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SELECTED ARTICLES

IMPALEMENT BY BROOM HANDLE THROUCH THE RECTUM

Dr. W. B. Chase reports a case of unique character, and unusual. It was in the person of a young girl between girlhood and womanhood, about thirteen years old. The accident happened while visiting on Long Island. In going upstairs there was an ordinary carpet-sweeper lying on the steps of the stairs, but at a little different angle from the stairs themselves, and in a playful way, as it was in her way going upstairs, she pushed it to one side with her foot, lost her balance, and fell back in such a manner that the handle of the sweeper, which was about the size of an ordinary broom, entered the rectum, tearing the sphincter and pushing its way through the sigmoid flexure of the colon, and upward into the right abdominal cavity; so that, as near as I could learn from the sister who was by, she said it required a large amount of force to extract the broom-handle, the girl lying on the floor at the foot of the stairs. It must have been, I think, fixed in position, on account of the contour of the pelvis, resting on the coccyx, under the arch of the pubes and over the sacrum. This happened at twelve o'clock noon. I saw her at six in the evening, six hours after it happened. She had been in violent pain, and was seen first by a practitioner of sectarian medicine, who left some pellets, and thought she would be all right. The doctor with whom I saw her, Dr. Samuel Nutt of Newhaven, was under the impression that the peritoneal cavity had been opened, and had given her an anodyne which made her comfortable. At this time the temperature was 102.5 degrees F., and she had rallied from the shock. His diagnosis was correct. I had her sent to the Bushwick Hospital and operated at eleven o'clock, eleven hours after the accident. She was not well developed, and therefore her pelvic cavity was not much larger than a male of that age. I made a median incision, and on reaching the peritoneum and opening it—there was a little doubt—I thought I should have entered the peritoneal cavity, but did not do so, and on careful examination I found the omentum adherent to the peritoneum of the abdominal wall. On carefully separating that, pus was apparent and discharged in quite a quantity from the incision. Of course, it was perfectly evident that the pelvic cavity must have been infected with the bacillus coli communis,

for the handle of the broom had penetrated from the rectum this long distance into the peritoneal cavity for about eleven inches. I could find no further injury to the intestines, except the tear of the sigmoid flexure, about three inches long, and the injury done to the omentum. My first step was to open the peritoneal cavity and look to see if I could not find any other injury to the intestines or escape of fecal matter; then I thoroughly irrigated the whole pelvic contents with a sterile salt solution. Then by placing the patient in the Trendelenburg position, and the introduction of retractors laterally, and the hand of an assistant holding the intestines upwards, I was unable to find space enough, so that by the introduction of a pair of forceps into the rectum I could locate the exact position of the tear in the sigmoid flexure. I labored under the very considerable disadvantage of being compelled to work in my own shadow at the bottom of the pelvic cavity, as I had artificial light. I succeeded, however, in approximating the parts with Lambert's sutures, bringing the peritoneal surface near the borders of the tear together. I then covered this part, which had been stitched together, with gauze—a layer of iodoform and plain gauze—made an incision in Douglas' cul-de-sac, and passed the end of the gauze through into the vagina, and closed the abdomen. I hardly dare to expect that recovery would take place, and it did not; and yet that girl went for two days with very little temperature, and apparently no symptoms of septic peritonitis. My expectation was that she would perish from septic peritonitis, which she did at the end of five days. The case is of interest, perhaps, more on account of the unique character of the injury than for any other reason.

The gauze was removed on the third day, and the drainage was very slight. Before her death I removed a stitch in the abdominal wall, and the ravages which septic peritonitis had made were most remarkable; and yet there was little abdominal distension, though there had been considerable pain.

A METHOD OF PRODUCING IMMUNITY AGAINST TUBERCULOUS INFECTION

In an article in the Lancet, Mr. Peter Paterson states that in his investigations concerning the treatment or prevention of tuberculosis a number of experiments were made so as to understand the course, terminations, and post-mortem appearances of tuberculous disease when following its usual course after the artificial introduction of tubercle bacilli. For this purpose a number of rabbits and guinea-pigs were inoculated by way of the peritoneal cavity, the anterior chamber of the eye, the veins, and the subcutaneous tissues, with the result that the animals died from tuberculosis after a lapse of varying periods. On post-mortem examination numerous nodules were found in the internal organs, and they had the typical structure recognized as that of tubercle. In these experiments, says the author, the bacillus of mammalian tubercle was employed, and all the inoculations made into mammals were uniformly successful in inducing the disease, but on trying to produce tuberculosis in birds by injections of the same organism the results were invariably negative. In six fowls Mr. Paterson injected into the veins doses varying from a cubic centimetre to ten cubic centimetres of a very opaque, almost milky-looking, watery suspension of virulent mammalian tubercle, but the birds remained healthy and strong. After periods varying from ten weeks to five months they were killed, when their organs were found to be free from tubercle even after careful microscopic examination. Yet, says the author, repeated outbreaks of tuberculosis among birds are on record, and in these instances the disease has spread very rapidly among the birds and has been eradicated only by killing all the infected fowls and thoroughly washing the ovaries with antiseptics. In these cases the only methods of infection

could be by inhalation and swallowing, and in both these ways the number of bacilli taken at any one time would be comparatively small, and they would be brought into contact with healthy epithelium, in either the lungs or the intestine. Yet these few bacilli were able to overcome the resistance offered by this epithelium, gain a nidus in the body, and ultimately lead to the death of the infected birds. On the other hand, in the author's experimental cases countless numbers of bacilli were injected directly into the blood stream and had therefore no primary resistance to overcome in the form of epithelium, anl yet they disappeared from the body of the inoculated animals without leaving any visible trace.

Thinking there might be something in the external condition of these birds which were infected accidentally while running about that made them more liable to infection than those kept in confinement, the author investigated this point by keeping five fowls under the same conditions. Of these, three were treated with five cubic centimetres of a watery suspension of virulent mammalian tubercle injected into the peritoneal cavity, another had the same dose of virulent fowl tubercle introduced into the peritoneal cavity, while the fifth was fed on two occasions food which had a cubic centimetre of the same watery suspension of virulent fowl tubercle mixed with it. At the expiration of ten weeks the birds were killed, when those which had been injected with virulent mammalian tubercle bacilli were found to be free from tuberculosis, while the bird which had been inoculated with the virulent fowl tubercle showed numerous tubercles in the viscera, and the one which had been fed with tuberculous food showed tuberculous nodules of the intestine and a tuberculous ulcer of the gizzard.

If there are two varieites of tubercle, continues Mr. Paterson, and man is susceptible to both, a culture obtained from a patient suffering from fowl tubercle should show the characteristic appearances of that organism, as cultures of fowl tubercle grow more rapidly and are moister than those of mammalian tubercle.

In injecting the sterilized fowl tubercle directly into the blood stream, says the author, as a means to prevent the extension of tuberculous infection, there is the danger that some of the dead bacilli will be deposited in some part of vital importance and set up an inflammation which may have serious results. On the other hand, he adds, subcutaneous injections produce a caseous mass which, on being discharged, carries with it a large number of the bacilli which had been introduced; consequently the full advantage of the injections is not obtained. On taking into consideration the immunity shown by fowls against infection by mammalian tubercle, Mr. Paterson experimented as to the effect of their serum when modified by the presence or action of the bacterio-proteids of fowl tubercle. Sterilized suspensions of fowl tubercle were injected into the peritoneal cavity of fowls. The injections were begun by giving ten cubic centimetres of a sterilized watery suspension of the bacilli, and in subsequent injections (they were repeated at intervals of three weeks) the quantity was increased at first by five cubic centimetres and afterward by ten cubic centimetres, so that the quantity introduced on the sixth injection was fifty cubic centimetres and the total amount a hundred and sixty-five. After the expiration of three weeks the injection of fifty cubic centimetres of the suspension was repeated every third week. Under this treatment the birds began gradually to be able to stand the action of the injections with no apparent detriment to health. In order to ascertain if the serum of the fowls so treated had any effect on the growth of tubercle bacilli, both fowl and mammalian, the author abstracted some blood from the fowls, after allowing at least a week to intervene between the last injection of sterilized fowl tubercle bacilli and the venesection, and not taking any blood until the sixth injection had been given. The serum was allowed to separate and a quantity of this was drawn into sterilized

test tubes. A number of these were then inoculated with virulent fowl tubercle and others with virulent mammalian tubercle, and they were placed into the incubator. After some time there was a distinct growth in the tubes inoculated with the fowl tubercle, but no apparent increase in the number of bacilli in the tubes which had been inoculated with mammalian tubercle bacilli, although they were kept for three weeks in the incubator.

Mr. Paterson then proceeded to try the effect of this serum on healthy rabbits and guinea-pigs, and he injected three cubic centimetres into the subcutaneous tissue of these animals. This was followed in a few hours by a marked rise of temperature, the rise in some cases reaching 3° F. Twenty-four hours afterward there was a thickening at the seat of the injection and extending for some distance around this point. The injection was repeated once a week until fifteen cubic centimetres of serum had been introduced in all. During this period the animals lost weight, and this emaciation continued to progress for four or five weeks after the cessation of the injections. Sections made from the swelling resulting from the injections of serum were found to consist almost entirely of round cells, epithelioid cells, and a few large multinucleated cells. At other points the sections showed small foci having all the appearances of caseation, while at others the cells were undergoing a degenerative change, as shown by their staining very faintly. Apart from the caseation, continues the author, these appearances denote the presence of a chronic inflammation only, but the caseation and degeneration reveal the presence of some substance deleterious to the cells of the inoculated animal, and that this deleterious property does not belong to the normal serum of fowls was shown by injecting normal serum in similar doses into rabbits. These injections produced a very slight rise of temperature and very little swelling, but nothing similar to the degenerative changes previously noted.

The author then tried the effects of the serum on tuberculous animals. A number of rabbits were inoculated by the anterior chamber of the eye with virulent mammalian tubercle bacilli. Two weeks later two cubic centimetres of the prepared serum were injected subcutaneously, and this amount was repeated every week for four weeks. At the end of this period the affected eyes were acutely inflamed, the iris in some cases looking like granulation tissue. After the injections ceased this condition of intense inflammation improved, and a month later the pupils were distinct and the redness had disappeared from the iris, scattered over which a few yellowish specks could be seen. For five or six weeks the eyes remained in this condition, there being no apparent increase in size or number of the yellowish specks situated on the iris. The injections of serum were then begun again, the dose being two cubic centimetres, and repeated weekly for three weeks. As a result of this the nodules on the iris increased in size, but there was no development of any fresh foci. Six months from the injection of the mammalian tubercle into the eyes, the animals were killed. On examination the bodies were found to be well nourished, and, excepting for the tubercles in the eyes, the animals were free from tuberculous infection.

The results of these injections show, says the author, that the serum when injected into a tuberculous animal tends to limit the extension of tuberculosis to parts other than those primarily involved, as is shown by the absence of any tuberculous disease in the internal organs. Even in parts where the disease has become established before the serum is introduced it has a pernicious influence, as in none of the infected eyes did the tubercles exceed seven in number, although two cubic centimetres of an opaque watery suspension of virulent mammalian tubercle bacilli had been injected and six months had elapsed between the primary inoculation and the death by killing of the animals. The intense inflammation in the eyes during the period of the first

series of injections of the serum, followed by a period of quiescence of the tuberculosis after their cessation, and again the increase in the size of the tubercles during the second series of injections, leads one to the opinion, continues Mr. Paterson, that the serum when injected into an animal suffering from tuberculous disease aggravates the disease so long as the injections are continued; but when time has been given for this serum to influence the fluids of the body these fluids are able to a certain extent to prevent any further extension of the disease. If this is so, it would be possible to render susceptible animals immune to the action of the tubercle bacillus by injecting a quantity of the prepared serum and allowing some time to elapse before exposing the animals to tuberculous infection. Hence he endeavored to make guinea-pigs and rabbits immune to the action of the mammalian tubercle bacillus. The animals were injected subcutaneously with doses of two cubic centimetres of the prepared serum, and the dose was repeated every third day until five injections had been given and they had received a total of ten cubic centimetres of serum. These injections were followed by the usual rise of temperature, swellings, and emaciation, but after their administration had been stopped these symptoms gradually disappeared. One month from the date of the last injection of the serum virulent mammalian tubercle bacilli in watery suspension were injected into the anterior chamber of the eye of a number of rabbits. This injection gave rise to an acute opthalmitis accompanied by opacity of the cornea. These symptoms continued for a few weeks and then gradually diminished, so that by the end of the sixth week they had completely disappeared and no trace of tubercle could be found in any part of the body on making a post-mortem examination. Two months later—that is, three months from the date of the last injection of serum—a cubic centimetre of an opaque watery suspension of virulent mammalian tubercle was injected into the peritoneal cavity of a number of guinea-pigs. After this injection the animals appeared to remain in their usual health and were all killed in from two months to two months and a half after the introduction of the mammalian tubercle. During this period there was no emaciation, as shown by the absence of loss of weight. On post-mortem examination the only evidences of any injection of irritant matter having been made into the peritoneal cavity was in one case an adhesion of the liver to the diaphragm and in another the presence of three small nodules, about half a millimetre in diameter, in the edge of the omentum, which otherwise was normal. All the viscera were perfectly healthy and free from any trace of tubercle even on microscopical examination. Sections of the nodules showed that they consisted of a dense, fibrous capsule inclosing amorphous matter, calcium salts, and fat globules of various sizes. In none of the sections was there any evidence of an active process, and careful examination failed to reveal the presence of tubercle bacilli. The existence of these nodules, says Mr. Paterson, may have had nothing to do with the injection of the tubercle bacilli; but from their structure it is highly probable that they were the result of the inoculation, though the bacilli had disappeared. Five months after the injection of the serum a number of the remaining animals had virulent mammalian tubercle injected into the subcutaneous tissues, while in others the same organism was introduced into the peritoneal cavity. The subcutaneous injections acted in the same manner as injections of dead bacilli in the same situations—that is to say, a caseous mass formed which was discharged without giving rise to any infection of lymphatic glands or viscera. The injections into the peritoneal cavity disappeared without leaving a trace.

How long this acquired immunity will last in animals it is impossible at present, the author says, to say definitely, but the results of the last set of experiments recorded show that it is effectual for at least five months. Having obtained the serum

of fowls in such a condition that its injection into such susceptible animals as gunea-pigs and rabbits conferred immunity against the invasion of large numbers of mammalian tubercle in a virulent form, he tried its effects on himself and injected the serum into his thigh. During the whole of the period covering the experiment the femoral glands remained enlarged though painless, and this condition persisted for six weeks from the date of injection. A full account of the experiment is given by Mr. Paterson, who says that the experiment in man cannot be pushed to the test of injecting into his body virulent mammalian tubercle bacilli after the injection of the serum. He feels justified, however, in concluding that if such susceptible animals as guinea-pigs and rabbits are rendered immune by this method against the invasion of large doses of virulent bacillus introduced into their bodies, man, who is much less susceptible, may in the same manner be rendered immune against the invasion of the few bacilli which at any one time attack him. Mr. Paterson states that he believes this condition of immunity can be attained in man by beginning with an injecion of two cubic centimetres of the serum, and increasing each administration by a cubic centimetre until its influence on the body by a distinct rise of temperature. At least a week should intervene between the injections.

The length of time this immunity so acquired will last can only be definitely ascertained by observations in a large number of cases and extending over a number of years, he says; but, even if the immunity should be found to diminish or disappear after the lapse of a number of years, this does not reduce the value of the serum as a prophylactic, because the injections can be repeated at stated intervals and the immunity re-established.

Mr. Paterson does not allege any curative effects from the use of the serum in patients with tuberculous disease, but he maintains most emphatically that, when it is injected into susceptible bodies, it confers an immunity against the invasion of the bacillus of mammalian tubercle. He especially recommends these injections to be given to persons who have a tuberculous tendency and to those who have a history of tuberculous disease among their relatives. By this means it is possible, he thinks, to diminish, if not altogether to eradicate, tuberculous affections from the race.

ARMY MEDICAL SERVICE

We learn that the rumors as to a new Royal Warrant for the Army Medical Service are somewhat premature, but we understand that the War Office authorities have been, and are, seriously considering the possibility of overcoming the present regrettable deadlock in respect of recruiting the Army Medical Staff by so altering the conditions of organization as to permit of some kind of return to a regimental system. From the information which reaches us we gather that the proposals put forward by the late Adjutant-General on behalf of the War Office to secure this end were extremely crude, involving practically a return to the old regimental system. Whilst fully recognizing the value and importance of establishing a closer bond of union between the medical personnel and the fighting units, we think it our duty emphatically to intimate to those advising the War Office in this matter that no system of reorganization can succeed in practice or be acceptable to the medical profession which in any way perpetuates the present conditions in the medical staff in respect of army rank. The medical officer in respect of army rank must be on an absolute equality with his non-medical brother. The mere fact of a man having taken a medical degree or qualification should not penalize him in the military hierarchy. An experienced correspondent suggests that if it be desirable to revert in some way to a regimental system, there would be no insuparable difficulties in the way of its introduction, provided that unambiguous army rank were given to the medical officer, such rank, how-

ever, not to carry powers of command over men not belonging to the medical establishment. Once that were given, our correspondent continues, "it would be quite possible to organize a true medical or technical corps, having a fixed establishment and composed of officers of a certain seniority, say from ten to twenty-five years' service; the duties of such a corps would be to run and organize all the various hospitals, whether garrison, general or field. This corps should include the men of the present Medical Staff Corps, and should constitute an integral corps of the army, being organized upon similar lines to the Army Service Corps. Such a corps should be recruited as vacancies occur in it from medical officers in and belonging to the fighting units. The probable period of service at which men might expect transference from their units and ipso facto promotion into such a technical corps would be about the tenth year. From this medical or technical corps should be selected the medical officers for staff employ, and these men would be the really only true medical staff. These medical staff officers would be the principal medical officers of districts, and as such should be known as deputy assistant adjutant-generals, issuing orders as to matters concerning medical and sanitary arrangements 'by order.' The rank of these staff officers would necessarily be that of colonel. If the medical service of the army could be organized on lines similar to these, some of the best medical talent and material of the country would be attracted to military service. Their younger years would be put in as officers of corps having the finest military tradition, while in their later years they would either be officers of a purely technical corps, or serving as staff officers for technical purposes. From the first day of service to the last, they would be soldiers, and the branch of the army to which they would ultimately belong would soon be as much respected and sought after as it is now shunned and avoided." These proposals are certainly worthy of the most careful consideration by the military advisers of the War Office, as they appear to offer a way by which conflicting views, prejudices, and interests can be reconciled.—British Medical Journal.

SHOULD MEASLES AND WHOOPING COUGH BE QUARANTINED?

By Herbert Work, M.D., Pueblo, Colo., Member Colorado State Board of Health; read at the Sanitary Convention held at Port Collins, October, 1897.

Whether or not measles and whooping cough should be quarantined is a question of importance to children and one which vexes physicians, parents and school boards annually. Quarantine on land means the exclusion of the patient and his family from association with others during the continuance of the disease, when the infection is known to be communicable by a person in health from the sick to the well, and in diseases not so transmissable but only directly from one to another; in isolating the patient from contact with others.

These two diseases may be profitably considered together, the mortality being equal, or nearly so. Smith estimates that in New York City, covering a period of fifty years, there were 4,840 deaths from whooping cough, or one in seventy-six deaths from any cause.

The mortality of measles in London for one year was five for each ten thousand inhabitants. In England and Wales one per cent. of all deaths were from this cause and nearly two per cent. in the largest cities.

Statistics vary enough to be worthless, but the mortality rate comes within three to fifteen per cent. of those reported, taking the cities of the nations as a whole, where records are kept, and in the smaller towns and in the country it doubtless falls to one per cent. or below it. Statistics in this connection are inaccurate chiefly because all cases occurring are not seen by a physician, and not all of these are reported to the health officer, and further, the gravest cases are all reported, and upon this selected list the mortuary

rate is necessarily based, so that practitioners in different localities and among those of different social surroundings will hold different views regarding the necessity for quarantine.

The contagion of both diseases is most virulent for several days before either disease can be diagnosed and it is during this period that children transmit them in school and at home, their symptoms being attributed to "a cold."

To the majority of families, the luxuries of separate apartments and nurses are not attainable, even had the initial case been recognized in time to prevent infection of others, which practically never occurs. Once a child is convalescent and able to return to school, the danger of again disseminating the contagion is at the minimum, for no one holds that the desquamation of measles is virulent and evidence is accumulating to prove that whooping cough is not contagious after the stage of whooping is developed.

I have personally known measles to sweep over a city school district of nearly 8,000 pupils, notwithstanding the repeated persistent demands of the Health Commissioner, that all families in which it occurred should be quarantined, and the cordial co-operation of school principals and teachers, a part of which embraced the immediate dismissal of all children showing symptoms of "a bad cold."

The deaths numbered two in this epidemic which swept a town of 40,000 people and the whole number reported to the health office was 124 for the twelve months following the outbreak of the epidemic, although the whole number of cases was estimated at nearly 2,000.

With the best quarantine regulations we can enforce, it is possible only to delay: not prevent the spread of epidemic measles.

Whooping cough is known in Japan as the "one hundred day" disease, and the description would not be inaccurate in America. Think of what a one hundred day quarantine would mean to a child otherwise in health, except for paroxysms of coughing, and of the inconvenience and expense entailed to the family, and the question again presents itself as one of expediency rather than one of practical sanitation.

The most enthusiastic supporter of rigorous quarantine of these diseases would exclude from school or the street all children from a family where they exist, whether protected by a previous attack or not. There seems to be no basis for such rigid care since little evidence has been adduced tending to establish the assumption that either disease is communicable through a third person.

Admitting, for the time, the accuracy of the mortuary statistics of these diseases in the cities of London, where it is said to be thirty per thousand of each in deaths occurring from all causes; of New York, where whooping cough alone, for half a century, caused one death of each seventy-six dying: it should be remembered that three-fourths of all deaths in cities such as these, are of those under two years of age, and that it is among infants that these diseases prove fatal by an overwhelming majority of cases.

This fact then eliminates to a great degree the necessity for quarantine of school children; the most urgent factor and the only one we will be consulted about as sanitarians.

If mortality statistics of these two diseases were available—including those between the age of six and twenty years only, in view of the previous authenticated statement, that three-fourths of all deaths occur to those under two years of age—those caused by the diseases under discussion would appear as a fraction of one per cent.

Either disease, practically never terminates fatally to a healthy child receiving a medicum of care. It is true that either will prepare the system for the invasion of other diseases: notably pneumonia and tuberculosis, but even this contingency is obviated by the care of a mother of average intelligence, except when these diseases are already incipient.

While no physician would wilfully expose his child to either disease, for no

sickness is a light matter, yet the fact confronts us that these diseases penetrate to the most inaccessible places; farms, logging camps and new mining towns, as well as to the secluded child in the city, to that extent, indeed, that we are at times ready to believe them to be the result of atmospheric miasms, and the probability of a child reaching maturity, without being attacked by both diseases becomes a remote possibility only.

Adults enjoy greater immunity from both diseases, chiefly because of being protected by a previous attack in childhood, but those isolated cases that do occur prove to us that the gravity of the affection increases proportionately after the fifteenth year of age.

We urge vaccination as a preventive of small-pox, and we cannot give a guarantee against its causing constitutional illness, yet the probabilities of an unvaccinated person contracting small-pox is more remote than is death from either measles or pertussis.

I realize that the kindly disposed humanitarian will insist that the saving of one life justifies infinite expenditure of time, energy and money, which I admit to be true, if the life be a valuable one and the means to that end are definitely directed. But, when only those are endangered where tenure of life has already been prejudiced by inheritance or disease, and the effectiveness of methods devised for their protection is at best problematical, the expediency of unwieldy isolation exactions for the benefit of such may well be questioned.

To more purpose and immeasurably easier to accomplish would be the quarantining of infants and weaklings, which could be done at the minimum of expense at the mere suggestion of the family physician, without loss of time at school or from business of those of the family who may later contract these diseases and who are abundantly able to withstand them.

It is easy to find an asylum among friends for a child in health, impossible for one having contagious diseases. However, there is no law permitting the quarantine of the well until they have been exposed to contagion.

So long as the law of the greatest good to the greatest number obtains, communities, schools, officials and individuals will tacitly conspire to defeat quarantine regulations directed against both measles and whooping cough, because of the irreparable loss of time to school children especially, to the end that attacks of these diseases may at most be deferred from childhood when careful nursing by the mother is possible, to adult life when contact with mixed communities renders infection inevitable and its type more severe.

I do not believe that quarantine against either measles or whooping cough is practicable for the reason that parents not only believe such police regulations unnecessary, but know them to be burdensome, out of proportion to the dangers incurred, and this knowledge is based upon the futilty of attempting to escape from such epidemics and upon the low mortality of each.

I have never experienced opposition to quarantine of scarlitina, and the isolation of small-pox is self-adjusting. But so long as the dangers of measles and whooping cough lie in the constitutional unfitness of exceptional individuals to withstand them, or in the diseases which may complicate them, our efforts to enforce effective quarantine will be futile.

THE MONETARY LOSS TO CITIES FROM TYPHOID FEVER

By Thomas Turnbull, M.D., Pittsburg, Pa.

The question of the high mortality—that is, the number of deaths per 100,000 living—from typhoid fever, is one which is occupying the attention of hygienists and public health officers.

Many of our cities suffer greatly from annual invasions of typhoid fever, and simply look upon it as an ever-recurring event, and slight thought is given to the sufferings of those afflicted or the loss to the community through its presence. Probably in no civilized country in the world

is the typhoid mortality rate higher than in America, and our good State of Pennsylvania stands well up in the van, having one or two cities which lead in this respect.

Putting aside all questions of the suffering of those afflicted with typhoid, and the many times greater suffering of their families, who watch and suffer during the whole period of the illness, we will only consider the loss that can be expressed in dollars and cents, leaving the great, immeasurable amount of suffering still crying for relief.

The first loss to be measured in terms of dollars is the loss to the individual, his family, or his friends. The first item in this is the loss from being unable to follow his occupation ; the second is the cost of medical attendance ; third, the amount paid for a nurse, or the value of the time given for nursing, by some member of the family or friend ; fourth, the cost of remedies, special foods, and appliances used ; and, finally, in many cases, the accumulated living expenses for the period of illness. This would give us, for an average, about $100 actual loss to every person having typhoid. The total amount of this loss is difficult to estimate, since many cases are not reported. Although made a reportable disease by the State, there are many hundreds, if not thousands, of cases yearly which are not reported. In Alleghany, Pa., in 1896, there were 1,764 cases of typhoid fever reported, with an estimated population of 120,000 ; this gave one case of typhoid to every 68 of population. The fatality was 12.6 per cent., which rate alone would tend to show that all the cases were not reported. The individual loss from these cases, taking $100 as the average loss for each case, amounted to $176,400.

Dr. Henry Leffman, in a recent article on "Typhoid Fever in Philadelphia," closes as follows : "The deaths from typhoid fever in Philadelphia in 1895 were 469. It is safe, I think, to allow a ten per cent. mortality, which would give 4,690 cases ; at $100 each, the cost will be $469,000, the interest on a sum quite sufficient to filter all the water."

In Pittsburg, in 1895, the fatality was 13.37 per cent., there being 213 deaths, with 1,593 cases, reported. This would give an additional loss in Pittsburg of $150,300. The high fatality would again indicate that all the cases were not reported.

The total individual loss from typhoid fever in these three cities, in the year 1895, was, from the reported cases only, $804,700. How enormous the loss when the whole case is considered ! The individual loss is not a direct one to the city, as it falls in most cases upon the individual, the loss to the city coming from having such an amount of sickness present, and so many unable to pursue their occupation for so long a period.

Beyond the individual loss there is another, the loss to the municipality. Every individual has a cash value to the municipality in which he resides. This value varies according to occupation, station in life, and other causes ; but, as typhoid is no respecter of persons, the average loss by death from this disease would be the same. To get a fair value on each life, although a very low one, we will take the estimate given by Dr. Farr. "On Dr. Farr's basis, the child of an agricultural laborer is worth only $25 at birth, $280 at the age of five, $585 at the age of ten, $960 at the age of fifteen, increasing to $1,230 at the age of twenty-five, then steadily declining to only $5 at the age of seventy." Murchison states that 66.42 per cent. of typhoid fever occurs between the ages of ten and twenty-five. According to the Registrar-General of England, the maximum mortality is attained at the age period twenty to twenty-five. From the above it can be seen that every death from typhoid is at a loss of at least $1,000 to the community. This would give a loss, in 1895, to Alleghany, of $223,000; to Philadelphia, of $469,000 ; and to Pittsburg, of $213,000—a loss of $905,000 to the three cities, 90 per cent. of which could have been prevented.

For the ten years ending January 1,

1896, the deaths from typhoid in Pittsburg were 2,296, a municipal loss of $2,296,000; and, taking the death rate at ten per cent., gives an individual loss of the same amount in the total loss, municipal and individual, of $4,592,000—enough to have paid for a filtration plant for the city, even allowing that ten per cent. of the present amount of typhoid remained after the erection of a new plant.

The time is coming, if not already here, when municipalities will be sued for negligence in sanitary matters. Several suits have been brought against water companies for supplying contaminated water. One such suit decided against a municipality would bring up so many others that the probable loss to the municipality could only be measured by millions of dollars.

To draw a comparison between cities furnishing a comparatively pure water supply, and those not, the following table is given :—

Deaths per 100,000 of Population for the Year 1895 from Typhoid Fever :

Hamburg (sand filtration), 9 ; Alleghany, 185, contaminated.

Breslau (sand filtration), 9 ; Indianapolis, 97, contaminated.

Berlin (sand filtration), 5 ; Pittsburg, 77, contaminated.

Rotterdam (sand filtration), 2 ; Philadelphia, 40, contaminated.—Public Health.

LEAN MEAT DIET

Physiological facts which are known to-day fully justify the statement that a person subsisting upon a lean meat diet, however comfortable he may be, however much relieved from various digestive inconveniences to which he may have been previously subject, is nevertheless in a pathological state, and one which is vastly more serious than the conditions which ordinarily arise from the simple fermentation of souring of saccharine or farinaceous foods in the stomach. The acids developed by such fermentations are irritating and produce more or less disturbance, local and reflex ; nevertheless the ultimate effects are by no means so formidable as those of the insidious but far-reaching and tissue-changing poisons which accumulate in the body as a result of a lean meat diet.

The truth seems to be that a person subsisting upon a lean meat diet, while he may manifest a greater amount of strength than upon a more natural dietary, and may be unconscious of any abnormal condition, is like a person in a powder magazine—he is in constant danger of vital catastrophe. The poison-destroying functions of his liver, and the poison-eliminating capacity of his kidneys, are taxed to their utmost to keep the proportion of ptomain and leucomains in the tissues down to a point which permits of the performance of the vital functions. The margin of safety which nature has wisely made very large in order to provide for emergencies, is reduced to the narrowest possible limit, so that anything which temporarily interferes with the functions of the liver or the kidneys, or which imposes additional work upon them, may be sufficient to obliterate the safety margin, and produce an attack of grave disease.—Pub. Health Journal.

A PRIZE FOR THE DISCOVERY OF THE BACILLUS OF YELLOW FEVER.

It is announced that a bill is introduced into the Brazilian legislature, offering a prize of $220,000, in two equal parts —one to the author of a work demonstrating the existence of the bacillus of yellow fever and the surest and readiest means of its recognition ; and the other to the discoverer of an effective treatment of the disease. The decision upon the award shall be mede by the medical institute of Rio Janeiro, the Hygienic Institute of Berlin, and the Pasteur Institute of Paris. A further provision of the bill authorizes the reservation of a sum of $110,000 for the founding of an establishment for the preparation of a curative serum, the discoverer of the same to be the organizing director of the institute.

THE LANCET

Before another issue of this journal Christmas will have passed, and we will be entering on another year. We wish all our readers the compliments of the season.—We have every reason to congratulate ourselves on the growth of our profession in the province, on the multiplying number of our students, and our increased and increasing means of education. We may be fairly assured that within a brief period the Winnipeg School of Medicine will have an equipment second to none for the acquirement of a practical knowledge of our profession in all its branches. And the promise which is now so bright for the early influx of settlers on the millions of acres of our fertile prairies, and the attractions held out by our vast mineral wealth, for the first time being prominently brought forward, will so rapidly increase the population of the Northwest, that openings for the graduates of Manitoba will be continually presenting themselves, and the alarmist cry of an over-stocked profession need not ruffle the minds of any. There will be room for all, and after the Dr. is located he will stretch out the right hand of fellowship to the educated and skilled nurse, whose services no one can, or does, value more than the physician under whose direction she is acting.

MISCELLANEOUS

ANIMAL DISEASES TRANSMISSIBLE TO MAN.

The animal diseases which are at present or have been regarded as transmissible to man through ingested meat are seven in number, namely, (1) cattle plague, (2) swine typhoid, (3) pleuro-pneumonia, (4) foot-and-mouth disease, (5) anthracoid diseases, (6) erysipelas, and (7) tubercle. As regards the first two, the evidence as to their power of specific infection when taken as food is conflicting. The resemblance they both bear to typhoid fever in their symptoms has caused them to be regarded as the analogue in cattle of this malady; but their power of communicating this or any other disease to man is doubtful, and may be considered as still sub judice. The sale of such meat is, however, rightly stopped, because, even if incapable of conveying its specific contagion, it is undoubtedly much deteriorated in quality and its nutritive power much diminished. The evidence against pleuro-pneumonia is much stronger, as it is a distinctly contagious and febrile disease, tainting the entire body of the animal affected, and warranting its exclusion from the meat market. Yet so inefficient is the working of the legislation upon the subject that Dr. Carpenter, of Croydon, mentions a recent instance of an outbreak of pleuro-pneumonia in his district, in which it appeared in a farm-yard among forty cows, which were all in one shed. The local inspector isolated the first cow, leaving thirty-nine in the shed in which the first case appeared. Of these twenty-two were seized in about six weeks, one after the other with the disease, and were taken out of the shed, slaughtered, and buried on the premises; but the rest of the herd were killed by the owner and used as food, though they had been kept the whole time in the infected shed. Yet the inspector of the Local Government Board had agreed that all proper steps had been taken in this instance to prevent the spread of the infection. Of course, if these cattle had been examined at the market after being slaughtered, as would have been the case if intended for Jewish food, they would all have been condemned as unfit. Dr. Cameron, the Medical Health Officer for Dublin, has given it as his opinion, confirmed by large experience and abundant evidence, that bad results ensue from the consumption of this class of meat, yet it continues to be sold at a cheap rate as food to the poor.

Foot-and-mouth disease, the fourth on our list, has been defined "as a contagious, eruptive fever, affecting all warm-

blooded animals and attacking man ;" and its whole history during the long period in which it has been prevalent on the continent, and during the last forty years when this country has suffered so much from it, shows that it is indeed a malady of both man and beast. "The communication of the disease to man," says Gamgee, one of the highest authorities, "admits of no doubt ;" and Mr. Vacher, the Medical Officer of Health for Birkenhead, in a paper read at the Cambridge meeting, asserts very decidedly that if imperfectly cooked meat from an animal affected with this malady be eaten it undoubtedly places the consumer within reach of infection.

IS CYCLING HEALTHY ?

The lengthy correspondence which has recently appeared in the columns of a contemporary has, as might have been expected, elicited a wonderful diversity of opinions. Some have nothing but good to say of the cycle; others record all sorts of aches, pains, and nervous affections coming on after a ride. One rider attributes these entirely to the use of the bicycle as apart from the tricycle, owing to the unconscious strain involved in keeping the former upright. The plain truth seems to us to rest upon a very simple basis. Cycling is not good for everybody, and if abused is good for nobody. Within the last two years people of all ages have rushed into cycling in the most haphazard way. They have regarded neither age nor previous habits, nor their physical condition. Small wonder then that many have found evil rather than good come from an exercise which inevitably demands a heavy expenditure both of nervous and muscular force. Probably just the same outcry would have arisen if the same class had suddenly taken to running or rowing, or mountain climbing, without any previous preparation. It is easy to preach moderation, but it must be remembered that moderation is a term varying with the individual, and every one finds for himself how much he can do. With regard to the strain involved in keeping up a bicycle and keeping a lookout, it is probably no more than that involved in walking down the Strand without "cannoning" against others, but many of us have done the one from childhood, while the other is but a newly acquired accomplishment. There is no need to make a bicycle a very wheel of Ixion, especially with a "safety," for it is easy to get off and equally easy to remount ; therefore the cry "You must go on or you will fall" seems to us to ignore the fact that we are reasoning animals.—Lancet.

BICYCLE RIM CEMENT.

Frank Edel, a practical druggist, sends the following to Merck's Report : A good thick shellac varnish with which a small amount of castor oil has been mixed will be found is a very excellent bicycle rim cement. The formula recommended is as follows :—

Shellac	1 lb.
Alcohol	1 pt.

Mix and dissolve, and add one-half ounce of castor oil. The castor oil prevents it from becoming hard and brittle.

MORE HEART SURGERY.

Dr. Joseph Eastman, of Indianapolis, now in Berlin, writes to the Indiana Medical Journal that at the German Surgical Congress Professor Rehn, of Frankfort-on-Main, presented the interesting case of a stab-wound of the heart which healed after suture. The external wound was enlarged to discover the source of the hemorrhage, and a considerable rent in the pericardium exposed, through which the heart could be seen. In the wall of the right ventricle was a wound one and a half centimetres long, through which dark-colored blood oozed. Rehn sewed up this wound with a continuous deeply-penetrating suture and stopped the dangerous hemorrhage. The patient was soon convalescent. Riedal, of Jena, told of a similar case with fatal termination. His patient was also a young man, who had received two discharges from a re-

volver in the breast. A perforation was found in the pericardium, and a hard foreign body was detectable in the wall of the heart, but upon attempting to remove the offending mass by incision the movements of the organ became so violent that the operation was abandoned.

ACCORDING TO DR. LANPHEAR.

Montreal has had more successful abdominal sections for perforating gastric ulcer than any other city in the world. The Canada Medical Record contains a report, by Dr. R. C. Kirkpatrick. The patient was taken ill March 3rd, complaining of intense pain in the upper part of the abdomen. She had previously been in good health, with the exception of a slight amount of indigestion. On this morning she had gone to work as usual, and about 11 o'clock was suddenly seized with intense pain in the region of the stomach. She became very faint, but did not lose consciousness. She was conveyed to her home, where the doctor saw her shortly after 1 o'clock. At that time she was pale, with a rapid pulse and subnormal temperature. On examination, the whole abdomen was tender, but the point of maximum tenderness was in the epigastric region. She was removed to the hospital, and at 3 o'clock, four hours after the onset of the attack, the abdomen was opened. Stomach contents escaped as soon as the peritoneum was cut through, and a short search revealed a perforation in the anterior wall of the stomach, four inches from the cardiac orifice and near the lesser curvature. The opening was about the size of a bean. The edges were drawn together by a row of continuous sutures and then inverted by a double row of Lembert sutures. The peritoneum in the vicinity was cleansed by sponging, no irrigation being used. A drain was inserted and the abdomen closed. A glass drainage tube was inserted into the pelvis through a small opening made just above the pubes, and from this latter opening fully a pint of turbid serous fluid escaped. The upper tube was removed in twenty-four hours and the lower tube in forty-eight. In twelve hours small quantities of hot water were given by the mouth, and in twenty-four hours milk and lime water was given. The patient made an uninterrupted recovery.

INGUINAL CANAL ABOLISHED FOR HERNIA.

Nelaton and Ombredanne divert the proximal part of the spermatic cord from the inguinal canal into a recess made in the pubic bone and afterwards closed. They are thus left free to treat the inguinal canal without regard to the cord, and are able to entirely close it. They describe their procedure in the Presse Medicale as follows: The anterior wall of the inguinal canal is slit up for its entire length, the hernia is reduced, the sac is resected, and the spermatic cord is freed from adhesions and from its connections with the cremasteric fibres, all the more carefully the greater may be the tendency of the testis to hug the ring. The posterior wall of the canal is then divided on a grooved director thrust through it at the upper border of the pubic bone and passed upward to the internal ring. Then, with an instrument like a punch, a button of bone as large as a centime piece is removed from the thin part at a point not quite a third of an inch below the upper border. A chain-saw is passed through the hole, and the superjacket bridge of bone is divided at its inner edge. This bridge is then raised to an outward direction by means of a sequestrum forceps, its outer periosteal connection being preserved, and the cord is dropped into the perforation of the pubic bone, after which the bridge is replaced and secured in position with catgut sutures. The abdominal wall is repaired in two layers.

A NEW WART CURE.

Chromic acid, one hundred grains to the ounce, applied frequently with a toothpick, will remove small wart or similar growths.—Medical Summary.

THE VICTORIAN ORDER OF NURSES.

We again refer to the proposed new order of nurses with a certain hesitation, having in connection there with a high appreciation of the motives of its promoters. The subject has been discussed in all its bearing in various parts of Canada with fairly uniform results as far as the medical profession is concerned. In Ontario we believe that 90 per cent are opposed to any such establishment. Sir William Hingston and Dr. Borden are surprised and shocked that such should be the case; and, yet, Ontario remains unmoved. Winnipeg, Victoria, Halifax, and various other cities and localities are opposed to the scheme. In fact, we know of no city, town, village, or municipality of any sort in any part of Canada where a majority of the physicians support the new order.

We have heard comparatively little from the nurses, but can speak for, those in Toronto, where there are a number of training schools. The feeling among the nurses of this city is one of consternation. From their point of view the equilibrium between supply and demand has already been seriously disturbed. It is well known to all who pay any attention to the subject that the supply of trained nurses has for some time exceeded the demand, and this is probably more pronounced to-day than ever before.

As for physicians we cannot see that an influx of new and cheap nurses will materially affect their interests; but among our trained nurses, many of whom are not yet earning a livelihood, there exists a fear that the new order, if as successful as its promoters hope and desire, will bring practical ruin.

A correspondent in this issue calls attention to the work that is being done in a quiet way by our nursing-at-home mission in Toronto. This worthy charity is sadly crippled for want of funds. We had pleasure in referring in a recent issue to the magnificent work which has been accomplished through this institution during the last few years. We are glad indeed to find that its promoters and supporters feel greatly encouraged on account of the interest which the charitably disposed are taking in its welfare. If the wealthy people of Canada aid this and sister institutions by substantial gifts in the way of money we believe it would do more good than the importation of an army of new nurses from Great Britain and the United States.—Canadian Practitioner.

TOOTHACHE.

F. C. Coley, M. D., Physician to the Children's Hospital, Newcastle-on-Tyne, says:—

There is a kind of toothache which comes on a while after taking food, when the contents of the stomach are naturally acid. This is often relieved with quite astonishing rapidity by the administration of an alkali. The best way is to give a Seidlitz powder, minus about a quarter of the acid, so leaving an excess of alkali. In a typical case of this kind the pain ceases instantaneously—almost as soon as the effervescing draught is swallowed.

But of all medical remedies for toothache I know of none which is so successful as salicylate of sodium. I believe it is especially useful in those cases where the pain is started "by taking cold." Even in the condition which is called dentists' "periostitis," where the carious tooth becomes slightly loosened and projects beyond its neighbors, and is exquisitely tender when eating is attempted, I have often known sodium salicylate to be completely and permanently successful. A dose of gr. xv. will usually relieve the pain very promptly, and if this is repeated every four hours the inflammation may entirely subside, leaving, of course, a carious tooth to be disposed of according to circumstances. The addition of belladonna is often advantageous. Fifteen grains of sodium salicylate, with fifteen minims of tincture of belladonna, will often procure refreshing sleep instead of a night of agony.

I believe that this use of salicylate of sodium is not generally known. I first

became aware of it by experience in my own person ; and since then I have used it with many brilliant successes and few failures in a very large number of patients. I have, once, however, known phenacetin to succeed where the salicylate failed. But the salicylate is much more worthy of confidence as a rule. It is especially valuable in children, where extraction of teeth is to be avoided, if possible, lest the development of the maxilla should be injured.—The Practitioner.

REMARKABLE RESULTS ARE REPORTED.

Remarkable results are reported in the treatment of apparently incurable cases of carcinoma by the parenchymatous injection of alcohol. Hassel's cases are cicatrization of all growths like angioma cysts, lymphatic gland tumors, sarcoma, carcinoma, and especially carcinoma of the breast and cervix uteri. In fifteen out of eighteen cases of carcinoma of the breast the growth gradually dwindled away, until in a year there was nothing left of it but the connective tissue stroma, and there has been no return. The three cases that were not benefited were relapses in the axilla of long standing. Five cases of carcinoma of the cervix also recovered completely and the patients are still living and in good health. The effect on the general health is even more surprising. The pains and uneasiness pass away, and sleep, appetite, assimilation and strength return in a most remarkable manner. Hassel uses alcohol diluted one-half, or even more with very sensitive patients, as he has found it less painful, while equally effective with the undiluted. One, or at most two, injections are made at a time, drawing the breast out and inserting the needle so that the alcohol will penetrate into the retromammary cellular tissue beyond the middle of the gland. The contents of the syringe should flow out gradually on gentle pressure of the piston. If there is resistance it should be withdrawn a little and the point inserted sideways in another direction. In this way the retromammary space is filled with the alcohol, 4 to 10 c. cm. for small tumors and 10 to 20 c. cm. for larger ones. One must be careful not to touch the rear wall of the tumor, but keep always well in the space behind it. After the needle is first introduced it should be withdrawn to see if any blood flows out of the hole, showing that the needle had penetrated a blood vessel. If it has, the syringe must be cleaned and inserted in another place. The injections are made once or twice a week at first, and then later once in two or three weeks.—N. Y. Polyclinic.

AORTIC ANEURISM DISCOVERED BY THE ROENTGEN RAYS.

First case : Patient has had a troublesome cough for some time ; there is also dyspnoea on exertion. He suffers from severe radiating pains on the left side of chest, taking their origin from the precordial region. Physical examination of the chest is negative as far as it relates to the symptoms characteristic of an aneurism of the thoracic aorta. The picture thrown on the fluoroscope was beautiful ; the apex of the heart could be seen beating a little below its normal position. By raising the fluoroscope a little higher a large pulsating mass could be plainly seen. The organized clot, which is found in large circumscribed aneurisms, is dense enough to cast a shadow on the screen.

Second case : Complains of pain radiating from left clavicular region down the left arm in the course of the brachial artery. Also weakness and dyspnoea on the slightest exertion. A pulsation can be noted in second intercostal space close to the left border of the sternum. Over this region slight dullness is present. This case was also examined by Dr. Abrams, by means of the Roentgen ray apparatus; the aneurism could be plainly discerned, but the outlines of the heart were not clear, owing to the dislocation of the heart downwards and to the right by the large tumor.—Arthur D. Prentice, M.D., Occ. Med. Times.

THE ABUSE OF MEDICAL CHARITY.

In a paper read before the recent meeting of the New York State Medical Association, the following conclusions were arrived at by Dr. Wiggin after a critical review of the subject: 1. That medical charity, as at present administered, is an unqualified evil, and is seriously menacing our existing social conditions. 2. That the application for free treatment of those able to pay the physician a moderate fee for his services robs the really poor. 3. That all medical charitable institutions should be under the direction and control of State and local boards of charities, which should have the power to enforce their rules. 4. That all applicants for medical charity should be investigated by local charity boards, and the unworthy excluded. 5. That no medical charitable institution should be allowed to charge nominal sums for medical or surgical service, nor should they be allowed to charge for medicines. 6. That all physicians connected with charitable institutions should be paid for the service which they render. 7. That it should be made a misdemeanor, punishable by fine, for any person to receive free medical treatment by reason of false representations as to financial condition. 8. That State or city aid should not be granted to private medical charities.

OIL OF TURPENTINE IN THE TREATMENT OF SCARLET FEVER.

Dr. Pujador, of Barcelona (Medecine infantile, September, 1897; Lyon medical, September 9, 1897), has been led by Fochier's happy results from the use of turpentine injections in puerperal streptococcus infection to resort to the same agent in grave cases of scarlet fever. In children from three to six years old, he finds, ataxic symptoms may be overcome by means of one or two subcutaneous injections of fifteen grains of oil of turpentine. In adults a little larger doses are required, from 30 to 45 grains. Not more than 15 grains should be given to a child in the course of one day, and not more than 45 grains to an adult. To prevent the irritant local action of the injections, which might otherwise lead to the formation of abscesses, it is necessary to add an alkali to the turpentine, such as sodium bicarbonate (the amount to be added is not stated). The oil may be given by the mouth, in gelatin capsules or suspended in mucilage. It exerts a favorable action against the albuminous nephritis that follows scarlet fever; not only does it prevent this complication, for it is never observed as a sequel of the disease treated by Pujador's method, but also, given at the time when the nephritis is manifested by anasarca and albuminuria, it rapidly allays the symptoms and soon restores the normal state of the renal secretion.

A NEW METHOD OF SUTURING.

In the Centraibl. fur Gynekologie, May 15, 1897, Zweifel describes a new method of applying a continuous suture which possesses the very great advantages of simplicity and rapidity of application. It is the stitch used on many "double-thread" sewing machines, and is applied in the following manner:—

A straight blunt-pointed needle and the curved needle in a handle with an eye in its point (Peaslee) are both threaded and the threads fastened at one end of the line of suture. The Peaslee needle is then thrust through both edges of the cut, and the straight needle is each time passed through the loop in the eye of the curved one, and so a continuous suture is made, there being on each side of the incision a thread, while the crossings of the thread are all concealed.

In places where the skin is thin, this is of advantage, and it causes the fold to rise slightly in the middle; but in thick or fat skins this rise separates the epithelial edges too far, and then an extra precaution is necessary; either a turn of the thread in the straight needle must be made about the other before each stitch is taken, or a third thread is employed,

which must be passed from one side to the other of the cut each time before the suture is passed through the skin. This keeps the edges flat.—Med. News.

LEPROSY COMMISSION.

The International Leprosy Conference hes held its final session in Berlin, when a brief report of the week's proceedings was read in German, English and French. The result of the discussions may be summarized as follows :—The conference was of opinion that the disease is caused by the bacillus leprae. The manner, however, in which the bacillus enters the body, as well as the circumstances under which it develops and spreads are unknown. It was unanimously agreed that human beings alone are attacked by the bacillus. Leprosy is undoubtedly contagious, everyone afflicted with the disease constituting a danger to those around,this danger increasing with time and according as less attention is paid to cleanliness and sanitary matters. The belief is steadily gaining ground that leprosy is not hereditary.

The treatment of the disease has hitherto been attended by only palliative results. The conclusion was also arrived at that isolation is the quickest and only radical method of suppressing leprosy, and reference was made to the success attending the system of compulsory isolation in Norway.

Measures recommended for universal adoption, in order to suppress leprosy, were formulated in the following motion of Dr. Hansen, of Bergen :—In all lands where leprosy appears as epidemic, or to any great extent, isolation, is the best method to prevent any spread of the disease. The system of compulsory announcement, supervision and isolation is recommended to all countries with autonomous communities and adequate supply of doctors. More specific regulations adapted to special social circumstances must be left to the joint decision of local legislative and sanitary authorities.

The announcement that the motion had passed unanimously elicited loud applause. After a brief exchange of complimentary speeches the conference was closed.

THE EFFECT OF KINDERGARTEN WORK ON THE EYESIGHT OF CHILDREN.

Casey A. Wood (New York Med. Jour., July 17, 1897), last April, presented a paper to the Kindergarten Conference, Chicago. He highly praised the value of the work, but he criticized, from the standpoint of the ophthalmologist, some of the defects of the kindergarten system.

Mention was made of his conversation, a few years ago, with a distinguished Swiss ophthalmologist, who, upon being informed that myopia was not as prevalent in America as in Europe, replied : "Just wait until you have a few generations of kindergarten graduates, and until your boys and girls remain at school and college as long as ours do."

Special stress was laid upon the fact that beginnings of impaired eyesight are usually laid in the early years of school life, and that the trouble is often past remedy when the pupil enters the higher grades.

He especially deprecates certain "occupations" commonly recommended and pictured in most of the latest kindergarten text-books, such as perforating-cards, embossing, fine sewing, drawing in all its forms, and most kinds of paper interlacing. Children should be taught only those things that demand the minimum employment of the accommodation for near work.

WHAT WILL DEODORIZE THE HANDS?

A writer in Scalpel recommends as a successful method of purifying the hands, the putting of a mixture of flour and mustard into the bath when washing ; the rubbing may be discontinued as soon as the smarting of the skin is felt. This very efficacious method of purification of the hands also radically deodorizes them. Iodoform even is quite removed by the soaping in combination with flour of mustard.

PHARMACEUTICAL

HISTORY OF MEDICAMENT

Under this title, Jules Cyr, in a recent spirited and humorous publication (Scenes de la Medicale) takes off one of the medical fashions of the times. Many old medicines have gone out of use, and the confidence in others is shaken, but while in some quarters the materia medica is undergoing (as it deserves) a careful weeding, in others there is a rage for therapeutic novelties which often redounds more to the profit of the pharmacist (who knows how to turn to the best account the fleeting reputation of a new drug) than to that of the physican or his clientele.

Ganivet and Lapozeme had been fellow-students at the Ecole de Medecine. Both were located in the metropolis ; the one was hospital externe, the other, interne in pharmacy : both were ambitious and impecunious. Ganivet had no notion of seeking for fortune and influence by patient waiting, or by the ordinary routine of dull toil ; he aimed to find a "specialty" that would at once bring him fame and fortune. A happy inspiration seized him ; he would discover a new medicament, have it duly tested physiologically and clinically, get the medical journals to trumpet it, and thereby create a demand, patent it, and thereby enjoy the monopoly of a lucrative and useful product, and the consciousness of having done something to lessen the sum of human ills.

Where was he to look for the new pharmaceutical agent that was to so interest and arouse the medical profession in the old world and the new? Naturally in the "aromatic series," that "mine of specialties" from which so many antiseptics and antipyretics had been derived, and which was doubtless yet far from being exhausted. His friend Lapozeme, the chemist, could render him valuable service. To him he communicated his plan. By a subtle combination of analytical and snythetical processes, all belonging to the domain of the laboratory, the new pharmaceutical wonder was to be teased out of the arcana of nature. There must be some physiological experiments by gentlemen holding an official position, to test its properties. Then would come the usual "notes" to the Society of Biology, "notes" to the Institute, experiments on hospital patients, experiments in private practice. Liberal trial samples would be sent to medical celebrities in different parts of the country, with printed circulars, containing the endorsement of the renowned clinical chief of the great Hospital des Malades, etc.

To shorten the story, the "mine" of the aromatic series was "explored" with dilgence, and by the skilful combination of several rather complex organic radicals, the sought for product was obtained. Ganivet, by a little clever wire-pulling, got the appointment of deputy preparator to the Laboratory of New Medicaments, where he had at his disposal a sufficient number of dogs, hares, guinea-pigs and frogs for experimentation. The new drug was duly tested, and found to have a marked action on the heart, in small doses increasing the vital properties of that organ ; in large doses tetanizing it. It therefore received the appropriate name, cardiosthenine. "Notes" and "communications" were at once sent to the learned societies. In the opinion of those who had experimented with the new chemical agent it was far superior to digitalis, which it must eventually replace in the practice of progressive physicians.

Cardiosthenine was received with favor, and even with enthusiasm and furore by the medical profession. The wary proprietors, who were careful to protect their own interests by patenting the name, were able without much difficulty to obtain the requisite clinical experimentation, and a goodly number of emphatic testimonials. The celebrated Dr. Simon Levi, clinical chief of the Hospital des Malades, who had had the honor of attending the late General B—— in his last illness, gave the weight of his influence in favor of the new medicament. He caused it to be thoroughly tested in five thousand cases, and

with uniformly favorable results; elaborate reports of these trials were published under his own name, or embodied in theses by his pupils. Communications by other authorities were presented to the "Institute" and "Academy," and these were reproduced by all great medical journals at home and abroad. In short, as has been the case with many other new medicaments whose debut has been suitably trumpeted, the results noted were always favorable at first. It is needless to say that the demand for their product more than satisfied the most sanguine expectations of the proprietors, the sales being for some time unprecedented, and the profits accruing therefrom (all competition being rigidly excluded) being necessarily libral.

To be sure, the ultimate results, it must be confessed, were somewhat disappointing, as the proprietors found after they had exploited their "cardiosthenine" for all it was worth; and another melancholy fact was added to that long chapter of human history which tells how easily the best of men are sometimes imposed upon. — Boston Medical and Surgical Journal.

CARBOLIC ACID GANGRENE

Physicians can not too often caution the public against the prolonged topical application of carbolic acid even in the weakest solutions. The occurrence of gangrene as the result of such application is undoubtedly much commoner than would appear from the literature of the subject, partly because in a large proportion of the cases the acid is used by laymen without the advice of a physician, and partly because the gangrene is often attributed to some other cause. Such at least is the opinion of Dr. J. Levai, of Buda-pest (Pester medicinisch-chirurgische Presse. 1897, Nos. 8, 10, 11, and 12; Centralblatt fur Chirurgie, August 14th, 1897), who, among 20,417 patients treated in the surgical service of the hospital belonging to the Allgemeine Arbeiterkrankenkasse, has observed carbolic-acid gangrene in twenty-six cases—in twelve after the employment of weak solutions, and in fourteen as the result of the use of the concentrated acid. In nearly every instance the drug was used without medical advice, in the form of a solution kept applied continuously. In some of the cases it caused mummification of the soft parts, but in most of them it gave rise to gangrene of the whole or a part of a finger through its entire thickness.

Levai has been able to find records of only forty-two cases of carbolic-acid gangrene in literature, but the same number of the Centralblatt in which an abstract of his article appears mentions also a case reported by Morestin (Bulletin de la Societe anatomique de Paris) and three cases observed in the course of six months by Czerny (Munchener medicinische Wochenschrift). Morestin's patient was a child, two years old, to whose middle finger the mother had kept a solution, apparently very weak, applied for twenty-four hours. Mummification took place, also exarticulation of the finger at the junction of the first and second phalanges. Czerny makes his cases the text for a renewed warning to the profession and the public against the use of even the weakest solutions for continuous application. Levai's article closes with an account of his experimental confirmation of this clinical experience, showing that it is really the acid that is the cause of the trouble.

Carbolic acid is the germicide with which the public are best acquainted, it is the one that first presents itself to the lay mind in case of a wound, and it is in constant use.

MIND AND BODY

Prof. Ladd, of Yale, says in the Journal of Metaphysics: We cannot deny the facts of physological psycology. No doubt consciousness depends on the condition of the brain. Drugs may modify character. Insanity may be produced by physical conditions. The decay of mind leaves no part of consciousness free. The way to meet this class of facts is not by

denial, but by showing another class, another side of the same problem which makes as good a showing. While we believe that consciousness depends on the brain and on health, an equally significant fact is that the bodily state depends on the consciousness. The impressive thing is that bodily health is chiefly related to a state of the mind. It is rather more true that digestion depends upon feeling well mentally than that feeling well mentally depends on the digestion. If it is true that a hot iron burns the flesh, it is also true that burn brands have been produced by hypnotic suggestion. It is a reciprocal union.

PUMICE STONE FILTER.

For the filtration of liquids containing very fine precipitates which are apt to pass through the filter, such as barium sulphate, lead sulphate, calcium oxalate, etc., W. Busch recommends the use of powdered pumice stone. It is necessary to use a very finely powdered pumice stone which has been freed from acid soluble substances by boiling with dilute hydrochloric acid and washing with water. About 2 to 3 grams of this powder are placed in the bottom of a filter. After pouring back once a clear filtrate is obtained.—Pharm. Cent.

Proprietary medicinal preparations are apparently a necessary evil of the drug trade, but there is no reason why chemists and ruggists should make that evil worse. They ought studiously to refrain from exhibiting, recommending, or even mentioning, such preparations in their pharmacies, and it is a matter for serious consideration whether they ought not to cease to stock them. At any rate, they should religiously keep them out of sight, and take advantage of any legitimate means that may be available for discouraging their sale. The mischief that has resulted from making a large number of British pharmacies agencies for pushing the sale of these abominations in the past is only too palpable to-day, and with the almost total loss of the profit accruing from an unclean branch of trade, there ought to be no difference of opinion amongst reasonable men of the undesirability of further encouraging that branch. The heroic attempts of the P. A. T. A. to preserve the final remnant of profit in that direction from slipping away is commendable in its way, and the pseudo-philanthropic efforts of Mr. Thomas Beecham and other proprietors are doubtless deserving of some slight degree of credit, but the only proper couse now open to conscientious chemists who, for the present, feel unable entirely to cease to stock proprietary medicines, is to insist on all such preparations being sold at the face value fixed by the proprietors.—Pharm. Journal.

ELECTRICITY FOR RED NOSE.

In cases of persistent redness of the nose the galvanic current has been used by Helbing with success. The condition referred to is the bluish-red color which some noses assume after coming in a warm room from the cold outside. Both poles of the battery are applied to the nose and continually rubbed about, the strength of the current being regulated to suit the ability of the patient to stand it, care being taken not to irritate the skin by a too strong current. This method is stated to require patience and a considerable number of applications.

ITCH OINTMENT.

In a series of experiments at the St. Luke's Hospital, Paris, to determine what will cure itch in the shortest time, forty-one different preparations were employed. Of these the following ointment cured in the smallest number of days :—

Sublimated sulphur	2 oz.
Sub. carbonate of Potash	1 oz.
Adeps simplex	8 oz.

Apply morning and night.

The writer of this has been in the habit of adding to the above the oil of bergamot, three drams, thus adding to the flavor and potency of the ointment.—Modern Medicine.

INHALATION IN ASTHMA.

During the paroxysms attendant upon an attack of asthma, inhalation of a mixture of the following has been tried with good effect.—

Ether	1 oz.
Turpentine oil	3 drs.
Benzoic acid	3 drs.
Balsam tolu	2 drs.

VOMITING AFTER CHLOROFORM.

Warholm has employed vinegar with success in the treatment of vomiting after anesthesia by chloroform. He dampens a cloth with the liquid and places it near the patient's nose, allowing it to remain there until he awakens, or even longer, if vomiting then threatens. He warmly recommends its use.

ASTHMA.

Phenacetin	8 grs.
Quinine	4 grs.
Ammonium chloride	12 grs.
Capsicum	½ gr.
Strychnine	1-20 gr.

Put in four capsules and give at intervals during the day. According to Mays this often affords relief.

BORO-GLYCERINE SUPPOSITORIES AND HOW TO MAKE THEM.

Glyco-Boron, or boroglyceride suppositories, have recently come into extensive employment, and the writer offers a formula to replace the proprietary article :

Take of :

Silver gelatin	1½ oz. av.
Glycerine	1½ oz. av.
Boric acid	242 grs.
Water	2 fld. oz.

Cut the gelatine into small pieces, and place in a crucible or agate dish ; pour on the water, and heat over water bath until gelatine is melted. Now add the glycerine, in which the boric acid has been dissolved, and mix thoroughly. Pour immediately into the mould, which should be slightly chilled and well dusted with lycopodium ; set aside in a cool place for ten minutes, and remove from mould. Dust them well with lycopodium, and stand on large end in suitable boxes.

The above formula will make one dozen vaginal cones, each weighing 130 grs., and containing 20.15 grains of boric acid, equivalent to 25 per cent. of boro-glyceride.

Other medicaments, such as alum, zinc sulphate, may be added by dissolving in water before adding to the gelatine. When ichthyol is ordered it is substituted for an equal quantity of glycerine.—Arthur Trayer, New England Druggist, November.

WARTS.

A German authority prescribes the use, twice daily, of :—

Salicylic acid	15 grs.
Lactic acid	15 grs.
Collodion	½ dr.

For solitary warts on the hand Kaposi recommends the knife or fuming nitric acid. Where there are many warts or they are on the face, a mixture of the following is applied locally on each growth :

Sulphur	5 drs.
Concentrated acetic acid	2½ drs.
Glycerine	1½ ozs.

This application is said to make them dry up and drop off if continued for several days.

GRINDELIA ROBUSTA IN ASTHMA.

Jasiewicz advocates the use of this plant in cases of nervous affection of the respiratory organs, such as asthma, laryngismus, stridulus, etc. About 40 drops of the tincture during a day is said to produce the desired effect.

HAIR TONIC.

Tincture of cantharides	3 drams
Tincture of cinchona	4 drams
Aromatic spirit of ammonia	2 drams
Glycerine	1 ounce
Alcohol	4 ounces
Water	12 ounces
Cologne	12 drams

Mix, and shake occasionally for two or three hours ; allow to stand for 24 hours and filter.

COMPARATIVE VALUE OF ANTISEPTICS.

A. Gawalowski has brought together in tabulated form a statement of the comparative value of a number of disinfectants, ranking them according to their efficiency as disinfectants, antiseptics, and deodorizers. In this table, corrosive sublimate is taken as a standard for comparison with a value of 100 :—

½ p. c. corrosive sublimate sol.	100	100	..
Carbolic acid (100 p.c.)	50	50	40
Sulphurous acid (gas)	50	50	50
Iron vitriol (cryst.)	40	50	30
Thymol (solid)	50	50	40
Creosote (100 p. c.)	50	50	40
Antimony (Bayer)	50	50	40
Ferrous zinc sulphate (cryst.)	40	50	40
Iron oxide	40	10	15
Ferrous zinc magnesium sulphate (cryst.)	40	30	30
Ferrous zinc sulphate (cryst.)	40	50	40
Ferrous zinc cupric sulphate (cryst.)	35	35	40
Zinc phenolate (dry)	30	40	45
Sulphites (10—40 p. c.)	15-25	15-25	15-25
Permanganate (solid)	25	10	50
Salicylates (solid)	25	25	25
Creolin	25	25	40
Lysol	25	25	40
Chdorine (gas)	15	..	50
Ferrous zinc calcium sulphate (cryst.)	15	30	40
Ferric salts (40—50 per ct. solutions)	10	10	5
Zinc salts (cryst.)	10	..	40
Calcium chloride	5	..	15

—Phar. Post, Pharm. Review.

The plague in Bombay is rapidly assuming its former proportions. During the last week of September there were sixty deaths from that disease in the city of Bombay, and many more in the presidency. The plague has re-appeared in Kurrachee and is spreading to other towns, having already invaded Sholapur.

SANTONIN IN RETENTION OF URINE.

McDonald advises the use of santonin in ordinary doses until three or four doses are given, two or three hours apart, for retention of urine.

BROMOFORM IN WHOOPING-COUGH.

This remedy is rapidly gaining ground in professional estimation. The following are two practical formulas :—

I.

Bromoform	0.06 c. c.
Compound tragacanth powder (B. P.)	2.00 gms.
Syrup	2.00 c. c.
Water, to make	15.00 c. c.

Take at once.

II.

Bromoform	2 c. c.
Paragoric	14 c. c.
Syrup of acacia	60 c. c.
Anise water	22 c. c.
Cherry laurel water	22 c. c.

Shake well. For a child one year old, give ½ to 1 teaspoonful 4 times a day.

Camphor internally in three grain doses, thrice daily, will bring about suppression of milk.—Ohio Medical Journal.

VISION TESTS IN SCHOOLS.

In Philadelphia it has been found that of about 1,500 pupils of the two highest grammar grades whose eyes have been tested, nearly half of those examined have defective vision. In several cases, children who were instructed to wear glasses have shown the benefit of using these in improved proficiency in their studies. In some instances, pupils were retarded, unconsciously to themselves, by not being able to distinguish anything written upon the blackboard. One boy, whose hesitancy in reading could not be accounted for, was found to be afflicted with a difficulty that made one word appear as two. In special cases a physician's examnation has been advised.—School Journal.

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