly efficacious in the treatment of tuberculosis, but it modifies in a marked degree the bronchial secretions, and is, therefore, particularly valuable in all forms of chronic bronchitis.

Picric Acid in the Treatment of Eczema.—Picric acid has been recommended in the treatment of burns. Naturally it would be regarded as of use in the treatment of inflammations of the skin. As early as 1896, McLennan drew attention to the value of picric acid in the treatment of inflammatory disorders of the skin. In his method the raw surface is freely painted over every morning and evening for three or four days in succession with a saturated watery solution. Recently Brousse and Radaeli have both reported very favorable results in the treatment of eczema. Observers generally agree that the excessive application of the drug does not cause toxic symptoms; that immediately after the application there is considerable smarting, which lasts for ten or fifteen minutes, but is usually not severe. Radaeli, before applying the picric acid, carefully cleanses the affected part with a solution of boric acid. The hair is clipped short and all dried secretions removed. The part is then carefully dried and a compress of cotton, wrung out of a saturated aqueous solution, is applied. Over this a sufficient amount of dry, absorbent cotton is placed to absorb the discharge. On the whole, the method seems to be an efficient and somewhat more simple one than most of the plans heretofore tried.

Terpinol in Bronchial Catarrh.—This is a colorless, oily substance, having the formula $C_{10}H_{17}OH$. It is prepared by boiling terpin with diluted mineral acids. It is insoluble in water, but dissolves readily in alcohol and ether. The dose is from three to five grains given in capsules or pills from four to six times a day. If given in capsule it is well to combine the substance with olive oil, in which case the capsules may be made fresh each day, or they may be filled by the patient. This drug is of very great value in the treatment of all forms of bronchial catarrh. It has very little effect, if any, upon the nervous system and the drug is almost entirely eliminated by the bronchial mucous membrane. It is a substance deserving of much more extended study than it has yet received, and it is doubtless destined to play an important role in therapeutics of respiratory disorders.

Orthoform in Toothache.—It is asserted that this substance immediately and completely relieves the severe pain due to inflammation of the pulp of decayed teeth. It is best applied in strong alcoholic solution upon cotton placed in the tooth cavity. Orthoform is said to be devoid of toxic properties, and for this reason it may be employed as a domestic remedy. Even when used by a physician, it will be found more satisfactory than some of the powerfully toxic substances which are employed in this condition. That orthoform has a distinctly local anæsthetic action, has been determined by Lichtwitz and Sabrazes, who have noted this effect in cancer of the larynx, and they have also employed this substance in place of cocain in throat operation. The action of the drug is comparatively slow on unbroken surfaces, and while it is distinctly analgesic, it is not a good substitute for cocain upon unbroken surface.

Quinine in Leucorrhœa.—R. S. Miller, in a recent number of *The Lancet*, states that he has used muriate of quinine as a topical application in these cases for the past eight or nine years. He states that the results obtained in granular erosions of the cervix, septic endometritis, and all forms of vaginitis are most favorable. It is non-irritating and may be employed in the form of a suppository. These suppositories may contain from three to five grains of the salt and keep up a prolonged local antiseptic and astringent action, which exercises a most favorable influence upon the inflamed and congested mucous membranes.

Formaldehyde in the Treatment of Inoperable Malignant Growths.—Mitchell has used 20 per cent. solution of formaldehyde in the treatment of inoperable cancer. The drug acts as an escharotic, producing a slough about one-fourth of an inch in depth. There is no shock and no hemorrhage, and it does not set up a diffuse inflammatory process. As the discharge is very slight as a rule, simple dressings only are required. When the slough separates, the well-defined edge of the morbid growth can be seen clearly outlined in its relation to the normal tissue. The objections to the treatment are, that the pain is considerable and the application causes considerable edema. In addition, there is considerable absorption of the drug, which causes some systemic reaction.

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EDITORIAL.

THE PREVENTION OF TUBERCULOSIS.

At the first meeting this session of the Manx Medical Society the President (Dr. Richardson) delivered an address dealing with the methods of prophylaxis of tuberculosis and its treatment by the open-air method. After referring to the necessity of arousing the public to recognize that tuberculosis is largely a preventable disease, he passed on to review briefly the recommendations of the Royal Commission on Tuberculosis. The regulations in force in Denmark were next referred to, and it was stated that in that country, in consequence of a law passed in 1893, all cattles are tested with tuberculin; those which do not re-act are kept separate in disinfected stalls and tested every six months with tuberculin. State compensation is given to the owners of cows affected with mammary tuberculosis, which are slaughtered according to law. The necessity of some such stringent regulations in this country was emphasized by the fact that in the case of the milk supplied to Manchester, of 93 samples taken at random at the railway stations, 18 were found to be tuberculous, and, considering the large amount of milk consumed by young children, this was a question of the utmost importance in the prophylaxis of tuberculosis, as an additional means of combating tuberculosis, Dr. Richardson referred to the importance of strict attention to sanitation, efficient drainage of the land, avoidance of overcrowding, overwork, defective ventilation, etc.; also the erection of sanatoria, some for treatment of early cases, and others for refuges for those dying of tuberculosis.

He then proceeded to describe the open-air treatment for phthisis in different countries. One of the first sanatoria built for this line of treatment was in Silesia, and dated back to 1854. Several had since

been constructed, and they were mostly at a considerable elevation, away from centres of population where the air was freer from microbes and other impurities. The principles of treatment at these institutions consisted in keeping the patients during the day time in the open air protected from the weather; and at night keeping the bed-room windows open. Advanced cases were kept in bed day and night with the freest possible ventilation. The patients were well fed and their linen and utensils all disinfected. Patients rapidly became hardened to exposure, and a gain of two or three pounds in weight weekly was frequently met with. Similar sanatoria were being established in Great Britain.—*British Medical Journal.*

At a recent meeting of Liverpool Medical Institution, Dr. Nathan Raw read a paper on the open-air treatment of tuberculosis in sanatoria. He alluded to the general prevalence and high mortality from tuberculous disease, which, although much diminished in recent years by improved sanitation and food inspection, still rank very high. He mentioned the poor results of treatment in general hospitals, and considered it unfair to both the patient and the other inmates of a general ward that he should be treated therein. He combated the "inheritance" of phthisis, and insisted on the infectivity of the disease. He concluded by considering it the duty of the Legislature to deal thoroughly with the question of cure by sanatoria, and urged boards of Guardians to establish sanatoria, and gave details of site and architecture of such buildings.

The President remarked that while, by the tables shown, the mortality from tuberculous disease in adults had enormously decreased. Sir Richard Thorne had pointed out that the mortality from this cause under one year of age had increased, due, he thought, to the greater use of cow's milk at that age. A pure milk supply became a necessity. Dr. Hope had shown that 13 per cent. of country milk brought into Liverpool was tuberculous, and only 4 per cent. from town dairies. It was interesting to note that heating the milk to 195°F. was sufficient to sterilize the milk.

Dr. Buchanan considered it necessary to the treatment of tubercule to remove the patient to an atmosphere from which the tubercle bacillus and other organisms were absent, and, if possible, to one in which they could not live; at the same to increase the resistance of the host. He advocated sanatoria for collective cases, but urged that every effort must be made to make a man's dwelling house his sanatorium. Fifty years ago Professor Virchow said "It is the duty of mankind to overcome tuberculosis as scurvy has been overcome."

Dr. Hope emphasised the close identity between measures which had been successful in the prevention of tuberculosis, and measures which promised to be successful in treatment. He did not consider that under existing circumstances any useful purpose would be served by scheduling tuberculosis as one of the notifiable infectious diseases, but there were no doubt cases in which the medical officer of health might with advantage supplement the advice and action of the medical adviser, and it was desirable that in every case thorough disinfection of the house, etc., should take place. The great decline in the mortality from tuberculous disease in Liverpool was in the main owing to sanitary measures, having, as one principal object, improvements in ventilation. These improvements, carefully thought out and slowly elaborated, had reduced the mortality per 100,000 from all forms of tuberculosis from 430 to 1866 to 292 in 1896; the rate above five years of age from phthisis having fallen from 363 to 233, and below five years of age from tabes mesenterica, etc. from 637 to 497 in the period alluded to.

Dr. Caton, who had visited various foreign sanatoria, expressed regret that hitherto Great Britain should have lagged behind continental nations in this matter. In proximity to every great centre of population sanatoria ought to be established by municipalities, county councils, or boards of guardians. The expenditure involved would in the end prove an economy as well as delivering the population from the scourge of tubercule. General hospitals ought not to admit cases of phthisis. Dr. Caton urged the desirability of making the infective nature of the disease widely known.

Dr. A. Davidson pointed out that the principle of open-air treatment in phthisis was not new, and quoted from Dr. Hughes Bennet's book published in 1853, where it was considered of supreme importance and where he deprecated the sending of consumptives to warm climates abroad.

Dr. Abram drew attention to what, in his opinion, was generally overlooked—namely, that the repute of the open-air treatment was in the main based upon the results obtained at the "high" sanatoria. He counselled moderation in urging the virtues of low-lying sanatoria, lest there should come a reaction in the public mind with regard to the provisions of pure air for tuberculous patients.—*British Medical Journal*.

EDITORIAL NOTES.

IN our October number (page 7) we called attention to the published results of certain experiments, in Holland, in the course of training for physical contests, and the trials made during the German army manoeuvres last autumn would seem to bear out the statements referred to. These investigations were doubtless suggested by the researches of the French savant, M. Chauveau. Soon after Claude Bernard had discovered in the liver a special sugar, which he called glycogen, M. Chauveau demonstrated that this substance is present not only in the liver but in the blood. M. Chauveau communicated the result of his experiments to the French Academy of Science in March last year, calling special attention to the superior nutritive value of sugar in comparison with that of fat.

OUR knowledge of the nutritive and tonic value of sugar has now been transferred from a theoretical to a practical domain. During the German army manoeuvres, the medical officers selected 10 men, chosen from among the least vigorous, in each company, as subjects for experiment, to whom a given quantity of sugar was supplied daily; another 10 being selected, who were strictly confined to service rations. The amount of sugar supplied daily to the men was gradually increased, and it was found that their weight increased proportionately more than that of those not so supplied, while the men themselves were in better health and more vigorous than before. It was also noticed that the men who were supplied with sugar suffered less than others from thirst; they were more alert than their comrades, and bore fatigue better.

THE glorification of sugar seems to have added an additional impetus to vegetarianism. Dr. Strasser, in the *Wiener Medical Presse*, has recently given the subject his somewhat enthusiastic support. Nourishment by means of vegetables, he claims, produces but few toxins in the intestinal tract, and tends to cause the disappearance of abdominal and other plethora. Under a vegetarian regimen the urates become less abundant and the urine less acid. He strongly advises a vegetarian diet whenever there is an indication of gastro-intestinal auto-intoxication, and recommends it to the obese, to the plethoric, to the constipated, and to those suffering from arthritism and nervous diseases. In cases of nervous dyspepsia, complicated with intestinal atony, especially when coprostasis is present, the addition of the grape cure to a vegetarian diet gives excellent results. Dr. Strasser's views are doubtless valuable, but

certain of the disadvantages of vegetarianism have to be considered. The principal of these is the volume and relative insufficiency of nutrition in most vegetable foods. The length of time they remain in the intestinal canal is generally too short for complete absorption, and experiments show that the fæces of persons fed with vegetable foods generally contain about 40 per cent. of albuminoids which have not been absorbed. It is true that this could be remedied to a great extent, but the volume of vegetable food required has the effect of overloading the stomach, which results in an insufficient movement of that organ and predisposes to gastrectasis.

FRENCH scientists have recently asserted that malic acid is an antidote to the *bacillus typhosis*, and it is, therefore, claimed that among the numerous virtues which cider is now supposed to possess, is that of being a natural remedy of great value in the treatment of typhoid fever, owing to the large percentage of malic acid it contains. In Brittany, where cider is largely made for export, the peasants use, in their cider making, water from pools near their farm-houses, believing that by so doing they promote fermentation, and the marked absence of typhoid fever among the Breton peasantry is chiefly due, it is claimed, to their large consumption of cider.

LIEUTENANT-COLONEL E. LAWRIE, I.M.S., Resident Surgeon at Hyderabad, has published an interesting report of experiments made with a view to ascertaining the manner in which the plague spreads amongst the inhabitants of an infected district. The report also contains a brief record of investigations, carried out in the laboratory of the Hyderabad Medical School, into the bacteriology of the virus found in the floor dust and scrapings of infected houses. Lieut-Col. Lawrie remarks upon the practical value of the knowledge that the plague virus lodges in and is disseminated from the floors of houses, as follows: "(1) infection of plague can be traced by means of the microscope with as much certainty as if it were visible to the naked eye; (2) the value of disinfection can be measured by the same manner; (3) the one disinfectant by which uniform results have been obtained is fire; (4) by means of the microscope, fire, and boiling, plague can be stamped out with nearly mathematical certainty; (5) floors and clothing contain the food by which the plague microbe is kept alive, therefore disinfection by fire and boiling destroys the food supply of the infection."

THE *Times of India* publishes an extraordinary account of the plague outbreak in Samarkand. The outbreak occurred at the village of Anzop, which is situated on an almost inaccessible mountain craig 14,000 feet

high. When the Russian doctors arrived they found 380 cases of plague among the 600 persons of which the population consisted. All but three of these cases terminated fatally. Dr. Lieven, one of the members of the party, had brought from Bombay a supply of Dr. Haffkine's prophylactic serum, and with this the survivors were inoculated. After this treatment there were no new attacks, and the last death occurred four days after Dr. Lieven's arrival. The result is regarded as a triumph for the Haffkine method of treatment. The disease was conveyed to Anzop by a wandering fakir.

WE have all heard of the victims of alcoholism who drink ether, methylated spirits, eau de Cologne and other intoxicants, but petrolism, the new vice alleged to exist in Paris, is verily a grim novelty without parallel. This terrible habit, it is said, has already made alarming progress in Paris, where it has existed for a considerable time. The intoxication of the *petroliques*, as the unfortunate people addicted to petroleum drinking are described, is of a melancholy nature and unlike any other form of drunkenness. The drink does not appear to exhilarate, rather the reverse, and the *petroliques* are rarely quarrelsome or pugnacious. They sleep calmly, and even their general health is not, seemingly, as rapidly undermined as it would be by the alcoholic beverages in common use, but the gravest organic changes are produced.

THE sensational announcement that Mr. Nikola Tesla, the well-known American electrician, has discovered a method of destroying the bacilli of tuberculosis, and in fact the morbid microorganisms of all other diseases, by means of electricity, has aroused considerable discussion in the lay press and in scientific circles. Mr. Tesla claims to have discovered a means of safely applying a rapidly alternating electric current of high voltage to the human body thereby destroying the bacilli of all diseases. It is reported that his theory is that each cell of the human organism is a minute electrical battery, and that a modified but powerful current can be made to stimulate the action of each cell, and by increasing oxidation destroy any disease germs present in the body. The idea in itself is not altogether new, various scientists having undertaken numerous experiments on animals with a view to ascertaining what effect, if any, high speed electrical oscillations have upon living organisms. The effect upon the human body of rapidly alternating electrical currents have been studied for some time past. Mr. Tesla himself demonstrated some of the most curious of their phenomena on the occasion of his last visit to England. Though it has been established that rapidly alternating currents of high voltage can be passed through living persons with causing

inconvenience, almost without being felt, and without injuring the tissues, it has not been proved that disease germs can be destroyed in this manner without injury to the subject. The difficulty seems to be that an electrical current fatal to disease germs would also, in all probability, be fatal to other beneficent and necessary, bacteria within the human body.

THE old question whether or no death instantaneously follows decapitation has recently been revived in Paris. Dr. Cinel maintains that the large blood-vessels only of the neck are at once emptied by decapitation, that there is hardly any flow of blood from the smaller vessels supplying the brain, which remains intact, nourishing itself from the blood retained by the air pressure, and that when the blood remaining in the head at the moment of separation is exhausted, there commences a state not of death but inertia. Dr. Cinel estimates that the brain finds nourishment in the residual blood for nearly an hour after decapitation, and that the period of inertia lasts for about two hours. He says that the reason a bodiless head does not indicate, by muscular movements, the horrors of its situation is because the nerves, which serve for the transmission of impulses from the brain to the muscles, are paralysed, but that the nerves of hearing, smell, and sight frequently remain capable of performing their respective functions. He believes that the guillotine does not cause instant death, and that consciousness may for a brief period exist after the head has been severed from the body. Such views may be useful to the sensational novelists, but they are not likely to be taken seriously by scientists.

PROFESSOR VON ESMARCH, the well-known German surgeon, has written to the *Deutsche Revue*, suggesting that the coming Peace Conference should arrange for the instruction of all soldiers in first aid to the injured. The rank and file of the army should, he says, be equipped with bandages and other necessary light portable surgical appliances, and taught the full significance of the Geneva convention. Professor von Esmarch advocates this measure especially in view of the fact that the wounded in future wars will inevitably be so immensely numerous, owing to the use of quick-firing weapons, as to baffle the efforts of surgeons to help them. He also advocates that the use of small calibre bullets should be debarred unless they have hard points so as to avoid the terrible effect of the spreading bullet.

IN a recent paper read before the Rontgen Society Surg. Major Battersby related his experiences in the use of X-rays in the last Soudan campaign. After the battle of Oomdurman 121 British wounded were taken to the base hospital. In twenty-one cases the bullet could not be

found, and in twenty of these cases an accurate diagnosis was obtained by the use of the rays. The electric current was obtained from E.P.S. cells charged by a hand dynamo, and much ingenuity was displayed in utilising the back wheel of a tandem bicycle, stripped of its tyre and geared to the dynamo, for driving power. The apparatus consisted of a 10-inch and a 6-inch coil. The former had the advantage in portability, in so far as it was constructed in two separate sections which admitted of its being readily joined together. Eight separate E.P.S. cells, 4 Crookes' tubes, and a screen. The screen work, however, was found to be somewhat unsatisfactory on account of the difficulty in obtaining a sufficiently dark compartment. Specially constructed boxes were employed for carrying the coils, and these were covered with felt which was kept constantly wet and in this way a low temperature maintained from rapid evaporation, notwithstanding that ranges of temperature of 100 to 120° F. were frequently experienced. The screen was covered with celluloid as a preventative against dust; dust-storms being one of the chief climatic drawbacks experienced during the campaign. In photography glass plates were chiefly used, and those presenting the thinnest films seems best to stand the heat. Development was mostly carried out in the very early morning hours, but the temperature of the water at all times seriously interfered with the process.—*Review of Review.*

ONTARIO MEDICAL LIBRARY ASSOCIATION.

In our March issue we gave our readers a list of books—the first annual instalment for the "Bovell Library," purchased through the generosity of our old friend William Osler.

The list will repay a glance over it again, containing as it does many of the latest works on medical subjects proper.

In order to enable the Association to keep up with the times, an "Endowment Fund" was established some months ago for the prompt purchase of the best new publications as issued. As the interest alone can be used, and as the fund is only in its infancy, and therefore very little ready interest as yet available, it is hoped that a generous response will be made to this fund by many of the profession who will not miss a small contribution in so good a cause.

Many may not feel justified for one reason or another, in giving to this fund, but we are all able to help along the library in another way, and that is by sending it all the old journals about the office. These can always be utilized in "exchange" with other Libraries. All that is necessary is to pack them in a box, address it to the Ontario Medical Library, corner Bay and Richmond Streets, and freight will be paid on arrival, and an acknowledgement made through this journal.

Books of any date will also be gladly received. They are of some use to the Library, the great majority of old issues are of no use whatever to the regular practitioner, except to remind him that he is "getting on in life."

Therefore look over the old book-cases, cupboards, store-rooms and out of the way corners, and send on all you do not need, and moreover, never look into from one year's end to another. You will earn the gratitude of your better-half at every house-cleaning, and at the same time the thanks of the Library.

A cordial invitation is extended to the Members of the Ontario Medical Association to visit and make use of the Library in any and every way during the meeting this month.

TRINITY MEDICAL ALUMNI ASSOCIATION.

The seventh annual general meeting of this Association was held in the theatre of the Normal School building on the 31st May.

Dr. J. M. Shaw, of Keene, vice-president of the Association for Eastern Ontario, occupied the chair.

The following were elected members of the Association: Drs. Bradley, Farewell, Ashton, Graham, Hough; Drs. Carmichael, Gibson and Young, Peterboro'; and Dr. C. A. Page, Toronto.

In the unavoidable absence of the secretary, Dr. George Elliott, Dr. Wishart acted as secretary, and read letters regretting inability to attend from the president, Dr. Henry Howitt, Guelph, and Dr. J. C. Mitchell, a past president, Enniskillen; also telegrams from Dr. Frank Hartley, New York, who was expected to address the meeting on surgery, and Dr. Ernest Hall, Victoria, B.C., the winner of the gold medal in the annual competition.

The auditor, Dr. Norman Anderson, then read the treasurer's report which showed a balance in favor of the treasurer of \$6.30.

Dr. Wishart reported verbally for the secretary and the executive committee.

Election of officers for the current year resulted as follows:

President, Dr. J. A. Temple, Toronto.

Vice-president for Toronto, Surgeon-Major Natrass.

Graduate's representative, Dr. A. Y. Scott.

Secretary and Treasurer, Dr. George Elliott, 129 John Street, Toronto.

It was then moved by Dr. Scott and seconded by Dr. Pepler, that the election of vice-presidents for Western and Eastern Ontario and the other provinces, be left in the hands of the committee.

Dr. Wishart read Dr. Earnest Hall's paper which had been awarded first place in the annual gold medal competition, the subject of the paper being "Pelvic Disease in the Female Insane."

Drs. Pepler, Milner and Fotheringham ably discussed the paper.

Dr. J. T. Fotheringham read a paper on Hyoscine, relating the history of the use of the drug in six cases

In discussing the paper, Dr. C. A. Temple spoke of the use of the drug in post-operative restlessness. Its irritation caused its hypodermic use to be abandoned. Adjournment to luncheon.

2.30 p.m.

Cystitis.—Dr. E. C. Dudley, Chicago, read a very interesting and able paper on Cystitis.

Drs. J. A. Temple, J. W. S. McCullough (Alliston), N. A. Powell, Elias Clouse, C. A. Temple and G. P. Sylvester, participated in the discussion of the paper. Dr. Dudley replied.

Adjournment for convocation at Trinity Medical College. In the evening about 75 sat down to a lovely dinner at the National Club. Addresses were made by Dr. Dudley, of Chicago, Dr. Gilmour, Dr. McCullough, Dr. Geikie, Dr. Powell, Dr. Sheard, Dr. Temple, and songs by Dr. G. Gordon, Dr. Parsons and Dr. Wilford. On the whole a most enjoyable evening was spent. The meeting of the Alumni is increasing yearly, and we fervently hope it will always continue and increase from year to year. Many of the papers read will appear in LANCET'S future issues.

TRINITY MEDICAL COLLEGE ANNUAL COMMENCEMENT.

Tuesday, May 30th, 1899, 4 p.m., at the College.

ORDER OF PROCEEDINGS—OPENING EXERCISES—AWARDING OF HONORS
WON DURING THE LAST SESSION (1898-9.)

FIRST YEAR.

I.—Certificates of Honor for First Year's Work.

Candidates who have obtained 75 per cent. and upwards.—Thompson, J. J.; McCauley, W. A.; Irving, R. W.; Allin, E.; Allwood, G. S.; Williams, W. T.; Burns, J. D.; McDougall, C. H.; Hutton, H. B.

70 per cent. and upwards.—1st Class Honors.—Clancy, R. W.; Thomson, J.; Morison, J. R.; Blake, M. R.; Grant, C. C.; Service, H. E.

60 per cent. and upwards.—2nd class honors.—O'Neill, J. H.; Henderson, J. E. C.; Seymour, T. F.; Cook, R. A. M.; Ritchie, F. A.; Boyce, W. B.; Becker, C. W.; Waugh, R.; Torrington, H. M.; Latta, E. E.; Brandon, E.

Passed.—Anderson, A. H.; Harris, W. J.; Imrie, G. T.; Pritchard, L. S.; Carter, J. R. C.; Hansford, W. J.; Stirrett, A. P.; Parker, H. J.; Smith, W. A.; Stenberg, O.; Henderson, James; Campbell, T. C.; Barnes, H. C.; Sawdon, J. E.; Crawford, A. H., B.A.; Thomas, R. A., passed in Anatomy, Physiology and Histology, and Practical Anatomy. Ireland, Guy O'Neil, passed in Physiology and Histology, Materia Medica and Pharmacy, and Practical Anatomy.—He took his first year's Chemistry Examination in his Arts Course. Windell, H. C., passed in Anatomy, Physiology and Histology, Chemistry and Chemical Physics, and Practical Anatomy.

Standing of Candidates in the Various Branches of the First Year's Examination.

Descriptive Anatomy.—75 per cent. and upwards.—Burns, J. D.; O'Neil, J. H.; Hutton, H. B.; Thomson, J. J.; Allin, E.; Irving, R. W.; Cook, R. A. M.; McCauley, Wm. A.; Ritchie, F. A.; Anderson, A. H.; Allwood, G. S.; Waugh, R.; Windel, H. C.; Service, H. E.; Clancy, R. W.; McDougall, C. H.; Boyce, W. B.

70 per cent. and upwards.—Henderson, J. E. C.; Blake, M. R.

60 per cent. and upwards.—Torrington, H. M.; Thomson, J.; Williams, W. T.; Carter, J. R. C.; Morison, J. R.; Campbell, T. C.; Pritchard, L. S.; Latta, E. E.; Harris, W. J.

Passed.—Brandon, E.; Becker, C. W.; Thomas, R. A.; Imrie, G. T.; Smith, W. A.; Grant, C. C.; Henderson, J.; Barnes, H. C.; Parker, H. J.; Ferguson, J. A.; Seymour, T. F.; Stenberg, Oscar; Milbee, R. S.; McKay, H.; Stirrett, A. P.; Hansford, W. J.

Practical Anatomy.—75 per cent. and upwards.—Thompson, J. J.; McCauley, W. A.; Seymour, T. T.; Grant, C. C.; Morison, J. R.; Boyce, W. B.; Clancy, R. W.; Irving, R. W.; Windel, H. C.; Anderson, A. H.; Hutton, H. B.; Williams, W. T.; Blake, M. R.; Becker, C. W.; Harris, W. J.; Henderson, J. E. C.; Ritchie, F. A.; Allin, E.; Thomson, J.; Allwood, G. S.; Cook, R. A. M.; Henderson, J.; Brandon, E.; Campbell, T. C.; McDougall, C. H.; O'Neill, J. H.; Service, H. E.; Stenberg, O.; Torrington, H. M.; Latta, E. E.; Waugh, R.; Imrie, G. T.; Pritchard, L. S.; Smith, W. A.; Thomas, R. A.; Carter, J. R. C.; Mackay, H.

70 per cent. and upwards.—Hansford, W. J.; Parker, H. J.; Milbee, R. S.

60 per cent.—Ireland, G. O'Neil.

Physiology and Histology.—75 per cent. and upwards.—Irving, Robt. W.; Allwood, G. S.; McCauley, W. A.; McDougall, C. H.; Williams, W. T.; Thomson, J. J.; Grant, C. C.

70 per cent. and upwards.—Hutton, H. B.; Allin, E.; Clancy, R. W.; Blake, M. R.

60 per cent. and upwards.—Burns, J. D.; Latta, E. E.; Service, H. E.; Thomas, R. A.; Brandon, E.; Windel, H. C.; Stirrett, A. P.; Seymour, T. F.; Thomson, J.; Torrington, H. M.; Morison, J. R.; Anderson, A. H.; Harris, W. J.; Ritchie, F. A.; Campbell, T. C.

Passed.—Becker, C. W.; Waugh, R.; Hansford, W. J.; Cook, R. A. M.; O'Neil, J. H.; Pritchard, L. S.; Boyce, W. B.; Stenberg, Oscar; Henderson, J. E. C.; McKay, H.; Imrie, G. T.; Henderson, J.; Smith, W. A.; Ireland, Guy O'Neil; Milbee, R. S.

Materia Medica and Pharmacy.—75 per cent. and upwards.—Thomson, J. J.; McCauley, W. A.; Hutton, H. B.; Williams, W. T.; Allwood, G. S.; Allin, E.; Becker, C. W.

70 per cent. and upwards.—Service, H. E.; Grant, C. C.; Thomson, J.

60 per cent. and upwards.—Burns, J. D.; Clancy, R. W.; McDougall, C. H.; Blake, M. R.; Ritchie, F. A.; O'Neill, J. H.; Morison, J. R.; Seymour, T. F.; Cook, R. A. M.

Passed.—Smith, W. A. ; Irving, R. W. ; Henderson, J. E. C. ; Waugh, R. ; Latta, E. E. ; Imrie, G. T. ; Brandon, E. ; McKay, J. C. ; Barnes, H. C. ; Carter, J. R. C. ; Campbell, T. C. ; Pritchard, L. S. ; Parker, H. J. ; Hansford, W. J. ; Anderson, A. H. ; Forrington, H. M. ; Ireland, G. O.

Chemistry General and Chemical Physics.—75 per cent. and upwards.—Allin, E. ; Irving, Robt. W. ; Thomson, J. J. ; Morison, J. R. ; McDougall, C. H. ; Henderson, J. E. C. ; Thomson, J.

60 per cent. and upwards.—Williams, W. T. ; McCauley, W. A. ; Burns, J. D. ; Clancy, R. W. ; Allwood, G. S. ; Seymour, T. F. ; Blake, M. R. ; Boyce, W. B.

Passed.—Harris, W. J. ; Imrie, G. T. ; Brandon, E. ; Waugh, R. ; O'Neil, J. H. ; Hansford, W. J. ; Service, H. E. ; Becker, C. W. ; Latta, E. E. ; Cook, R. A. M. ; Hutton, H. B. ; Henderson, J. E. C. ; Pritchard, L. S. ; Barnes, H. C. ; Milbee, R. S.

PRIMARY EXAMINATION.

The following students of Trinity Medical College passed the Primary Examination (May, 1899) at Trinity University :—

II.—Medals—Certificates of Honor for Standing in the Primary Branches.

First Trinity University Silver Medal and Certificate of Honor.—Marshall, W. H.

Second Trinity University Silver Medal and Certificate of Honor.—Ferguson, F. H.

Certificates of Honor, 75 per cent. and upwards.—Marshall, W. H. ; Ferguson, F. H. ; Landesborough, D. R. ; Parsons, R. ; Lusk, C. P. ; Kyles, R. N. ; Smeltzer, W. T. ; Durnin, C. ; Harrington, R. ; McCallum, C.

70 per cent. and upwards, 1st Class Honors.—Drury, J. E. ; Coles, R. W. ; Watson, A. ; Brown, W. T. ; Lowry, W. H. ; Coleridge, J. B. ; Lyness, J. D. ; Ranney, A. E.

60 per cent. and upwards, 2nd Class Honors.—Elliott, C. R. ; Oswald, J. McD. ; Turnbull, R. ; Stainer, F. T. ; McCormick, J. M. ; Levi, C. I. ; Herod, J. ; Ferguson, N. H. ; Buell, J. B. ; Haist, O. W. ; Rice, W. H. ; Hoops, G. B.

Passed.—Adams, T. ; Allison, T. W. ; Appelbe, W. ; Cantelon, A. E. ; Edwards, F. A. ; Elliott, J. T. ; Foster, J. H. A. ; Frankland, A. H. ; Johnston, S. ; Ross, H. R. T. ; Rundle, H. P. ; Stirrett, A. P. ; Thomson, J. R. ; Sinclair, J. M. ; Allen, T. B. ; Hassard, H. J. ; McLaren, R. T. ; Service, C. W.

Conditioned in Practical Anatomy.—Becker, C. W.

Conditioned in Chemistry, Practical Chemistry and Descriptive Anatomy.—Irving, L. E. W.

Conditioned in Chemistry and Practical Chemistry.—Kyle, W. H. M.

Conditioned in Anatomy, Descriptive, and Histology.—McDonald, W. J.

Conditioned in Materia Medica, Anatomy Descriptive, and Histology.—Malcolmson, A. C.

- Conditioned in *Materia Medica* and Chemistry.—Thompson, R. C.
 Conditioned in *Physiology*, *Materia Medica*, Chemistry and Practical Chemistry.—Waters, J. McM.
 Conditioned in *Materia Medica*.—Wright, A. F.
 Conditioned in Chemistry and Practical Chemistry.—McIntosh, W. A.
 Conditioned in Practical Chemistry, Practical Anatomy, Descriptive Anatomy, and Histology.—Pierson, C. M.

Third Year's Examination.

The following passed the Third Year's Examination and their names are alphabetically arranged:—

Addy, T. A.; Adam, John Geikie; Boyver, N. R.; Brand, C. W.; Boynton, W. J.; Boyd, Ezekiel A.; Baker, Ervin; Bell, David; Chapple, James; Coke, Chauncey E.; Carscadden, R. H.; Drinnan, Angus A.; Farrell, A. R.; Fitzgerald, J. Walter; Graham, Wm. Alex.; Hutton, Thos. J.; Henry, A. S.; Jamieson, Geo.; La Fontaine, E. W.; Livingstone, D. R.; McGillivray, D. E.; McClintock, Joseph A.; Marks, Alfred Leighton; McDonald, E. Oscar; Marlow, Fred. Wm.; McPhee, Duncan; McWillie, J.; McColgan, Adam; Newsome, J. A.; Prust, T. H.; Palmer, S. M.; Rawlinson, E. Goodwin; Rennie, Wm. H.; Ryerson, Edward Stanley; Ross, H. P.; Softley, H.; Trebilcock, F. C.; Walker, J. J.

Irving, L. E. W., and Jacob, N. F., passed in *Medicine*, *Surgery* and *Midwifery* of the Third Year. King, R. L., passed in *Medicine*, *Surgery* and *Pathology* of the Third Year.

Perry, A. R., passes in *Medicine*, *Surgery* and *Pathology* of the Third Year. Hutcheson, H. H.; Davey, T. N., Robertson, Wm., and Farrel, S. J., pass in *Medicine* and *Surgery* of the Third Year. Aull, E., and Sinclair, J. M., pass in *Medicine* and *Pathology* of the Third Year. Schilistra, A. J., passes in *Surgery* and *Pathology* of the Third Year. Watson, C. E., passes in *Medicine* of the Third Year.

FINAL ("FELLOWSHIP DEGREE").

IV.—Certificates of Honor for Standing in the Entire Final Examination of the College.

Candidates who obtained 75 per cent. and upwards.—Eagleson, Samuel; Hazelwood, B. J.; Kerr, W. A.; Wrinch, H. C.; Marshall, H. W.; Johnston, H. G.; Stanton, A. T.

Candidates with 1st Class Honors.—70 per cent. and upwards.—Hotham, A. W.; Langley, D. E.

Candidates with 2nd Class Honors.—60 per cent. and upwards.—Schmidt, G. A.; McGibbon, G. C., and Simpson, W. O., equal. Collison, W. G.; Lavine, S. and Barrie, H. G., equal. Moore, J.; Weir, E. G.; Smith, H. R.; Vankleek, P. D.; Broad, R. S.; McMahan, J. J.; Peers, R. A.

Passed. Doherty, C. E.; Gesner, G. B.; Baker, E.; Scully, A. P.; Purvis, E. H.; McRobbie, D. G.; Wright, N. E. L.; Palmer, R. J.; McLaren, G. H.; Caldwell, J. M.; Hutton, T. J.; Carter, R. M.; Knight, J. A.; Coulter, L. McD.; Hutchinson, G. O.; Foote, S. H.; McLennan, E. J. Coke, C. E., passed in Medicine, Surgery, Medical Jurisprudence, Applied Anatomy and Sanitary Science. King, John W. DeC., passed in Medicine, Midwifery, Surgery, Applied Anatomy and Pathology. McKinnon, A. A., passed in Medicine, Midwifery and Surgery. McLennan, E. J., passed in Medicine, Surgery, Midwifery, Medical Jurisprudence, Applied Anatomy and Sanitary Science. Peers, R. A., passed in Medicine, Midwifery, Surgery, Medical Jurisprudence and Sanitary Science. Wilson, D. C., passed in Medicine, Midwifery, Surgery, Medical Jurisprudence and Applied Anatomy.

Standing in the Several Branches of the Final Examination.

Medicine.—75 per cent. and upwards.—Eagleson, Samuel; Hazlewood, B. J.; Kerr, W. A.; Johnston, H. G.; Langley, D. E.; Stanton, A. T.; Marshall, H. W.

70 per cent. and upwards.—Schmidt, G. A.; Hotham, A. W.; McGilivray, D.; Collison, W. G.; Lavine, S.

60 per cent. and upwards.—Wrinch, H. C.; Vankleek, P. D.; Scully, A. P.; Barrie, H. C.; Peers, R. A.; Wright, N. E. L.; Weir, E. G.; Simpson, W. O.; McGibbon, G. C.; Gesner, G. B.; Moore, J.; Purvis, E. H.; Coulter, L. McD.; Knight, J. A.; Carter, R. M.; Broad, R. S.; Hutton, T. J.

Passed.—Caldwell, J. M.; Palmer, R. J.; Baker, E.; McRobbie, D. G.; McLaren, G. H.; Smith, H. R.; Doherty, C. E.; Coke, C. E.; Hutchinson, G. O.; McKinnon, A. A.; Wilson, D. C.

Midwifery and Diseases of Women and Children.—75 per cent. and upwards.—Eagleson, S.; Hazlewood, B. J.; Kerr, W. A.

70 per cent. and upwards.—Marshall, H. W.; Hotham, A. W.; Langley, D. E.

60 per cent. and upwards.—Purvis, E. H.; Wrinch, H. C.; Barrie, H. C.; Johnston, H. G.; Collison, W. G.; Schmidt, G. A.; Stanton, A. T.; Simpson, W. O.; Peers, R. A.; McMahan, J. J.; Vankleek, P. D.; McGilivray, D. E.; Wright, N. E. L.; McLaren, G. H.; Scully, A. P.; Smith, H. R.; Lavine, S.; Weir, E. G.; Knight, J. A.; Palmer, R. J.

Passed.—McGibbon, G. C.; Gesner, G. B.; Carter, R. M.; Baker, E.; Coulter, L. McD.; Doherty, C. E.; Hutton, T. J.; Caldwell, J. M.; McRobbie, D. G.; Moore, J.; McLennan, E. J.; McKinnon, A. A.; Broad, R. S.

Surgery.—75 per cent. and upwards.—Kerr, W. A.; Johnston, H. G.; Baker, E.; Hazlewood, B. J.; Broad, R. S.; Stanton, A. T.; Simpson, W. O.; Langley, D. E.; Wrinch, H. C.; Hotham, A. W.; Vankleek, P. D.; Lavine, S.; McGibbon, G. C.; Collison, W. G.; Eagleson, S.; Weir, E. G.,

70 per cent and upwards.—Marshall, H. W. ; Doherty, C. E. ; Moore, J. ; Smith, H. R. ; Scully, A. P.

60 per cent. and upwards.—McRobbie, D. G. ; Foote, S. A. ; Barrie, H. C. ; McGillivray, D. ; Wright, N. E. L. ; Gesner, G. B. ; Purvis, E. H. ; Schmidt, E. A. ; McLaren, G. H. ; Palmer, R. J. ; Coulter, L. McD. ; Caldwell, J. M. ; King, J. W. DeC. ; Hutton, T. J.

Passed.—Hutchinson, G. O. ; McMahon, J. J. ; Wilson, D. C. ; McLennan, E. J. ; Coke, C. E. ; McKinnon, A. A.

Applied Anatomy.—75 per cent. and upwards.—Hazlewood, B. J. ; Eagleson, S. ; Langley, D. E. ; Wrinch, H. C. ; Simpson, W. O. ; Smith, H. R. ; Stanton, A. T. ; Johnston, H. G. ; Schmidt, E. A. ; Lavine, S. ; Purvis, E. H. ; Marshall, H. W. ; Weir, E. G. ; McRobbie, D. G.

70 per cent. and upwards.—Moore, J. ; Collison, W. G. ; Caldwell, J. M. ; McLaren, G. H.

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IS MIGRAINE A SOMETIME SYMPTOM OF UREMIA ?

The laboratory and clinical work of the past few years has done much to clear up disputed points in the etiology of disease. The effects of impaired hepatic and urinary secretions have latterly been commented upon very generally. The action however of urea or its products upon the nervous system has not received all the consideration that it deserves. Hence the recent communication from Dr. W. H. Birchmore, containing laboratory notes bearing upon this subject, which will be read with interest. They read as follows:

1. P. D., aged 22. Athletic young man, given to the bicycle and the like. Normally his urine contains 42 grams of urea in the 24 hours. Migraine lasted 18 hours. Urea excreted during migraine 15.4 grams. Urea excreted in the following 24 hours 72.1 grams.

2 Mrs. W., aged 40, blond, slight. Normal urea excretion is 31.3 grams. Migraine for eight hours. Urea during migraine 4.42, in following 24 hours 42.7 grams.

3. V. D., aged 25. Normal urea excretion 38.5 grams. Migraine for 18 hours. Urea excreted 10.2 grams. In following 24 hours 55 grams with some urine lost.

4. Mr. R., aged 53. Powerful man, blond. Normal urea excretion 53 grams. Migraine for 12 hours. Urea excreted 10.2 grams. In following 24 hours 81.3 grams.

5. Mrs. W. Particularly bad attack lasting 30 hours. Total excretion during attack 8.21 grams. In first 24 hours after attack 80 grams were excreted, second 24 hours 55 grams, beside some loss. I am informed that fever and some delirium accompanied this last attack. Personally I know nothing of the treatment, but the urine showed that phenacetine had been used.

In these few cases there will be noted an intimate relationship between the attacks of headache and the suppression of urea. To what extent this would hold true in a longer series it is impossible to state as data are lacking. Yet we have reason to believe that in a very large proportion the same conditions prevail.

In asthma, as well, the same rate has been found to hold true, and very remarkable results have been attained by the administration of urea solvents.

In these two the etiological factors are similar or identical so far as this product is concerned, though the exact way in which urea or its toxine exerts its influence upon the nervous system is by no means demonstrated. Nevertheless, the treatment of these conditions is not influenced thereby, and we continue to use the compounds of lithia, potash, soda and salicylates with considerable success. While in lithæmic forms of migraine and asthma there are many symptomatic remedies, none can be permanently effective which fail to eliminate the products of impaired digestion and tissue metamorphosis.

ANTHROPOLOGICAL INVESTIGATIONS UPON CHILDREN.

A very interesting study has recently been made by Dr. Ales Hrdlicka upon 1,000 children, inmates of the New York Juvenile Asylum and the Colored Orphan Asylum. Numerous measurements were taken, including the height, sitting height, arm expanse, weight, dimensions of chest and head. The children also underwent thorough inspection and certain other observations employed in anthropological investigations. The object of the investigations was two-fold: First, to learn as much as possible about the children admitted to the asylums, and second, to contribute to the general work of the author in his attempt to add to our knowledge of the normal child, and of several classes of children who are, morally or otherwise, abnormal.

Of the 1,000 children examined, 700 were boys and 300 were girls. Of the boys 634 were white and sixty-six colored. The girls include 274 white and twenty-six colored children.

In age the white boys ranged from five to seventeen years, the white girls from five to eighteen. The colored boys from six to sixteen, and the colored girls from seven to fifteen years.

Among the 634 white males examined, 59, or a little over 9 per cent., showed no abnormality whatever on any part of their body. Among the 274 white girls examined, there were 35, or almost 13 per cent., on whose body there was nothing atypical. From among the 66 negro boys 5, or 7.6 per cent., were entirely normal, while out of the 26 colored girls there were 7, or almost 27 per cent., who showed no irregularities.

Thus about one-seventh of all the inmates of the New York Juvenile Asylum are without a blemish on their bodies. This proportion may perhaps seem somewhat small to those who are not accustomed to close examination of either children or adults. Observation of individuals met at large will soon convince one, however, that there are so many irregular ears, teeth, heads, faces, etc., that instead of regarding fourteen per cent. as too small a percentage of normality, he will wonder that it is so large.

It will be noticed from the above figures that the girls show a better physical standing in both the white and colored children, and also that the colored boys seem to be physically somewhat inferior to the white ones. As the examination of the boys was somewhat more thorough than that of the girls, the author believes that the percentage of abnormalities between the two are not widely different.

Particular study was made of the origin of the abnormalities in an endeavor to discover which were congenital and which were acquired by habit. In general terms it may be stated that on an average all classes of abnormalities predominate in the male children, both white and colored. This predominance is especially marked in the case of irregularities acquired by habit.

The white and colored children differ in their abnormalities very remarkably. The white children of both sexes possess on an average a decidedly larger proportion of inborn abnormalities. On the other hand,

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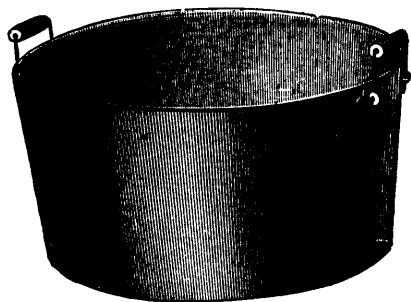
the negro children acquire in early life a larger percentage of irregularities than the white children. These facts signify that while the white children are more likely to be begotten with physical deficiencies, yet later in life they will not undergo so many pathological processes which give rise to physical abnormalities as will the negro children. Rachitis seems to be particularly more frequent in the colored.

In studying the evidence presented it would seem that a large number of the lighter congenital abnormalities in no way reflects badly on the individual's history, and does not show any predispositions of the child. Science has been as yet unable to trace to their real causes such atypical characters of irregularities as those of the ears, or those of the toes, or some of those of the teeth, the palate or the uvula. Experience teaches plentifully that there is but very little or no practical significance in these characters.—*The Archives of Pediatrics*.

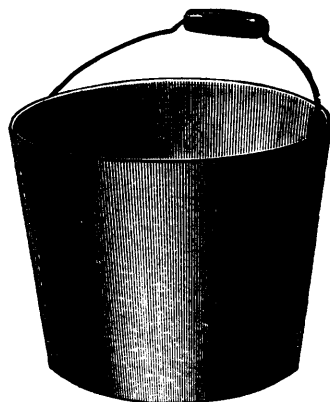
Gastric Ulcer in an Infant Two Months Old.—Dr. Cade reports the following rare case (*Rev. Mens. des Maladies de l'Enfance*). The child, two months old, was suffering for four weeks with vomiting and hæmatemesis; finally general peritonitis set in and the child died; autopsy showed that the peritonitis was due to a perforated round ulcer of the stomach. Basing himself upon this and the other published cases, the author says that *ulcus rotundum* in infancy has the same anatomical characters as in the adult, and thus in both the hæmorrhages and the perforation-peritonitis are the most dangerous complications.—*Medico-Surgical Bulletin*.

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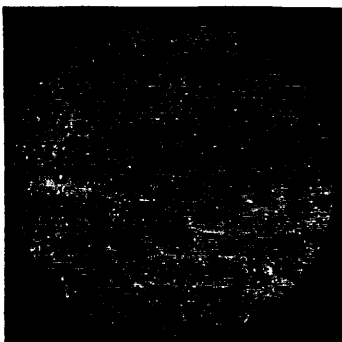
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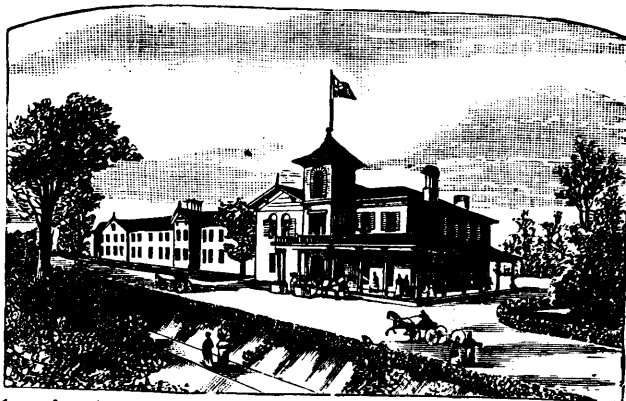
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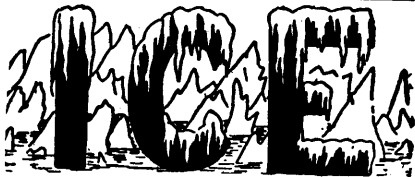
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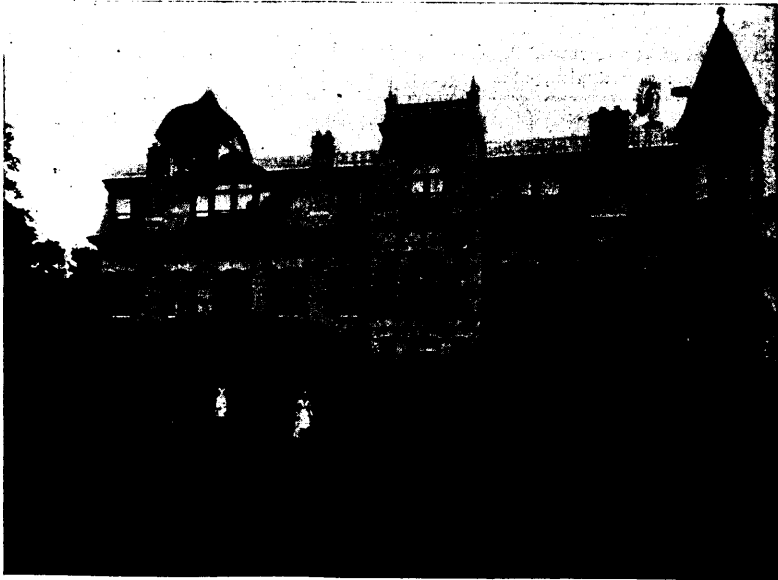
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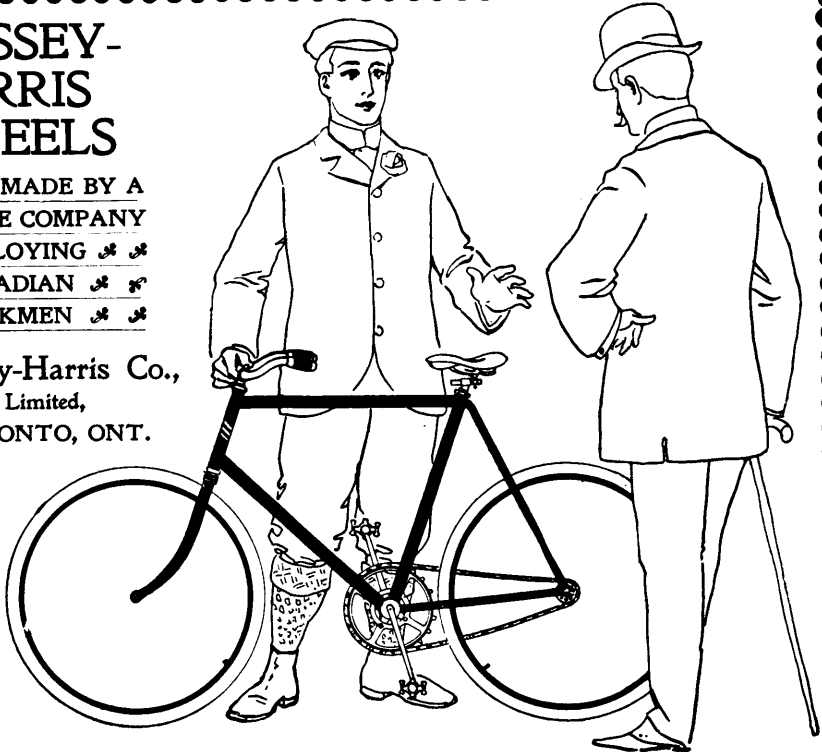
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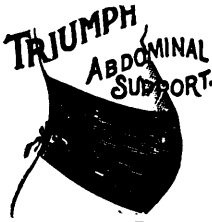
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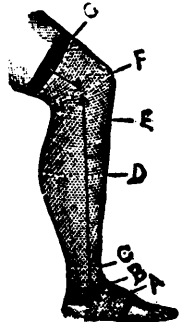
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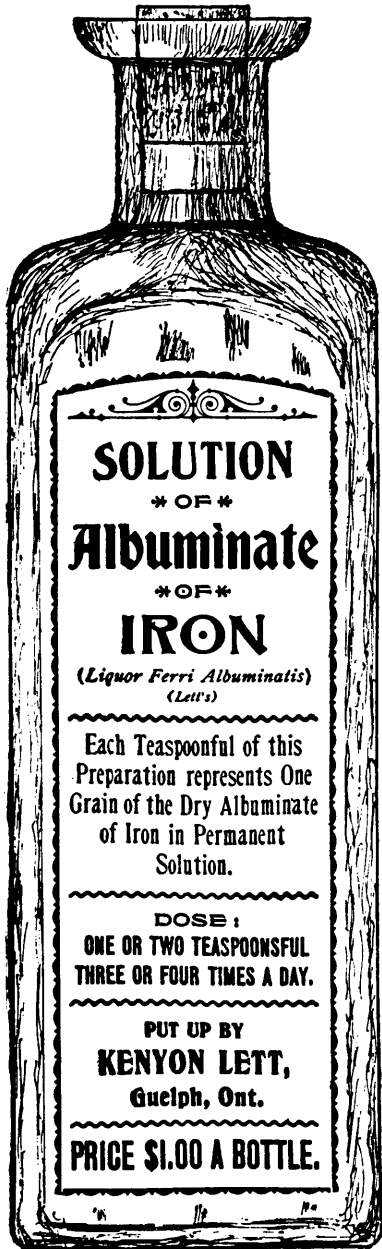
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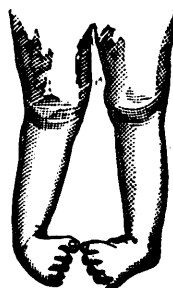
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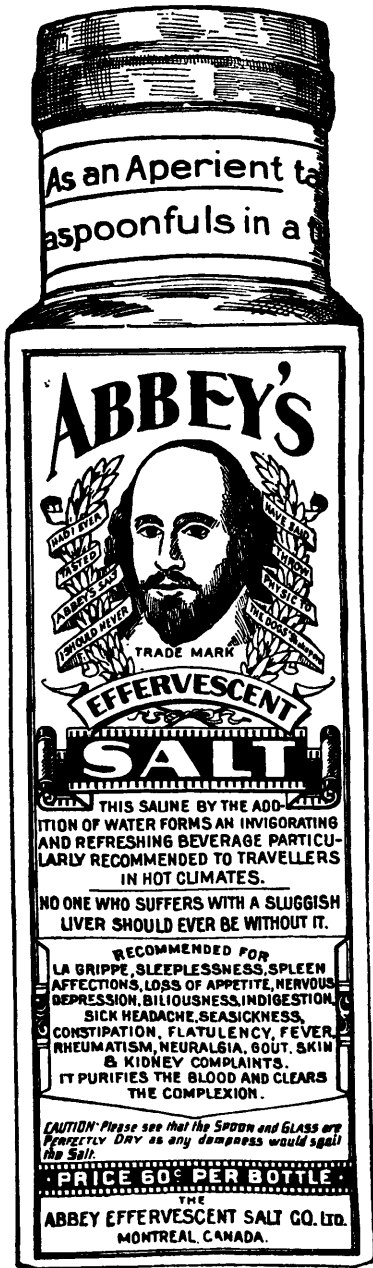
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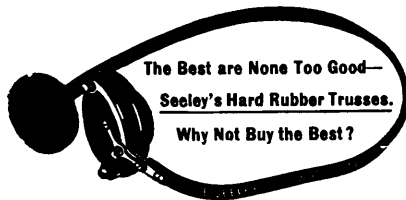
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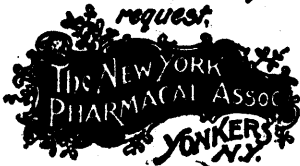
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