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ELEVENTH YEAR. THURSDAY MORNING. NOVEMBER 20. 1890. ONE CENT.

"THE WHITE PLAGUE."

Dr. Koch's Own Account of His New Cure.

HIS SYSTEM OF INOCULATION.

Results of the Experiments Upon Himself —Contrasting the Effects on Animals and Human Beings—Lupus Cases the Most Instructive—The Process of Cure —Surgical Operations and Careful Nursing Valuable Adjuncts—Certain Cure of Phthisis—The Most Valuable Discovery of Modern Times as Explained by the Discoverer.

In view of the widespread interest taken in the discoveries of Dr. Koch of a cure for tuberculosis, the following paper prepared by the doctor will be read with interest. It is a translation of the original article published in The Deutsche Medicinische Wochenschrift, Nov. 14, and specially cabled to The Philadelphia Medical News, in a special edition of which it appeared on Saturday, Nov. 15:

A Further Communication on a Cure For Tuberculosis.

BY PROF. ROBERT KOCH, M.D., OF BERLIN.

In an address delivered before the International Medical Congress I mentioned a remedy which conferred on the animals experimented upon an immunity against inoculation with the tubercle bacillus, and which arrested tuberculous disease. Investigations have now been carried out on human patients, and these form the subject of the following observations. It was originally my intention to complete the research and especially to gain sufficient experience regarding the application of the remedy in practice and its production on a large scale before publishing anything on the subject; but in spite of all precautions so many accounts have reached the public and in such an exaggerated and distorted form that it seems imperative, in order to prevent false impressions, to give at once a review of the position of the subject at the present stage of the enquiry. It is true that this review can, under the circumstances, be only brief, and must leave open many important questions.

The investigations have been carried on under my direction by Dr. A. Libbertz and Stabsarzt Dr. E. Pfuhl, and are still in progress. Patients have been placed at my disposal by Professor Brieger, from his polyclinic; Dr. W. Levy, from his private surgical clinic; Geheimrath Drs. Frantzel and Oberstabsarzt Leyden, from the Charite Hospital, and Geheimrath v. Bergmann, from the surgical clinic of the University. I wish to express my thanks to these gentlemen.

As regards the origin and the preparation of the remedy, I am unable to make any statement, as my research is not yet concluded. I reserve this for a future communication.

A Brownish Transparent Liquid.

The remedy is a brownish, transparent liquid, which does not require special care to prevent decomposition. For use this fluid must be more or less diluted, and the dilutions are liable to undergo decomposition if prepared with distilled water. As bacterial growths soon develop in them they become turbid, and are then unfit for use. To prevent this, the diluted liquid must be sterilized by heat and preserved under a cotton-wood stopper, or, more conveniently, prepared with a one-half per cent. solution of phenol.

It would seem, however, that the effect is weakened both by frequent heating and by mixture with phenol solution, and I have therefore always made use of a freshly-prepared solution. Introduced into the stomach the remedy has no effect in order to obtain a reliable effect it must be injected subcutaneously, and for this purpose we have exclusively used the small syringe suggested by me for bacteriological work. It is furnished with a small India-rubber ball and has no piston. This syringe can easily be kept aseptic by the use of absolute alcohol, and to this we attribute the fact that not a single abscess has been observed in the course of more than a thousand subcutaneous injections.

The place chosen for the injection, after several trials of other places, was the skin of the back between the shoulder-blades and the lumbar region, because here the injection led to the least local reaction—generally none at all, and was almost painless. As regards the effect of the remedy on the human patient, it was clear from the beginning of the research that in one very important particular the human being reacts to the remedy differently from the animal generally used in experiments, namely, the guinea-pig. A new proof of the experimenter of the all-important law that experiment on animals is not conclusive, for the human patient proved extraordinarily more sensitive than the guinea-pig. As regards the effect of the remedy, a healthy guinea-pig will bear a subcutaneous injection of two cubic centimetres, and even more, of the liquid without being sensibly affected; but in the case of a full-grown, healthy man 0.25 cubic centimetre suffices to produce an intense effect. Calculated by body weight one-fifteen-thousandth part of the quantity which has no appreciable effect on the guinea-pig acts powerfully on the human being.

Dr. Koch as a Subject.

The symptoms arising from an injection of 0.25 cubic centimetre I have observed after an injection made in my own upper arm. They were briefly as follows: Three to four hours after the injection there came on pain in the limbs, fatigue, inclination to cough, difficulty of breathing, which speedily increased in the fifth hour and were unusually violent. A chill followed, which lasted almost an hour. At the same time there were nausea, vomiting and a rise of body temperature to 39.6° C.

After twelve hours all these symptoms abated, the temperature fell and on the next day it was normal. A feeling of fatigue and pain in the limbs continued for a few days, and for exactly the same period of time the site of injection remained slightly painful and red. The smallest quantity of the remedy which will affect the healthy human being is about 0.01 cubic centimetre, equal to 1 cubic centimetre of the one hundredth dilution. As has been proved by numerous experiments, when this dose is used reaction in most people shows itself only by slight pains in the limbs and transient fatigue. A few showed a rise of temperature to about 38o C

Contrasting the Effect on Animals and Human Beings.

Although the effect of the remedy in equal doses is very different in animals and in human beings, if calculated by body-weight, in some other respects there is much similarity in the symptoms produced, the most important of these resemblances being the specific action of the remedy on the tuberculous process, the varieties of which I will not here describe. I will make no further reference to its effects on animals, but it will at once turn to its extraordinary action on tuberculosis in human beings. The healthy human being reacts either not at all, or scarcely at all, as we have seen, when 0.01 cubic centimetre is used. The same holds good with regard to patients suffering from diseases other than tuberculosis, as repeated experiments have proved, but the case is very different when the disease is tuberculosis. A dose of 0.01 cubic centimetre injected subcutaneously into tuberculous patients causes a severe general reaction as well as a local one.

I gave children aged from two to six years one-tenth of this dose, that is to say, 0.001 cubic centimetre—very delicate children only 0.0005 cubic centimetre —and obtained powerful, but in no way dangerous, reaction. The general reaction consists in an attack of fever, which usually begins with rigors, and raises the temperature above 39°, often up to 40°, and even 41° C. This is accompanied by pain in the limbs, coughing, great fatigue, and often sickness and vomiting. In several cases a slight icteroid discoloration was observed, and occasionally an eruption like measles on the chest and neck. The attack usually begins four or five hours after the injection, and lasts from twelve to fifteen hours. Occasionally it begins later and then runs its course with less intensity.

The patients are very little affected by the attack, and as soon as it is over feel comparatively well, generally better than before. The local reaction can be best observed in cases in which the tuberculous affection is visible; for instance, in cases of lupus, changes take place which show the specific anti-tuberculous action of the remedy to a most surprising degree. A few hours after an injection into the skin of the back—that is, in a spot far removed from the diseased area on the face or elsewhere—the lupus begins to swell and to redden, and this it does generally before the initial rigor. During the fever the swelling and redness increases, and may finally reach a high degree, so that the lupus-tissue becomes brownish and necrotic in places where the growth was sharply defined. We sometimes found a much swollen and brownish spot surrounded by a whitish edge almost one centimetre wide, which again was surrounded by a broad band of bright red.

A Lupus Case the Most Instructive.

After the subsidence of the fever the swelling of the lupus-tissue gradually decreases and disappears in about two or three days. The lupus-spots themselves are then covered by a soft deposit, which filters outward and dries in the air. The growth then changes to a crust, which falls off after two or three weeks, and which—sometimes after only one injection—leaves a clean, red cicatrix behind. Generally, however, several injections are required for the complete removal of the lupus-tissue; but of this more later on. I must mention as a point of special importance that the changes described are exactly confined to the parts of the skin affected with lupus. Even the smallest nodules and thus most deeply hidden in the lupus-tissue go through the process and become visible in consequence of the swelling and change of color, whilst the tissue itself in which the lupus-changes place remains entirely ceased from changing. The observation of a lupus-case treated by the remedy is so instructive and necessarily so convincing that those who wish to make a trial of the remedy should, if possible, begin with a case of lupus.

This specific action of the remedy in these cases is less striking, but is as perceptible to eye and touch as are the local reactions in cases of tuberculosis of the glands, bones, joints, etc. In these cases swelling, increased sensibility, and redness of the superficial parts are observed. The reaction of the internal organs, especially of the lungs, is of course not so apparent, unless the dead cough and expectoration of consumptive patients after the first injections be considered as pointing to a local reaction in these cases. The general reaction is dominant, however, less, we are justified in assuming that the remedy has, too, changes take place similar to those seen in lupus-cases. The symptoms of reaction above described occurred, without exception, in all cases in which a tuberculous process was present in the organism after the use of 0.01 cubic centimetre, and I think I am justified in saying that the remedy will, therefore, in the future, form an indispensable aid to diagnosis.

Will Effectually Dissipate All Previous Doubts.

By its aid we shall be able to diagnose doubtful cases of phthisis; for instance cases in which it is impossible to obtain certainty as to the nature of the disease by the discovery of bacilli or elastic fibres in the sputum or by physical examination. Affections of the glands, latent tuberculosis of bone, doubtful cases of tuberculosis of the skin, and similar cases will be easily and with certainty recognized. In cases of tuberculosis of the lungs or joints, which have been apparently cured we shall be able to make sure whether the disease has really finished its course and whether there be still some diseased deposit from which it might again arise as a flame from a spark hidden by ashes.

Of greater importance, however, than its diagnostic use, is the therapeutic effect of the remedy. In the description of the changes which a subcutaneous injection of the remedy produces in portions of the skin affected by lupus, I mentioned that after the subsidence of the swelling and decrease of the redness of the lupus-tissue does not return to its original condition, but that it is destroyed to a greater or less extent and disappears. Observation shows that in some parts this result is brought about by the disease-tissue becoming necrotic, even after but one sufficiently large injection, and at a later stage it is thrown off as a dead mass. In other parts a disappearance or, as it were, a necrosis of the tissue seems to occur, and in such case the injection must be repeated to complete the cure.

The Process of Cure.

In what way this process of cure occurs cannot as yet be stated with certainty, as the necessary histological investigations are not complete; but this much is certain, that there is no question of the destruction of the tubercle bacilli in the tissues, but only that the tissue inclosing the tubercle bacilli is affected by the remedy. Beyond this there is, as is shown by the visible swelling and redness, considerable disturbance of the circulation, and evidently in connection therewith, deeply-seated changes in its nutrition, which cause the tissue to die more or less quickly and deeply, according to the extent of the action of the remedy. To recapitulate, the remedy does not kill the tubercle bacilli but the tuberculous tissue, and this gives us clearly and definitely the limit that bounds the action of the remedy.

It can influence living tuberculous tissue only, and has no effect on dead tissue; as, for instance, necrotic cheesy masses, necrotic bones, etc., nor has it any effect on tissues made necrotic by the remedy itself. In such masses of dead tissue living tubercle bacilli may possibly still be present and are either thrown off with the necrosed tissue, or may possibly enter the neighboring and still living tissue under certain circumstances and by therapeutic activity. If the remedy is to be rendered as fruitful as possible this peculiarity in its mode of action must be carefully observed. At first the living tuberculous tissue must be caused to undergo necrosis, and then everything must be done to remove the dead tissue as soon as possible, as, for instance, by surgical interference.

Protecting the Endangered Living Tissue.

Where this is not possible, and where the organism is unassisted in throwing off the tissue slowly, the endangered living tissue must be protected from fresh incursions of the parasites by continuous applications of the remedy. The fact that the remedy makes tuberculous tissue necrotic and acts only on the living tissue, helps to explain another peculiar characteristic thereof, namely, that it can be given in rapidly-increasing doses. At first sight, this phenomenon would seem to point to the establishment of tolerance, but since it is found that the dose can, in the course of about three weeks, be increased to five hundred times the original amount, tolerance can no longer be accepted as an explanation. As we know of nothing analogous to such a rapid and complete adaptation to an extremely active remedy, the phenomenon must rather be explained in this way, that in the beginning of the treatment there is a good deal of tuberculous living tissue, and that consequently a small amount of the active principle suffices to cause a strong reaction, but by each injection a certain amount of the tissue capable of reacting disappears, and then larger doses are necessary to produce the same amount of reaction as before.

Care in Treatment.

Within limits, a certain degree of habituation may be perceived as soon as the tuberculous patient has been treated with increasing doses, for so soon as the point is reached at which reaction is as feeble as that of a non-tuberculous patient, then it may be assumed that all tuberculous tissue is destroyed. Then the treatment will only have to be continued by slowly-increasing doses and with interruptions in order that the patient may be protected from fresh infections while bacilli are still present in the organism, and whether this conception and the inference that follows from it be correct the future must show. They are conclusive, as far as I am concerned, in determining the mode of treatment by the remedy, which in our investigations was practised in the following manner. To begin with the simplest case—lupus.

In nearly every one of these cases I injected the full dose of 0.01 cubic centimetre from the first. I then allowed the reaction to come to an end, and then, after a week or two, again injected 0.01 cubic centimetre, continuing in the same way until the reaction became weaker and weaker, and then ceased. In two cases of facial lupus the lupus-spots were thus brought to complete cicatrization by three or four injections; the other lupus cases improved in proportion to the duration of treatment.

All these patients had been sufferers for many years, having been previously treated unsuccessfully by various therapeutic methods. Glandular, bone and joint tuberculosis was similarly treated, large doses at long intervals being made use of. The result was the same as in the lupus cases—namely, a speedy cure in recent and slight cases, slow improvement in severe cases.

The circumstances were somewhat different in phthisical patients, who constituted the largest number of our patients. Patients with decided pulmonary tuberculosis are much more sensitive to the remedy than those with surgical tuberculosis affections.

Diminished Doses for Phthisical Patients.

We were obliged to diminish the dose for the phthisical patients, and found that they almost all reacted strongly to 0.002 cubic centimetre, and even to 0.001 cubic centimetre. From this first small dose it was possible to rise more or less quickly to the amount that is well borne by other patients. Our course was generally as follows: An injection of 0.001 cubic centimetre was first given to the phthisical patient, and from this a rise of temperature followed, the same dose being repeated once a day until no reaction could be observed. We then increased the dose to 0.002 cubic centimetre, and this was borne without reaction, and so on, increasing by 0.001, or at most 0.002 to 0.005 cubic centimetre.

This mild course seemed to be imperative in cases in which there was great debility. By this mode of treatment the patient can be brought to tolerate large doses of the remedy with scarcely a rise of temperature. But patients of greater strength were treated from the first partly with larger doses and partly with frequently-repeated doses. In all it seemed that the beneficial results were more quickly obtained. The action of the remedy in cases of phthisis generally showed itself as follows: Cough and expectoration were generally increased a little after the first injection, they grew less and less and in the most favorable cases entirely disappeared. The expectoration also lost its purulent character and became mucous. As a rule, the number of bacilli decreased only when the expectoration began to present a mucous appearance. They then entirely disappeared, but were again observed occasionally until expectoration completely ceased. Simultaneously the night-sweats ceased, the patients' appearance improved, and they increased in weight within from four to six weeks.

Certain Cure of Phthisis.

Patients under treatment for the first stage of phthisis were freed from every symptom of disease and might be pronounced cured: patients with cavities not yet too highly developed improved considerably and were almost cured, and only in those whose lungs contained many large cavities could no improvement be proved. Objectively, even in these cases the expectoration decreased and the subjective condition improved. These experiences lead me to suppose that phthisis in the beginning can be cured with certainty by this remedy. This statement requires limitation in so far as at present no conclusive experiences can be adduced, further work must prove whether the cure is lasting.

Relapses naturally may occur, but it can be assumed that they may be cured as easily and quickly as the first attack. On the other hand, it seems possible that, as in other infectious diseases, patients once cured may retain their immunity; but this, too, for the present, must remain an open question. In that part, this may be assumed for other cases, when not too far advanced; but patients with large cavities, who suffer from complications caused, for instance, by the incursion of other pus-forming microorganisms than the tubercle bacilli or by incurable pathological changes in other organs will probably obtain lasting benefit from the remedy in only exceptional cases. Even such patients, however, were benefited in a time. This tissue does not return to its original condition, but that it is destroyed to a greater or less extent and disappears. Observation shows that in some parts this result is brought about by the disease-tissue becoming necrotic, even after but one sufficiently large injection, and at a later stage it is thrown off as a dead mass. In other parts a disappearance or, as it were, a necrosis of the tissue seems to occur, and in such case the injection must be repeated to complete the cure.

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The Medical News' Comments.

The cablegram which forms this extra edition is one which contains, in all probability, the seed of a discovery the extent of whose fruit cannot be grasped by the human mind, and which bids fair to surpass the triumph of Jenner in his warfare against smallpox. Unlike variola, which occurs in epidemics, the great white plague, consumption, has year after year, with far more fearful results, swept off millions of human beings, until every hamlet and village has learned to speak of it with bated breath.

It is not for us, knowing so little of the true nature of Koch's studies, to decide at this time as to the future of his methods. Not improbably many of the profession may be conservative enough to declare their utter lack of faith in all such work. On the other hand there is the ever-present need in medicine of sufficient thoughtfulness to avoid following every new idea with feverish haste, and while we can regard the man and his work with pride, it behooves us to reserve our opinions until time discloses the more minute workings of his methods.

It also seems appropriate that the leading medical weeklies of each of the great Anglo-Saxon races, The Medical News and British Medical Journal, should be the first to present this subject in an authoritative manner to their countrymen on the same day that the author punishes his original copy in The Deutsche Medicinische Wochenschrift.

TUBERCULOSIS.

Dr. Koch's Discovery Endorsed by Many Physicians.

BERLIN, Nov. 19.—To-morrow's German Medical Weekly will contain an article signed by Drs. Bergmann, Fraentzel and William Levy and Staff-Surgeon Koehl in which they declare that after experiments in many different cases they are prepared to fully endorse Prof. Koch's statements regarding his remedy.

Some of the evening papers warn the public against the illusions entertained by many regarding the value of Koch's remedy. They also complain that the stock of lymph is being exhausted. The Tageblatt says: Koch's procedure so far is open to severe criticism because he has only given us purely general indications whom he could thoroughly trust to follow his instructions, while the great scientific establishments and hospitals are excluded from the benefits of the discovery.

The Tageblatt considers that the dissatisfaction among medical men and the many patients who are anxious to submit to treatment is quite justified and declares that the present arrangements must be altered.

The demand for the Koch syringes is so great that the manufacturers are unable to fill all their orders.

Herr Steinz, the celebrated tenor of Friedrich Wilhelm Theatre, who is suffering from lupus of the face, was introduced at today's meeting of the medical society after receiving an injection of the Koch fluid.

LOCKED IN EACH OTHER'S ARMS.

Guilty Love and Tragic Death of the Lovers.

ELMIRA, N.Y., Nov. 19.—The bodies of A. L. Pierce and Miss Lou Woodward were found in the woods near Williawanna, a small station on the Delaware, Lackawanna & Western railroad, not far from here, this afternoon. They were locked in each other's arms and a bullet hole in the temple of each and a revolver lying near by showed that Pierce had killed the girl and then himself. He was about 35 years of age and married. She was 17 and single.

It Protects Merchants.

The New World Uniform Collecting Company and Private Detective Bureau has now become one of the really necessary institutions of this great commercial centre, in its sphere serving as a protection to wholesale and retail merchants in Toronto and the Dominion. It has branches, agencies and correspondence with almost the whole of the New World. The company has a large staff of competent collectors, all of whom are under bonds to do their work effectually and well, while the most stubborn and hopeless claims are dealt with promptly and successfully. This agency is the only one in existence that requires its collectoors to give bonds for the faithful performance of their work, and is also the only one which gives security to those from whom it collects. A private detective agency is also carried on, and in this, as in the collections, the same system and good management is observed. The company will be represented in part of 1891 by Messrs. Thurston & Co., have the very best commercial connection, and are in every way entitled to the confidence reposed in them by the business community at large.

His Neck Was Broken.

ALLANDALE, Nov. 19.—The 4-year old son of William Sheppard of the G.T.R. was knocked off a wagon and the wheel passed over him, breaking his neck. He only lived a few minutes.

Grant & Co., 246

77 King-street east, for fine furs and stylish perfect fitting sealskins at old prices, having purchased their season's supply in skins previous to the advance. The latest in ladies' capes and storm collars; dress and mantle trimmings cut to order at moderate prices. See our ladies' storm collars, the latest out, and only to be had at 77 King-street east.

G. T. R. Passenger Agent Killed.

LAPEER, Mich, Nov. 19.—William Robinson, Michigan passenger agent Grand Trunk, had his leg crushed while endeavoring to board a Michigan Central train here last evening. The leg was amputated, but Robinson died at 4:5 this morning. Deceased was ticket agent at Sarnia and Windsor before being appointed to his present position in 1882.

Large sums of money are invested in real-estate. In the event of the death of a person holding such real estate, it would be difficult to realize upon the same immediately without incurring loss. The opposite is the case of the holder of a compound investment policy in the North American Life Assurance Company, which is payable immediately in case of death or will realize a handsome return if the holder lives to the end of the investment period. 246

Early Application the Most Important Point.

The most important point to be observed in the new treatment is its early application. The proper subjects for treatment are patients in the initial stage of phthisis, for in them the curative action can be most fully shown, and for this reason, too, it cannot be too seriously pointed out that practitioners must in the future be more than ever alive to the importance of diagnosing phthisis in as early a stage as possible. Up to the present time the proof of tubercle bacilli in the sputum was considered more as an interesting point of secondary importance, which, though it made diagnosis more certain, could not help the patient in any way, and which in consequence was often neglected.

This I have lately repeatedly had occasion to observe in numerous cases of phthisis, which had generally gone through the hands of several doctors without any examination of the sputum having been made. In the future this must be changed. A doctor who shall neglect to diagnose phthisis in its earliest stage by all methods at his command, especially examining the sputum, will be guilty of the most serious neglect of his patient, whose life may depend upon the early application of the specific treatment. In consequence, in doubtful cases, medical practitioners must make sure of the presence or absence of tuberculosis, and then only will the new therapeutic method become a blessing to suffering humanity, when all cases of tuberculosis are treated in their earliest stage, and we no longer meet with neglected serious cases forming an inextinguishable source of fresh infections. Finally, I would remark that I have purposely omitted statistical accounts and descriptions of individual cases, because the medical men who furnished us with patients for our investigations have themselves decided to publish the description of their cases.

Nursing as an Aid.

In many cases the decided impression was created that the careful nursing bestowed on the patient had a considerable influence on the result of the treatment, and I am in favor of applying the remedy in proper sanatoria, as opposed to treatment at home and in the out-patient room. How far the methods of treatment already recognized as curative, such as mountain climate, fresh-air treatment, special diet, etc., may be profitably combined with the new treatment cannot yet be definitely stated, but I believe that these therapeutic methods will also be highly advantageous when combined with the new treatment. In many cases, especially in the convalescent stage, as regards tuberculosis of the brain and larynx, and miliary tuberculosis, we had too little material at our disposal to gain proper experience. 246

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NIHILIST MURDER IN PARIS.

THE RUSSIAN EX-CHIEF OF POLICE KILLED BY HIS VALET.

The Crime Undoubtedly an Act of Political Vengeance—Regal Wedding—The Sub-Acute Panic on the London Stock Exchange is Over—A Sharp Rally Yesterday Afternoon.

PARIS, Nov. 19.—Gen. Seliverskoff, a Russian agent in France, died to-day from effects of a bullet wound in the head. A stranger called upon him yesterday at his residence at Hotel Beade and half an hour after his visitor had departed Gen. Seliverskoff was found by his valet lying unconscious in his room shot in the head. A Russian Pole named Padlesky is suspected. He has disappeared.

The police believe the murder was committed while Gen. Seliverskoff was answering the note of invitation which was delivered to him by Podlesky, and that Podlesky left the hotel unobserved. The report of the revolver was drowned by the noise of traffic in the street. One of the Nihilists arrested this afternoon has been released. Podlesky was in Paris at the time of the Nihilist arrest in February last, but he escaped to Galicia. The police have visited the lodgings of all the Russians implicated in the February affair and have discovered that Podlesky was one of them. In Podlesky's lodgings they found cartridges of the same calibre as the revolver used by the murderer. The act was undoubtedly one of political vengeance.

Another Russian was arrested to-night. All the prisoners decline to answer questions. Nothing is missing from the General's room, and it is evident that theft was not the motive of the murder.

A man resembling Podlesky, the suspected murderer of Gen. Seliverskoff, has been arrested on the Spanish frontier.

ROYALTY REGALLY WED.

The Marriage of Prince Adolphe and Princess Victoria of Prussia.

BERLIN, Nov. 19.—Princess Victoria of Prussia, sister of the Emperor, was married to-day to Prince Adolphe of Schaumburg-Lippe. The ceremony took place in the chapel of the Alte Schloss. The Court Chaplain, Dr. Dryaneer, officiated. The Duke of Connaught represented the Queen of England and the Duke of Clarence represented the Prince of Wales. A royal crown was placed upon the head of the Princess by the Empress Augusta and the Empress Frederick as she entered the chapel. Her wedding dress was of cream satin brocaded and trimmed with costly lace, the train embroidered in pearls and silver. The veil was of tulle, enwoven with silver and surmounted by a wreath of orange blossoms and myrtle. The chapel was filled with members of the Imperial family and of royal and princely houses of Germany in their state robes, making a magnificent picture.

After the ceremony there was a grand banquet, at which Emperor William proposed a toast in honor of the bride and bridegroom.

Quietness Restored on the Stock Exchange.

LONDON, Nov. 19.—The stock exchange to-day was a prey to unfounded rumors. There is nothing in the monetary situation to create uneasiness. The Bank of England returns will probably exceed £14,000,000, and it is expected to reach £16,000,000 a week before the end of the year. First shot the girl and then himself. He was about 35 years of age and married. She was 17 and single.

It Protects Merchants.

The New World Uniform Collecting Company and Private Detective Bureau has now become one of the really necessary institutions of this great commercial centre, in its sphere serving as a protection to wholesale and retail merchants in Toronto and the Dominion. It has branches, agencies and correspondence with almost the whole of the New World. The company has a large staff of competent collectors, all of whom are under bonds to do their work effectually and well, while the most stubborn and hopeless claims are dealt with promptly and successfully. This agency is the only one in existence that requires its collectoors to give bonds for the faithful performance of their work, and is also the only one which gives security to those from whom it collects. A private detective agency is also carried on, and in this, as in the collections, the same system and good management is observed. The company will be represented in part of 1891 by Messrs. Thurston & Co., have the very best commercial connection, and are in every way entitled to the confidence reposed in them by the business community at large.

His Neck Was Broken.

ALLANDALE, Nov. 19.—The 4-year old son of William Sheppard of the G.T.R. was knocked off a wagon and the wheel passed over him, breaking his neck. He only lived a few minutes.

Grant & Co., 246

77 King-street east, for fine furs and stylish perfect fitting sealskins at old prices, having purchased their season's supply in skins previous to the advance. The latest in ladies' capes and storm collars; dress and mantle trimmings cut to order at moderate prices. See our ladies' storm collars, the latest out, and only to be had at 77 King-street east.

G. T. R. Passenger Agent Killed.

LAPEER, Mich, Nov. 19.—William Robinson, Michigan passenger agent Grand Trunk, had his leg crushed while endeavoring to board a Michigan Central train here last evening. The leg was amputated, but Robinson died at 4:5 this morning. Deceased was ticket agent at Sarnia and Windsor before being appointed to his present position in 1882.

Large sums of money are invested in real-estate. In the event of the death of a person holding such real estate, it would be difficult to realize upon the same immediately without incurring loss. The opposite is the case of the holder of a compound investment policy in the North American Life Assurance Company, which is payable immediately in case of death or will realize a handsome return if the holder lives to the end of the investment period. 246

Tom Flattery's Fatal Spree.

KINGSTON, Nov. 19.—Thomas Flattery, sr., was found dead in James O'Brien's house this morning. He had been drinking heavily. An inquest is now pending. Neighbors say that last night a brawl was in progress in the house, a heavy fall was heard, succeeded by groans that were kept up for some time. The O'Briens are under surveillance.

The Opposition Dairy.

We are and will continue selling 20 tickets for $1, spot cash, thus making your milk 5 cents a quart. Regular delivery to all parts of the city. Chapman, Symons & Co., 235 and 232 Queen-street east. Telephone 1733.

Fooling With Gunpowder.

OWEN SOUND, Nov. 19.—While fooling with gunpowder a young lad named McInnes was terribly burned about the head and face.

You can insure so that at the end of twenty years you will be able to draw an annual income for life, and in the event of your death at any time your beneficiaries would receive the full amount of the insurance. These features are secured by the 7 per cent. guaranteed income bond of the North American Life Assurance Company of this city. For further information apply at the head office of the company, Manning Arcade, or to any of the agents. 246

The Dead.

Rev. Dr. Adam, leader of the Free Church in Scotland, is dead.

Lady Rosebery, daughter of the late Baron Meyer de Rothschild, and wife of Lord Rosebery, died in Paris yesterday.

The Sheffield House Importing Company (Registered).

65 Yonge-street (below King.) Just to hand new English goods, suitable for wedding present, at wholesale prices. G. R. Robinson, Manager.

Two French Duels.

PARIS, Nov. 19.—M. Ephrusi, the well known race horse owner, recently became involved in a quarrel with M. Treille, a journalist, which resulted in the sending of a challenge to fight a duel. The fight took place today and M. Treille was slightly wounded.

A duel was also fought to-day by M. Laguerre, a member of the Chamber of Deputies, and a journalist named Lesinne, in which M. Laguerre received a slight wound.

Another Spy Arrested.

PARIS, Nov. 19.—A former employe in the French engineer service has been arrested at Belfort on the German frontier on the charge of being a spy. He has confessed that he acted for a foreign government.

Holland Aiding France.

LONDON, Nov. 19.—A despatch from Brussels says: It is becoming manifest that this Dutch opposition to Great Britain's Congo State tariff proposal really aims at the transfer of the Congo State territory to France.

Cable Flashes.

The Catholic primate of Ireland yesterday started for Rome.

At a meeting of the Cork, Bandon & Southeast Railway yesterday it was announced the Government proposes to spend £70,000 on extensions to Skibbereen and Bantley, in order to relieve the distress of the inhabitants.

"Happy Bill's" Funeral.

With all the honors prescribed by Salvation Army ritual and with every mark of respect the remains of Captain Cooper, S.A., were interred yesterday afternoon in the Army's plot in Mount Pleasant Cemetery. A short service was held in "Happy Bill's" late residence, Vanauley-street, after which the cortege, which was a very large one, proceeded by way of Spadina-avenue, College and Yonge-streets to the cemetery. There were two bands of music, the staff band and another drafted from the various corps of the city. The advance guard was composed of male cadets. The body was carried on the army's gun carriage, drawn by four horses. The carriage was draped in black, and bore upon it were red, and bore the army crest. The chief mourners were in carriages. There was an immense turnout of local Salvationists and many from neighboring towns. Nearly all the Toronto staff was present. There was nothing gloomy about the entire proceedings. The marches played—full of thanksgiving, faith and hope—were from the S.A. song-book. Amongst those who took part in the service at the house and the burial plot were Commissioner Adams (who was thereby delayed in his Northwest tour), Staff-Captain Walton, Staff-Captain Beattie and "Happy Bill's" widow—one of the most earnest of the local officers. Many testimonies were given to the worth of their late comrade "gone to glory." A memorial service will be held in the Temple on Sunday night.

Winnipeg Notes.

WINNIPEG, Nov. 19.—The resolution in the Northwest Assembly respecting separate schools has been rejected 15 to 6. The majority claim that the mover must have desired failure or he would not have forced his motion at this time.

Harry Newell, an old city official, whose mind recently became unbalanced from his grief over loss of property, died at Selkirk Asylum yesterday.

In sympathy with the fall in Chicago prices wheat has dropped to 60 cents here, and no dealers stand to lose $40,000 if there is not quick recovery.

The Gardeners and Florists.

The annual election of officers for the Toronto Gardeners' and Florists' Club, which took place last night, resulted:

President—John Chambers.
First Vice-President—J. H. Dunlop.
Second Vice-President—F. Manton.
Secretary—A. H. Ewing.
Assistant-Secretary—H. Simmons.
Treasurer—A. Gilchrist.
Committee—Messrs. Vair, Laing, Muston, Tidy, Hood, Simmons and Reeves.

The club has had a successful year and has substantial balance to its credit. The chrysanthemum exhibition held by the club was a financial success.

Only $5, Wait, $5 to New York $5, Via the Great Double-Track Route Erie Railway, Nov. 22nd.

We don't have to drop out, as the Erie are the originators of the five-dollar rate and the public have shown their appreciation by the hundreds that have patronized this picturesque route. There is no changing of cars three or four times or jumping off and only have five minutes to kill yourself at some lunch counter, and we do not compel you to go on one train, but you leave on all regular trains, which are four trains daily from Suspension Bridge. Through sleepers from Toronto, and dining cars attached for meals. For full particulars apply to G.T.R. agents, or to S. J. Sharp, 19 Wellington-street east, Toronto.—Advt. ed

The Chairman Was Absent.

There were present at yesterday's meeting of the Civic Staff Reduction Committee Ald. Lucas, G. S. Gooderham, McDougall, Gibbs, Saunders, City Clerk Blevins, License Inspector Awde and Fire Chief Ardagh. Ald. J. E. Verral, the projector of the great scheme, was absent, and after waiting half an hour those in attendance retired disgusted. The City Assessment Department was to have passed through the fire had the chairman put in an appearance.

The Corners May be Sawed Off Cigar Boxes.

ST. THOMAS, Nov. 19.—Mr. B. F. Honsinger sent a cigar box with the corner sawed off to Mr. E. Mall, Commissioner of Inland Revenue, Ottawa, and enquired if dealing with the boxes in a similar way would be a compliance with the order to destroy them, and has received a letter in reply stating that it would and that a circular will be issued from the Inland Revenue Department to that effect.

Nearly Asphyxiated.

COLBORNE, Nov. 19.—The family of Rev. George Carr had a nar