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THE MANITOBA AND WEST CANADA

LANCET

*A Journal of Medicine, Surgery, Physiology, Chemistry, Materia Medica and Scientific News,
being the journal of the Winnipeg and Manitoba Medical Associations.*

Published Monthly. Subscription \$1 per annum in advance.

VOL. 5.

WINNIPEG, JUNE, 1897.

No. 2.

THE SYSTEM OF TRAINING MEN IN THE FIRST AID TO THE WOUNDED, WITH PRACTICAL OBSER- VATIONS.

Ambulance Lecture by Surgeon Lt. Col. Codd, R.C.D.
Delivered Feb. 19th, 1897.

The history of the system or methods of attending to the sick and wounded in the British army goes back to 1745, and even earlier than that. In that year Sir John Pringle, their Surgeon-General, organized a system for regimental field and general hospitals.

The first appointment of medical officers and establishment of hospitals in the field was in the Peninsular war — they were under the control of Sir John McGregor, P. M. O.

At this time there were no ambulance corps, in fact, the assistance to the wounded in any way must have been of a very primitive nature—the improvements since, as you will observe as I proceed, are very great, and of a most modern nature.

In the year 1812 a corps called the "Royal Wagon Train" was organized for conveying the sick. This was also used for commissariat purposes, which proved unsatisfactory in regard to helping the sick and wounded, and was disbanded in 1833.

In 1854, at the outbreak of the Crimean war, a hospital conveyance corps, which consisted of non-effective men, such as pensioners, convalescents and servants, was organized, but these men were not properly trained and proved unsatisfactory, and were disbanded.

There were other methods organized for assisting the wounded, but none appeared to work very satisfactory.

In 1855 the first medical staff corps was organized, but this again was apparently badly trained for the purpose and was also employed for general hospital purposes. This did not fulfill the requirements and was done away with after a three months' trial.

In connection with hospital training and nursing, I must not omit to mention the valuable services of Miss Florence Nightingale, who offered her services to the War Office to proceed, with a staff of thirty-eight nurses, to the Crimea. This offer was accepted, and she and her assistants did most noble and valuable work, which was recognized throughout England and France by a subscription of £20,000 to found the Nightingale Home for training nurses. Miss Nightingale was, I believe, the first English lady who entered upon the work of hospital nursing which has become so popular.

This same year the Army Hospital Corps was organized. This was the real commencement of the ambulance system. The members were trained for three months in hospital duties before joining the corps.

Then, in 1858, there was a Royal Commission, under Sir Sidney Herbert, to report on the general sanitary state of the army, and to organize the medical service, as well as to establish a practical medical school for training of medical officers, which all medical officers had, and have

now, to pass through for appointments in the medical service of the army.

In 1873 the regimental system was abolished and medical officers placed in one department, which system, I venture to presume, will be completely established in our Dominion in the near future.

In 1883 general and field hospitals and bearer companies were established by Lord Morley, and in 1884 the officers of the medical department and army hospital corps were termed the medical staff corps.

There is also the British Red Cross Society, an excellent organization which has for years past done great service in the wars in South Africa and other campaigns. This society has lately permitted a branch to be organized in Canada, which, no doubt, would be of great assistance in Canada in the time of any war.

The volunteer staff corps was formed in England in 1886, and is instructed by a staff from the regular service. There is now in England the Volunteer Ambulance School of Instruction, which is an excellent institution and open to any medical officers who may desire to qualify in ambulance work. Then there is also in England the Militia Medical Staff Corps, which was organized in 1871, and is composed of 1,200 individuals. They are annually trained, and receive pay, the officers ranking from Surgeon-Lieutenant to Surgeon-Major and non-com. to sergeant.

This, I may say, is a synopsis of the history of hospital and ambulance organization. I need not tell you that to be proficient in these duties it is necessary to undergo considerable instruction and training, which in this corps devolves upon me to teach you to the best of my ability and as circumstances from time to time may permit.

It is necessary, in the first instance, for an ambulance man to understand something of the anatomy of the human body i. e., the location of the most important internal organs and blood vessels. This will be explained in my lectures, and illustrated, as much as possible, by charts.

As in last year's lectures, I hope this term to instruct you on the anatomical outlines of the human body. The principal organs; the heart and circulation of the blood, and large blood vessels, the lungs, and a brief description of the nervous system.

You will require to know the nature of the principal wounds a soldier is likely to receive, and how to dress them and arrest profuse bleeding; fractures, and how to put them up temporarily; bandages, and how to bandage. What to do in cases of emergency.

These subjects are all instructive to officers as well as men. I think every officer should know something of how to act in a case of emergency, and have some knowledge of ambulance work, more especially that which pertains to the actual work on the field, such as the mode of collecting the wounded and their disposal afterwards.

In this respect I might first briefly describe the medical equipment for the field in war time. It consists of field and stationary hospitals, bearer companies, ambulances, medical and surgical supplies, and appliances according to the nature of the country, the climate and the probable length of time of the campaign.

These, of course, would all be collected at the seat of mobilization, and under the charge of the P. M. O., who is responsible to the Surgeon Major-General. The P. M. O. appoints surgeons to the different corps, or units in the field. These have charge of the bearer companies and ambulances placed at their disposal. At the field hospitals there is a medical staff, numbers in accordance with the requirements. The stationary hospitals on the line to the rear, and the base or general hospital, with the medical staff proper, are under control of the Surgeon-Major-General and the general officers commanding.

The transport necessary for hospitals, hospital supplies and conveyance of the wounded to and from any particular distance, in the British army, is done by the Army Service Corps, but at present in

Canada we have to depend upon other, generally local, means, for this purpose.

From the actual battlefield to the extreme rear, or base, there is what is termed three lines of assistance.

The first line is the carrying off the wounded man by a non-com. officer and stretcher bearers to the collecting station. This collecting station is placed in the rear in as protected a spot as possible. From here the wounded are conveyed to the dressing station, which is placed about 1,200 to 2,000 yards from the fighting line. Here are one or two surgeons, and men of the Medical Staff Corps. This concludes the first line of assistance. From here they are conveyed by road or rail to the field hospital, which is located beyond the range of fire, perhaps a mile or two miles from the fighting line. Here are stationed several surgeons and men of the Medical Staff Corps; cooks and every appliance necessary for the wounded. This is the second line of assistance. From here those who, after short treatment, are able, are returned to the front, and the more serious cases are sent to the general or base hospital, where they are taken in charge by medical officers and others of the staff, and ultimately disposed of by returning some to the front and others transported home to other hospitals or otherwise, as circumstances justify. I have endeavored in this lecture to give you briefly a fairly correct history of the organization of hospitals and ambulance corps, and also how to handle the wounded on the field, and their disposal afterwards, which I trust may be of some advantage to you and instructive to the inexperienced who may have to enter upon actual field service and have the responsibility of the care of the sick and wounded.

PREScriBER VS. DISPENSER, BY JOHN F. HOWARD.

Medicine and pharmacy are so dependent upon each other that they should go hand in hand, and should not allow minor differences to alienate them from each other. Recently a prominent medical

journal has thrown out a hint that doctors might stock their offices with ready-made prescriptions as a kind of retaliation upon druggists for prescribing. As an offset to this graduates in pharmacy, finding that they cannot obtain their share of prescription business, are taking degrees in medicine in order to practice both professions, still further crowding medicine without relieving pharmacy. It seems to me that this tendency from two opposite directions to unite the practice of medicine and pharmacy in the same individual is a retrogressive movement, and I venture to suggest that a more dispassionate view of our respective grievances is necessary if we would check the evils of which we complain.

Let us consider, then, in the first place, who should prescribe medicine? Upon this point there can be no two opinions. The physician, by his knowledge of anatomy, physiology, pathology and other branches of medical science in which he has been educated, is the only competent person to diagnose disease and to prescribe treatment. But is he the only one who does prescribe? By no means. Many people prescribe for themselves, and if they are told the same truth concerning medicine that has become proverbial as applied to law, namely, that he who is his own doctor has a fool for his patient, they are apt to become indignant and reply that they know what they are about. There is another large class of persons who take pleasure in prescribing for their friends, and these persons again cannot be made to believe that, so far as the case in hand is concerned, they do not know more than all the doctors. The evils of such prescribing as this cannot be reached by codes of ethics or by any measure of reform instituted by physicians and pharmacists.

But there is a certain amount of prescribing done in drug stores by men who lay no claim to medical instruction, and whose practice in this regard cannot be defended. Reputable pharmacists, as well as physicians, are anxious to see this irregular practice abated, as it is an infringement upon the province of physi-

cians, and therefore unfair, and also has the effect of lowering pharmacy in the esteem of the public as well as of physicians. In what way can this counter-prescribing be lessened? I suggest, in the first place, that it cannot be checked by abuse or by retaliation, but rather by cultivating more cordial relations between the two professions, and by a certain degree of concession on both sides. It is not to be borne in mind that any retaliatory measures adopted by physicians in this matter will affect the reputable pharmacists who are not doing the counter-prescribing; while those who are transgressing will not be affected thereby.

It is not to be forgotten in a discussion of this question that some physicians are inordinately sensitive on this subject, so they would prohibit the dispensing of almost all drugs and medicines that are not ordered by physicians. Whatever our views of this case may be, whether we like it or dislike it, the fact cannot be denied that the American people will not submit to such stringent regulations. You cannot compel an American citizen to employ an architect when he wants to build a dog kennel. In regard to the use of drugs and medicines, they feel themselves free to consult a physician or not, according to their own judgment, and cannot be driven into it by the combined efforts of all the doctors and druggists in the country. Again, those who have had much experience behind the counter in a drug store will bear me witness that even when there is the most conscientious and scrupulous regard for the rights of physicians and the most painstaking adherence to medical ethics, it is still impossible to answer many of the questions that are daily put to the druggist in regard to the nature, property and doses of medicines without appearing to suggest the use of certain ones in specified cases. Not only is the druggist consulted in regard to disinfectants, antiseptics and many other hygienic and remedial agencies, but his opinion is frequently asked in regard to the nature, use and doses of drugs, the best method and time of administration,

etc. A refusal on his part to give the desired information would be attributed by the majority to ignorance and by the remainder to boorishness. As a business man, he cannot afford to allow his patrons to leave his store with any such misapprehension concerning himself or his establishment. Furthermore, there are a few slight ailments which the public absolutely expect a druggist to prescribe for, which do not partake of the nature of medical treatment, since the patient diagnoses his own case, such, for instance, as a morning headache, slight bruises or trifling injuries; in fact, any such ailments as people are in the habit of prescribing for themselves. The druggist, when requested, is expected as a matter of course to suggest a remedy, and there is no more thought of medical treatment than when a barkeeper mixes a "pick-me-up" or a shoe dealer selects for you a shoe that will not hurt your corns. When physicians interpret ethical relations so rigidly as to prohibit druggists from performing these trifling courtesies for their customers they widen the breach between the two professions, having no experimental knowledge of the injury the pharmacist does himself if he declines to render this service.

If we now ask the question, "Who shall dispense medicines?" the answer is no less positive than that given to our first query. The pharmacist is the proper dispenser of medicaments. This statement will bear no more qualification than my previous assertion that the physician is the proper person to prescribe. And yet there are circumstances in which physicians may dispense medicine with advantage to themselves and their patients. Common sense again puts in a plea and prevents a too rigid application of the general custom of separating prescribing from dispensing. It is necessary for the doctor in some cases to secure immediate relief for the sufferer, and so the pocket-case and hypodermic syringes are his constant companions, more frequently used than the surgical instrument.

The greatest stickler for the keeping

apart of medicine and pharmacy cannot raise any valid objection to a physician having in his office or in his residence a few remedies for emergencies. Other cases will suggest themselves to the minds of those present where physicians may advantageously dispense remedies for temporary use. But these exceptions to the general rule do not constitute an argument for the abrogation of the rule itself.

The drift of the times in all professions and businesses is towards specialism. Particularly is this the case in the practice of medicine, in which we have almost every organ of the body a subject of special study, and every class of diseases treated by specialists. If the study of medicine is so large, so vast, so difficult, so comprehensive, that no man can accomplish it at all, why should the physician seek to add to his already overburdened curriculum a knowledge of pharmacy?

The sciences upon which pharmacy is dependent are advancing with strides no less marked than those of medicine. Pharmaceutical manipulations and processes are continually being improved, and these improvements are largely dependent on a better knowledge of organic chemistry and of the constitution of drugs. Busy pharmacists even find it difficult to keep pace with the times both in these branches of knowledge and in the improved methods of administration; how, then, shall a physician, already overburdened with his practice, keep himself up in these studies?

Strictly speaking, then, physicians are the only ones who should prescribe. Any deviation from this rule, such as I have hinted at, would only apply to trivial, common, every-day experiences, and the pharmacist should always use his influence as far as he can, not only to avoid prescribing himself, but to dissuade his customers from doing the same. He should seek to check the pernicious habit many persons have of repeating their own prescriptions ad infinitum, and particularly of allowing these same prescriptions to be repeated for the benefit of other peo-

ple, "friends of the family," and so on. A great injury is often done to physicians by this practice, and it must be admitted that where the medicine is not of a dangerous character, such as preparations of cocaine, morphine, chloral, etc., druggists are not as careful to prevent repetition as they ought to be in justice to the doctors. Only by a more friendly relation between them can this habit be checked.

But while holding that physicians should do the prescribing and pharmacists the dispensing, I would call your attention to the fact that much of the prescription-making and compounding is done by a class of persons who are enemies of both physicians and pharmacists. I refer to the large army, which is daily increasing, of proprietors of pharmaceutical specialties. This class of persons are not owners of corner drug stores or physicians in legitimate practice, but wealthy corporations and private individuals who trade upon the weakness of humanity. Able to command unlimited capital, they hire physicians to bring other doctors within range. Their immense wealth and patronage enables them to subsidize medical journals, if indeed they do not own them outright, and by the power of money and plausible presentations and representations enlist a large portion of the medical fraternity in their service. Praying upon the ignorance of some, the indolence or recklessness of others, they have succeeded in bringing the practice of medicine to such a pass that the modern druggist's prescription file is a curiosity, owing to the large percentage of orders for special preparations, many of them of unknown composition, most of them made by unknown processes. If these preparations were any better than those made by the intelligent pharmacist, surpassing the latter either in purity or elegance, there would be some reason why physicians should so commonly prescribe them; but as a class the articles I refer to are in no way superior to similar preparations made by reputable pharmacists. There is some slight excuse for their prescribing by name certain polypharmic

remedies, because the trouble of writing out a long formula is of some consequence to a busy man, but the days of polypharmacy are passing away and many of the prescriptions for special preparations call for one article only. A lazy prescriber is a good subject for the medical drummer, but the latter has a better friend in the ignorant one, who is content to let the manufacturer of pharmaceutical specialties do his prescribing for him. This class of men, with one stroke of the pen, write a prescription, copying the directions from the printed circulars with which they are so abundantly supplied. Medical men generally are fully aware that this class of prescribing is injurious to the druggist, whose profit on such prescriptions is no larger than the dry goods man's profit on dress goods, notwithstanding the responsibility the druggist has to bear, arising from the powerful nature of some of these medicines.

I do not wish to be understood as objecting to a physician's specifying the name of the maker of a few articles that are of superior quality to those usually made by good pharmacists, nor to such as by their greater attractiveness in appearance, taste, etc., make them more acceptable to the patient. It is the province of the pharmacist to aid the physician to overcome the repugnance many persons have to nauseous doses and nasty local applications by preparing medicaments so as to be as agreeable as possible, without sacrifice of effectiveness. I am objecting to secret or semi-secret preparations with copyrighted names, and to the thousand and one ready-made elixirs, syrups, solutions, etc., most of which are no better than those made by any good pharmacist. Physicians are not generally aware of the injury they do themselves by sending out such prescriptions. Any druggist who will be candid enough to admit the whole truth will bear me witness that a large portion of their more intelligent customers soon find out that their prescriptions in such cases call for a ready-made compound, the name of which they find some means of ascertaining. Should the medi-

cine prove beneficial, they not only take it themselves on future occasions when similarly affected, but recommend it to their friends. Soon these specialties, which are practically patent medicines, secure a large sale, chiefly through the influence of physicians who were the first to introduce them favorably to the public. When this has been accomplished, the proprietors usually cease catering for the patronage of physicians exclusively, and advertise their wares indiscriminately like any other quack medicines. Thus, in one way or another, such preparations as Scott's Emulsion, Fellows' Syrup, Bromo-caffeine, Listerine, Bromidia and many other compounds, some of them harmless and some dangerous, have passed out of the hands of physicians and are bought by persons who use them without medical advice. These are not poor people, but mostly of the well-to-do class, who are able to pay the doctor's bill, and who, when sick, do not think of asking a druggist for advice.

Now, where is the necessity for a physician prescribing such compounds? Does he not know enough of *materia medica* and therapeutics, of the properties and doses of medicines to select his own remedies? Of what avail is all his instruction in these branches of medical education if, when he engages in practice, he lets the patent medicine manufacturer or the manufacturing pharmacist do his prescribing for him? And of what use to the pharmacist is his education in *materia medica*, chemistry and pharmacy if he has nothing to do when putting up a prescription but to count out a few ready-made pills or hand out a bottle of ready-made elixir.

The professions of medicine and pharmacy are both suffering from the inroads that are being made upon them. The young practitioner is shut out from practising among the poor, by dispensaries and clinics that are now doctoring millions of patients every year, who have no right to claim service of this kind. He cannot get practice among the rich because he is unknown; the

wealthy preferring to employ eminent physicians, for whose service they are well able to pay. So the young medical graduate waits and waits, often eking out a precarious existence "living as a gentleman on forty pounds a year." The pharmacist's legitimate occupation is already invaded by the substitution of ready-made pharmaceuticals of every kind, by the free dispensaries and clinics, as well as by the fraternal societies who furnish medical attendance for a song and medicines at cost. Let physicians be careful about prescribing pharmaceutical specialties; let them frown upon the unprofessional puffing which these preparations receive in the medical journals. Let us see that dispensaries and clinics are not abused, to the despair of the young practitioner and the grievous injury of the drug trade. On the other hand, let pharmacists be more cautious to avoid exercising the functions of physicians by declining to give advice when asked for it, except in most trivial matters.

AMERICAN PUBLIC HEALTH ASSOCIATION.

The twenty-sixth annual meeting of the American Public Health Association will be held at Philadelphia, Pa., October 26 to 29, 1897.

The Executive Committee have selected the following topics for consideration:

- (1.) The Pollution of Water Supplies.
- (2.) The Disposal of Garbage and Refuse.
- (3.) Animal Diseases and Animal Food.
- (4.) Car Sanitation. (5.) Steamship and Steamboat Sanitation. (6.) The Prevention of the Spread of Yellow Fever. (7.) Transportation and Disposal of the Dead. (8.) The Relation of Forestry to Public Health. (9.) Nomenclature of Diseases and Forms of Statistics. (10.) Cause and Prevention of Infectious Diseases. (11.) Public Health Legislation. (12.) Cause and Prevention of Infant Mortality. (13.) Transportation of Diseased Tissues by Mail. (14.) River Conservancy Boards of Supervision. (15.) The Period During which each Contagious Disease is Trans-

missible, and the Length of Time for which each Patient is Dangerous to the Community. (16.) Sanitation, with Special Reference to Drainage, Plumbing, and Ventilation of Public and Private Buildings. (17.) Some Method of International Arrangement for Protection Against the Transmission of Infectious Diseases. (18.) Disinfectants. (19.) Existing Sanitary Municipal Organizations of the Countries belonging to the Association, with a view to a report upon those Most Successful in Practical Results.

The President of the Association is Henry B. Horlbeck, M. D., Charleston, S. C. The Secretary is Irving A. Watson, M. D., Concord, N. H. The Chairman of Local Committee of Arrangements is Benjamin Lee, M. D., 1532 Pine street, Philadelphia, Pa.

A NEW FORM OF LAPAROTOMY

In order to spare patients an unpleasant scar, Dr. O. Kustner, of Breslau (Monatsschrift für Geburtshilfe und Gynäkologie; Centralblatt für Gynäkologie, March 13, 1897), has devised the method of making a transverse incision through the skin and subcutaneous fat following a course coincident with a natural fold of the skin, more or less distinct, that occurs at about the upper limit of the growth of pubic hair in women. This superficial incision is held well open with retractors, and the structures through which it has been made are dissected up from the muscular layer upward and downward to a sufficient distance to admit of the ordinary median incision through the deep portion of the abdominal wall. In addition to the deep sutures, the transverse incision is sutured with silkworm gut, and, if primary union takes place, the linear cicatrix is rendered almost invisible by the pubic hairs and by the fact of its coincidence with the natural fold mentioned.

THE LANCET

LATE SPECIAL MEETING OF THE GENERAL HOSPITAL BOARD.

The determination of the governors of the General Hospital to afford free nursing in the city to those who are unable to pay for the services of a skilled nurse, is to be warmly commended. It would appear that the necessary addition to the hospital will shortly be built; it is absolutely required to relieve the congested condition of the building, which is now taxed beyond its capabilities. Very serious complaints are made by members of the medical staff of the admission into the free beds for treatment, and operation, of persons well able to pay for medical attendance. This is an abuse of the charity, and every possible precaution should be taken to exclude such cases, except from the private wards. It is an injustice to the medical staff to be called upon to treat cases in the public beds of the hospital, the occupants of which are, as we have lately in several instances been informed, well known by the attending physicians to be pecuniarily in a better position than they were. This is an abuse of charity, we are sorry to add, of too frequent occurrence. But though the matter is surrounded with difficulty, some means should be adopted to minimize it.

ETHICS.

It was our painful duty to call attention to a grave breach of medical ethics on the part of a gentleman, who, from his professional standing, one would suppose could not be guilty of it. The facts were brought under the notice of Dr. Gray, the

Registrar of the College of Physicians and Surgeons, who notified this gentleman that if he practised in Manitoba action would be at once taken against him, with the result that he left town the same evening, perhaps not a sadder, but certainly a wiser, man. It not infrequently becomes an unpleasant necessity for a medical journalist to take notice of these acts. But, in the interests of the profession, locally and generally, he is compelled to do so, with no animosity to the offender, whom he has probably never seen, or heard of before, as was the case in this instance.

VICTORIAN ORDER OF NURSES.

A meeting of the city physicians was held at the city hall on the evening of May 26th to consider the above scheme, so far as Manitoba and the Northwest is concerned. With one dissentient the meeting was unanimous in coming to the conclusion that the apparent object of the scheme was in the highest degree praiseworthy, but that with the present sparse population of Western Canada, the long distances to be travelled in the winter months, that it would be entirely impracticable for a female to carry out the duties she might conscientiously undertake. That the first step should be to settle medical men in these outlying districts, then the nurse scheme would be in order. If the government of the country induces a number of people of different nationalities to settle on the far distant prairies, remote from centres of civilization, it certainly is their bounden duty to place medical relief within their reach, and such relief should not be confined to that of a nursing character. The working of the scheme in cities in England is brought forward as a contention for it here, but there is no parallel. The population of London is greater than that of the whole Dominion; it is easy to conceive the misery and poverty that the dens

of the great metropolis shelter. Medical aid they have always at command; skilled nurses were beyond their reach until the Victorian Order was established. But can it be supposed that if medical attendance was not already secured for these poor people, that this would not have been provided for in advance of the nursing scheme. In this country of long journeys, and trackless ways, the idea is to ignore the medical man and substitute the nurse, stress being laid on the proposal to educate the nurses in the various hospitals, and have them undergo a qualifying examination before they are launched as quasi medical practitioners. Though, as nurses they were educated, as nurses they become qualified, but they are entirely incompetent to act independently in cases of disease or injury. Many medical men can call to mind the demoralized condition of a nurse, though for years in the wards of a lying-in hospital, at the occurrence of a profuse post partum hemorrhage. A woman is a woman, though this fad of woman's rights is bandied about on this continent, with the desire of usurping men's occupations, which, if ever realized, will work more woe to womankind than the apple of Eden has already done for them.

The strange remark of a medical man at a meeting of ladies interested in the movement, "that there were too many young medical men already," was greeted with a round of applause, and one of the ladies stated "that the positions of type-writers, shorthand writers, school marms, etc.," were overcrowded, and the young women must seek other openings. Whatever may be said, under whatever guise the extension of the Victorian Order of Nurses to Manitoba and the Northwest, in lieu of educated medical men, "though they may have the good fortune to be young," whether advocated as a manifestation of our loyalty to the person of the Queen, a desire to ameliorate the hardships and privations incident to settlers in a new country, or for the relief of suffering humanity, the establishment of an inferior order of female medical prac-

tioners, opening up another outlet for unemployed young women, at the expense of the medical profession, is the concealed desire at this side of the Atlantic. Hundreds of young women can find employment in domestic work, enjoy happy, comfortable homes, as thousands of their sisterhood do in the United Kingdom, living their lives honored and respected. But, the greater freedom which naturally surrounds man's life and occupations is having an alluring effect on the gentler sex, who seek occupations which secure to them the greatest freedom, and which not infrequently proves to be the broad way that leads to destruction. If the proper and much-called-for steps are taken to settle qualified medical men in these districts, where the government have through their agents induced these people to settle in the country, paying them what it was suggested the nurses were to receive, \$500 a year. the nurses to act under the medical men, the proposition will be gladly welcomed. But, as a substitution for the physician, the nurse scheme will never receive the countenance of the profession.

At a meeting held at the city hall, Commissioner Robertson, Hon. Secretary of the Victorian Order of Nurses, gave a long account of the aim and objects of the order. It appears that among his somewhat slim audience his reasoning gained him some converts. A member of the audience expressed regret that the medical profession was not represented, as they would have certainly been won over. But the digest of his remarks, as given in the daily papers, in no way alters the already expressed opinions of the medical profession in this city, in fact, it rather strengthens it. We learn that already applications have been received from John Hopkins and Bellevue hospitals for positions. This cannot be acceptable news to the unemployed nurses now in the country. The attempt to connect the loyalty of the people with the scheme is, to say the least, not to be commended. Canadians are the loyalest of the loyal as a people. But they certainly are not

called upon to forward, under the cloak of loyalty, a scheme of which they do not approve, and which they consider to be impracticable. In cities it may be of much value. We also learn that these nurses are intended to have an educational influence. We were under the impression that there were a superabundance of male and female educationists already, and, in the majority of the houses, the nurses might be called to visit, any attempt to interfere in the domestic affairs of the household would be warmly resented. It does not follow, because a settler is poor, and is located on the distant prairies, that his humble abode is uncleanly, or unsanitary; indeed, with a wide knowledge of Manitoba and the Northwest, gained during a 17 years' residence, the writer cannot call to mind a single instance when even the humblest homestead could be so designated. In these log shanties may be found more educated and cultured minds, people tenderly born and nurtured, than many persons promoting this scheme, in which this educational idea is pointed out as one of the objects. Commissioner Robertson visits this country in the furtherance of the dairy industry in the bright days of our early summer. Let him drive round these sparsely settled districts in December, January and February, making a few midnight journeys during and after a blizzard, and the practical experience he would thus acquire would demonstrate to him the absurdity of expecting a female to encounter it. The nurse would often have to go long distances in the night time. How is she to cover it? The people requiring her services have only oxen; the neighbors are in the same position. It would be necessary to keep a horse, trap, and man for each nurse's use. It is all very well for people living in comparative luxury in cities, to make light of these objections. It is simply from the fact that they are ignorant of what they are talking. They know nothing of the hardships and dangers that country practitioners are exposed to. During last winter the writer

was paying a professional visit at a country village. Located in the hotel where he was stopping were a physician and a veterinary surgeon. The latter was sent for during the night, about 12 miles distant, and the doctor shortly after, four miles away. They returned in the morning. The doctor with his nose and cheek frozen, the vet. with his hands and feet frozen, and both had great difficulty with a pair of horses in getting through the snow drifts. I might add the doctor found his patient suffering from toothache, and told me he never got a cent from these patients. If Lady Aberdeen knew of the obstacles which surround the scheme, in its extension to the Northwest, she would probably never have promoted it, but necessarily her information is derived from others, who are manifestly themselves entirely ignorant of the situation. The position taken by the profession is certainly no index of their want of loyalty to our gracious Queen, or wanting in the greatest respect to Lady Aberdeen, but, necessarily knowing more about the matter than any other class can possibly know, they are loathe to see a well-intentioned, costly scheme end in failure. If Lady Aberdeen could elaborate a plan for at first supplying these remote districts with qualified medical men, then the nurse scheme would be shorn of many of the objections which at present surround it. A guarantee of \$500 a year to medical men to settle in districts calling for medical aid would meet with ready response, and it is not to the credit of either Dominion or Local governments that, after inducing people to settle in these districts, they should not place within their reach competent medical help.

Four cardinal rules with regard to diet in Senile Heart:—1. There must never be less than five hours between each meal. 2. No solid food is ever taken between meals. 3. All those with weak hearts should have their principal meal in the middle of the day. 4. All those with weak hearts should have their meals as dry as possible.—Balford.

INFLUENCES OF CLIMATE.

By J. H. O'Donnell, M.D., Consulting Physician to Winnipeg General Hospital.

Although comparatively easy for us to understand what one means when referring to the climate of a certain country, nevertheless, when an attempt is made to define it, we find ourselves engulfed in a sea of impossibilities. For the most part to be specific, it may be said that climate is made up of those influences expressed through latitude and altitude, temperature, barometric pressure, the relation of large bodies of water, contour of the earth's surface in any given area, the amount of moisture in the atmosphere, and to some extent modified by the vegetation, as well as the composition of the earth's surface.

We are to remember that seasons modify temperature to an enormous degree; while, therefore, the temperature must vary through an immense range from one season to another, there is a slight element of consistency or regularity following the development or cycle of the seasons, the average of such variations constituting the normal.

Aside from mere altitude, mountains and hilly districts affect climate by altering and lessening winds, by diminishing surface evaporation of water; probably, also, by the presence of large quantities of vegetation and the slowness with which the seasons manifest a change.

The question of the effect of climate on health is still a matter of very warm dispute. Does a man adapt himself to a climate?

The question must of necessity, for the present, at least, remain sub judice. In the first place, it is impossible to remove a man from a temperate to a tropical (or the reverse), for example, and not demand that his food be changed, his habits modified, and his occupation more or less altered. It would seem that man rapidly adapts himself to changes in temperature, provided the change be one sufficiently gradual to permit a modification of habits and food. Changes in humidity are not so readily borne as are those of temperature, and the same is true of barometric pressure. For this reason, if for no

other, the sick should not be allowed to travel over routes where constant change in altitude occurs. Climate is an important matter in the therapy of disease.

As a general rule, it may be considered that acclimatization is possible; indeed, probable, in the sense that the body accommodates itself to the change in temperature, change in diet, habits and environment.

It would, therefore, appear that that temperature or that climate to which an individual has been longest accustomed is, taken all in all, the best for the individual under most circumstances. If there be individual objection to the climatologic surroundings, he may move, but an entire change is to be recommended only by the attending physician conversant with the location and patient.

Many erroneous observations have been made with regard to phthisis, based upon its absence from certain areas, the fact being that it is absent merely because the area has not been affected by tubercular cases, and hardly because the atmosphere and the climate is not suitable for the development of the disease.

In certain districts in North Carolina (and other places, too,) tuberculosis among the inhabitants was long unknown; as a result of this fact, patients sought these areas under the impression that what would prevent a disease (for that was the way the facts were viewed), would be sure to cure it. The disease is no longer unknown among the inhabitants, and the benefit, probably, derived by the patients would be equally sure to have followed a sojourn elsewhere, provided the atmosphere had been equally clear from impurities, more especially those resulting from the inroads of civilization.

The integral elements of which the complex entity, climate, is composed seems to afford more noxious features than does the whole, thus, heat and moisture increase the filth diseases, and to a certain extent heat and dry atmosphere, particularly the latter, lessen the liability.

Sudden changes of temperature, more

particularly from warm to cold, and worse if the former have a high relative humidity, are potent factors in the establishing diseases of the mucous membranes. This is probably brought about by the chilling of the surface of the body, contracting the cutaneous capillaries, and viceral determination of blood, to the mucous membrane constituting the great area of the internal blood receiving organs, suffers to the greatest degree.

For this reason diseases of the mucous membranes can best be treated in an atmosphere least likely to afford sudden changes, and also where the relative humidity would remain low. Sudden changes from warm to cool seem to influence the gastro-intestinal track, while the reverse affect more the pulmonary. Booditch and Buchannan, working independently, successfully established the fact that there is a relation between dampness of soil and tubercular affections. Sir John Simon early observed, and others more recently that the draining of the soil diminishes the death rate from phthisis. Dr. Andrews, of the Chicago Medical College, has studied the geographical distribution of pulmonary consumption in the United States and Canada, and shows that it is most abundant near the sea, and diminishes as we recede from it. Tubercular disease seems to follow closely the moisture and temperature of localities. The combinations of damp soil, an atmosphere laden with moisture, and variable weather, are the most favorable, and the reverse of these the least favorable, for the dissemination of the malady.

Buccan and Mitchell's research (Meteorological Society, Scotland), have shown that the mortality from tubes follows very closely the temperature (curve), the maximum being from the middle of July to the middle of September.

Similar to the maximum of diarrhoea mortality, and, in fact, the deaths from tubes are mostly hastened by diarrhoea. The absolute minimum is from the end of December to the beginning of February.

The relation of phthisis to weather in a curve. The absolute minimum occurs in

the last week of September, after which it begins slowly to rise. In the middle of November it arises more quickly; during the last three weeks of December it falls a little, rises again in the beginning of the year, and remains steady until the second week of March, when it arises to the annual maximum during March, April and May.

From the middle of July to the middle of November it is below the average. This is one of the most constant curves in its main feature from year to year.

1st. It is well to remember that temperature, considered by itself, does not exert that marked controlling influence upon the development and progress of phthisis which has been attributed to it.

2nd. That the most important atmospheric condition for a consumptive is dryness.

3rd. The next to dryness in importance is an equable temperature, a temperature uniform for long periods, and not disturbed by sudden or frequent changes. A uniform low temperature is much to be preferred to a uniform high temperature. The worst possible climate for a phthisical patient is one with a long continued high temperature.

The climate of the fertile lands which skirt the eastern slope of the Rocky Mountains, north of the 47th parallel, are especially suited to persons suffering from tubercular disease. The climate is such the energy of the circulation and of the cutaneous functions is maintained by the substantial food they are able to take (after a short residence), and by the active mode of life which the bracing, tonic effect of the atmosphere enables them to adopt.

Here in Manitoba and the Northwest a greater yearly steady range of temperature than in any other part of the world that I am conversant with the history of, there is less cloudiness and moisture in the air than is the case with coast regions. (The average atmospheric pressure at St. Vincent is 29.963, and the relative humidity is 76.2.)

I consider the climate better for those

suffering from pulmonary tuberculosis than higher altitudes, where the pressure upon the blood vessels is so much greater in the rarified air which aggravates a liability to hemorrhage. At great heights respiration is stimulated (quicker), partly because, perhaps, of the lessened percentage of oxygen in the air. At 7,000 feet above sea level the rarification causes it to have only three-quarters as much oxygen in a given volume as at sea level. Mountaineers, therefore, develop large chests, most likely from frequency of respiration, but generally a vigorous people.

The heat and light from the summer sun here, and from the great length of the day, many of the harmful bacteria are destroyed that may chance to be on the surface of the ground.

Our vast prairie land does not become too warm, from the fact that the sun's rays are intercepted by the grass, and so do not reach the ground, while the radiation from the grass causes considerable coolness during the day time, not depressing, but agreeable to the invalid. The same free radiation causes a rapid cooling at night, having a delightfully refreshing, recuperating effect, so beneficial to the phthisical patient. The prevailing winds are generally either from the northwest or southeast, the latter usually warm and agreeable, the more westerly bringing the purest of air, free from dust and other impurities from its passage over the large range of prairie. The chinook is a notable instance of a benign climatic influence in winter. It is a warm, dry wind, felt on the eastern slope of the great mountain range, felt most in the country farther west, but influencing the table lands all along.

Taking the map, you will observe, as you approach the Rocky Mountains, the Columbia river has made its way through its mountain barriers. The Fraser river, passing through the Cascade range, you find gorges in the mountains everywhere. Those great natural valleys, those intervals of the Rocky Mountain chain, let in the influence of the gulf stream of the Pacific, materially influencing the climate in

the winter season to the west of us.

We have in Manitoba all the essentials in the way of climate of value, likely to be advantageous to the phthisical patient.

1st. We have the purest air.

2nd. Low relative humidity.

3rd. Absence of a cloudy sky. Our bright, clear sky almost all the year round has an exhilarating effect upon the consumptive, quite different to the condition experienced nearer the sea level, where it is often cloudy, with an absence of sunlight, producing depression of spirits, lack of energy and loss of appetite, disturbance of digestion, turbid urine, and a general feeling of unrest akin to homesickness.

4th. Absence of sudden and frequently repeated changes of temperature.

5th. A uniformly dry atmosphere and dryness of soil, etc., which, taken all together, enabling those affected with tubercular lesion to live longer with more comfort than in any part of the world, especially if they spend the greatest portion of their time in the open air.

PENETRATING GUNSHOT WOUND OF INTESTINE, WITH RECOVERY, BY DR. WESTEROOK.

Patient, age 49, was brought by ambulance into the service of Dr. Fowler in the City Hospital, with a history of having been shot in the abdomen in a midnight brawl. He was unconscious when found by the ambulance surgeon, and when admitted was in a condition of profound shock. An hour and a half later he had rallied considerably; his pulse was 84, with no evidence of serious hemorrhage; the abdomen was tympanitic, and he complained greatly of thirst. Abdominal section was performed by Dr. Westbrook as soon as possible, probably not later than four hours after the injury.

A large single bullet hole was present two and a half inches below the umbilicus and one and one-half inches to the right of the middle line, made with a 38-caliber revolver. After the patient had been completely anesthetized, the wound

was explored with the Nelaton bullet-probe, which passed outward and somewhat downward and entered the peritoneal cavity about two inches from the surface wound in the direction of the caecum. The bullet itself could be felt externally, beneath the skin and fascia, an inch above and back of the line of the great trochanter of the femur on that side. It had evidently pursued a straight course from the point of entrance, through the abdominal wall, peritoneal cavity, and bony pelvis. Considering the limitation of the injuries to the lateral portion of the abdominal cavity, and the possibility of injury to the caecum, a lateral incision seemed clearly indicated. This was made over the point where the probe was felt to enter the peritoneal cavity, in an oblique direction, very much like the oblique incision in appendicitis, and was extended until about four and a half inches in length. On retracting the wound a rosette-shaped mass was exposed to one and one-half inches in diameter, surrounded by small clots, with a small amount of dark, liquid, fecal matter filling the irregularities of its surface. This mass was the everted mucous membrane of a loop of small intestine, the wall of which had been torn across fully half its circumference, the tear extending slightly up on to the mesentery. The omentum near by had been perforated by the bullet. The main portion of the abdominal cavity was found on inspection to be uncontaminated, and was then packed off on all sides from the injured area with a barrier of laparotomy sponges. The loop of intestine was then raised out of the abdomen, exposed on hot towels, and a clean-cut bullet hole discovered a half-inch away from the main transverse tear, on the same side of the bowel-cylinder, not opposite to it. Evidently the bullet had entered the bowel through the clean-cut hole and made its exit through the large rent, everting the mucous membrane in its passage.

The mucous membrane turned in readily, and the large rent was closed with a continuous Lembert suture of fine silk,

sewed over twice. The perforation near by was closed transversely to the axis of the bowel with the same suture. The stitching brought the two suture lines so closely together that the operator depressed them both, and buried them with a running suture on the serous surface of the bowel at the further sides of the two wounds. This gave additional security to the bowel wall and produced no real tendency to strangulation, although it probably temporarily reduced the caliber of the bowel somewhat. There was little risk of the latter doing harm at a portion of the bowel where the contents are fluid.

The bullet-hole of exit in the parietal peritoneum was found and sutured, and bleeding points in the omental perforation ligated. The upper surface of the caecum showed a contusion only. The loop of intestine and the area of peritoneum which had been exposed to infection were thoroughly sponged off with hot bichloride solution, and the intestine returned to the abdomen. No irrigation was used. The suture lines were painted over with Woelfler's mixture of iodoform and compound tincture benzoin, the protective sponges withdrawn, and the wound closed with the crossed silk-worm gut suture, a single drain of wicking being brought through its lower angle. The bullet was then removed from the buttock through an incision in the skin and fascia.

The patient's recovery was uneventful. For twenty-four hours he was allowed no fluids at all, and for three days received no food. One or two hypodermic injections of morphine on the first day and a morning and evening suppository of two grains of opium for several succeeding days kept him quiet and relieved his hunger. On the fourth day he was given peptonized milk in increasing quantities, and was kept on fluid diet until the tenth day. He never complained of any pain in the abdomen; had no tympanites, and has had no bowel trouble whatever to the present time. The wicking drain was removed on the sixth day, and the bowels were then moved by enema on the

seventh day. His temperature reached 101 degrees, its highest point, on the second day, and gradually came down to normal by the fifth day. The wound healed by primary union. The patient was kept up to the end of the third week, and left the hospital three days later.—Brooklyn Medical Journal.

COCAINE HABIT

We append some extracts from different papers, calling attention to the startling rapidity with which the cocaine evil is developing. One of the leading chemists in this city called our attention a short time since to the increasing demand for this valuable, but, when abused, either in the administration or the taking, pernicious drug. Chemists should be restricted in the sale of it, except on a physician's prescription, and then enter the same in the poisons register.

COCAINE DEBAUCHERY.

Few people even in the profession of medicine know much about the cocaine habit, and to what extent it prevails in the lower walks of life in the large cities, writes Dr. E. R. Waterhouse in the Eclectic Medical Journal. The recent exposure of a "cocaine joint," disguised as a drug store in the business part of this city (St. Louis) has made public that which was only known to a few. The patronage was largely from the lower classes of fallen women, men seldom using this narcotic.

This store had very well stocked shelves, but seldom was anything sold except cocaine; this was put up in packages, which sold at a dime. The cocaine fiend was admitted into a dark back room, and taking a seat, snuffed the powdered drug into the nose. A sort of dreamy intoxication followed. When they regained consciousness, should they desire more of the drug, they touched the bell, and in came the clerk with another dose, or if satisfied, they stole quietly out the back door into the alley.

The effect of using the drug so strong

is to paralyze the vaso-motor nerves of the nose, and as a result the blood vessels dilate, and the worst form of "run-nose" is seen. One poor unfortunate has a nose nearly as large as a man's fist, as red as erysipelas, and as sore as a boil, with large nasty ulcers extending down the upper lip. The grip the drug gets upon the poor victim is far greater than from opium or morphine, and the downward road is travelled faster.

The crowd which filled this man's coffers began coming as early as nine o'clock in the evening, and at two or three o'clock in the night his room was full. Some would recover in a few hours and go their way, while others would lie in a stupor for half the following day. A few days ago the proprietor of this den was placed under arrest, under the law regulating the sale of poisons, but has his place still at full blast.

Hundreds of people buy this drug and snuff it at home, and some law should be passed to meet this new state of affairs. I have treated two cases of this habit, and find it very difficult to handle. The poor victim, when once under its charms, will hypothecate anything he may own or be able to steal to get cocaine, and in this way unscrupulous druggists reap an increasing benefit.—Medical Times.

COCOA WINE AND ITS DANGERS.

There is no doubt that the steadily increasing consumption of cocoa wine is a subject which calls for comment and investigation. We find that cocoa wine and other medicated wines are largely sold to people who are considered, and consider themselves, to be total abstainers. It is not uncommon to hear the mother of a family say, "I never allow my girls to touch stimulants of any kind, but I give them each a glass of cocoa wine at eleven in the morning, and again at bedtime." Originally, cocoa wine was made from cocoa leaves; but it is now commonly a solution of the alkaloid in a sweet and usually strong alcoholic wine. According to the Board of Trade regulations, a wine containing a grain of any salt of cocaine

in the ounce may be sold without a wine license; this may be the explanation of the frequency with which we see bottles of "cocoa champagne" exhibited in the windows of the drug stores. Not long ago a physician reported that he had experienced considerable inconvenience from taking a glass of standardized cocoa wine which he had mistaken for an innocuous beverage. Still more recently we have been furnished with details of the case of a man who, thinking to abjure the use of alcoholic stimulants, drank cocoa wine so freely that he died of delirium tremens. School mistresses, as a rule, have a deep-rooted belief in the efficacy of the popular drug, and give it to their pupils on the slightest provocation, in complete ignorance of the fact that they are establishing a liking not only for alcohol but for the far more insidious and pernicious poison cocaine. The child who is the innocent victim of cocainism is wayward in disposition, is restless and disturbed at night, and is incapable of prolonged application. The mania for taking narcotic stimulants is widespread, and is a distinct source of danger to the national health. It is difficult to say at present what steps should be taken, but it is obvious that at no distant date some restrictions will have to be placed on the sale of cocoa wine and its congeners.—*Dominion Monthly.*

TO RESTRICT THE SALE OF COCAINE.

Alderman Frank Gazzolo, who formerly conducted the pharmacy at Madison and Loomis streets, Chicago, had introduced an important ordinance in the city council of that city. It will be referred to the committee on health. A strong blow is dealt the indiscriminate sale of cocaine. The measure is warmly supported by all the reputable physicians and druggists of the city. The measure is:—

That it shall be and is hereby made unlawful for any druggist, pharmacist or other person within the corporate limits of the City of Chicago to sell, barter, exchange, or give away any cocaine or morphine or any mixture compounded

by him containing cocaine or morphine, except upon the prescription of a regularly licensed and practicing physician.

It shall be and it is hereby made unlawful for any person, firm or corporation within the corporate limits of the City of Chicago to sell, barter or exchange or give away, or have in his possession for the purpose of selling, exchanging, bartering or giving away any of Burney's catarrh powder, Campbell's arsenic wafers (as the same have been heretofore prepared), or any other prepared or manufactured preparation or mixture of drugs or medicines composed in whole or in part of arsenic, or cocaine, or morphine, except upon the prescription of a regularly licensed and practicing physician.

Any person, firm or corporation who shall violate any of the provisions of this ordinance shall be subject to a penalty of not less than \$25 nor more than \$50 for each offence.

"The habitual use of cocaine is increasing at a frightful rate, according to my judgment. Morphine does not compare with any more," said the proprietor of a large drug store in the downtown section of St. Louis, last week. A wretched looking colored woman had just come in to buy something, and went away talking anything but Sunday school language because the druggist would not sell it to her. After she left the proprietor said the woman wanted some cocaine. He said it was really alarming the number of calls they had for this drug. They made it an invariable rule never to sell the drug over the counter, so the same parties scarcely ever came the second time. A tour around among the St. Louis druggists revealed a similar state of affairs in many other sections of the city. The negro race seems more addicted to the habit than any other. From the reports of the druggists, the habit is far more prevalent among the poor tenement class. One old time honored pharmacist, who usually knows what he is talking about, said, "The slums of the city are just killing themselves off with cocaine."

REMARKS BY DR. WAUGH, OF CHICAGO, IN
MEDICAL RECORD.

When this drug is withheld there is a general nervous hyperesthesia present. The slightest prick of the hypodermic needle, an injection of warm, normal salt solution, absolutely unirritant, is followed by the most exaggerated complaints of agonizing pain, of the torments of the damned, which are kept up for days, when not the slightest external evidence of the injection is to be seen.

And in recording this symptom of cocaineism, we pass to the consideration of the effect of this drug upon the mental and moral nature of the habitue. There is no question here as to the pernicious character of its influence; and I unhesitatingly pronounce cocaine the most disastrous in its effects of any habit-drug I have as yet studied. It destroys the soul. In using this term, I follow Garretson, who described man as of a three-fold nature, consisting of the body, the ego and the soul. The body, the Rupa of the Buddhist, is the material, which is dropped at death; the soul, the Buddhist Atmi, is the divine part, which at death returns into the Godhead if this is lost to its possessor; and the Ego, the individual himself, who lays aside his body, and keeps or loses his soul. Now, in the worst confirmed cases of cocaine addiction that have come under my observation, the soul is gone; the moral consciousness is dead; the sense of obligation to do right has been extinguished. The cocaineist is depraved; he will take and break the most solemn obligations without compunction. To his dying day the morphinist's soul rises unconquered above the influence of the fiend which enthalls him. He struggles against the overmastering influence, and bitterly laments his degradation; he is sensible of his obligations as a man, a husband and a father; and the suicide which so often ends his career is the last protest of an unconquered will, the final effort of the slave who, unable to free himself, seeks death rather than continue to live in

bondage. Under the fierce craving for morphine he will lie, steal or murder to obtain his necessity; but he will suffer for his crime.

Nothing of this sort is to be found in the cocaineist. He has no moral sense; he has no sense of responsibility, no manly interests, no love for his family, no religious principle, no shame. He will lie for the pleasure of lying, and steal needlessly. I have exhausted every appeal that can be made to the better nature of man, and have not found a fibre of the heart that would ring true. There is nothing to build upon. He presents the semblance of manhood, but the soul is dead. Trust his honor and he chuckles at your gullibility. Bring squarely before his face the proof of his deception and oath-breaking, and he has no blush of shame, no compunction. He simply laughs, and begins to devise a new scheme to obtain his drug, in which he displays much ingenuity.—Dr. W. Waugh, in *The Medical Record*.

 THE "BOILED HAND" IN SURGERY

In the *Centralblatt für Chirurgie* for May 22nd, Dr. W. Zoega von Manteuffel, of Dorpat, argues in favor of the use of rubber gloves in surgical work. The disinfection of the surgeon's hands, he says, is still an unsolved problem, in spite of all the practical results of the surgery of the present day which would seem to show the contrary. We are not yet in a position to disinfect our hands to such an extent that the disinfection will bear close critical tests under all circumstances. This we may learn from Kummell's, Furbringer's, Sanger's, and Reinecke's experiments, from von Bergmann's demonstrations at the last international congress but one, and from the recent investigations of Lauenstein and others. We may secure a relative, but not an absolute, freedom from germs, and we must always take into account the variable degree to which the vital properties of the tissues of the person operated on are called upon to correct the faulty disinfection of our

hands, however slight the faultiness may be. In general, therefore, we accomplish the desired result, but we do not secure absolute freedom of the hands from germs when we have touched infectious materials or dipped the hands in faecal matter or pus.

In consequence of the very variegated material that he has had to deal with in the Dorpat City Hospital, and the necessity of operating promiscuously upon uninfected and septic patients, of opening abscesses and then dressing wounds, Dr. von Manteuffel has come to the practice of protecting his hands against infection by the use of boiled rubber gloves. One can get along well enough without this device, he says, if he has a great number of trained assistants, but even after repeated washings—nay, on the following day, too, in the case of an operation on a very septic person—he can not rid himself of the uncomfortable feeling that his hands are not quite right, although at present he can soon do away with the unpleasant odor which formerly, when the use of alcohol as a disinfectant was not yet understood, clung to the hands for an extraordinary length of time.

The author says that he soon came to recognize an additional advantage of the gloves. He himself does not suffer with furuncles, but one of his assistants had to struggle with operative boils continually, and in this task the gloves were found of great value. Finally, the usefulness of the boiled gloves was illustrated most strikingly when wounded persons requiring immediate aid were brought in, and five minutes spent in disinfecting the hands meant a serious loss of time. The first plugging of a wound involving the internal mammary artery, he remarks, may be done with the gloves on, and thus time be gained for careful disinfection. The same is true in regard to various severe abdominal wounds.

At present he uses the gloves in operations on septic subjects; in operations on clean wounds the treatment of which does not admit of postponement, provid-

ed he has had to deal with anything septic; in case he had any wound, furuncle, or the like, on his hand; and in sudden emergencies. By operations that can not be postponed he does not understand merely kelotomy, tracheotomy, etc., short operations that in themselves can not be deferred; there are often extraneous circumstances that demand the performance of an operation at a certain time, just the time when the surgeon has on his hand, for example, a lesion that does not admit of its disinfection.

In all such cases as he has mentioned it is, in the author's opinion, not always—he would rather say never—possible to disinfect the hands adequately. One may console himself, in the case of a person brought in with an injury just received, that of two evils he is choosing the lesser, that above all else the immediate danger must be met; but after the operation, done with an infected or diseased hand, one will have the memory on his conscience either of something no worse than a suppurating fistula, or of general septic infection. Of course, says Dr. von Manteuffel, it is somewhat awkward to operate with gloves on. In septic cases this is not of very great consequence, for in them there are generally no technical difficulties. It is different, however, when we cover the infected or wounded hand, insusceptible of disinfection, with the rubber glove and undertake an aseptic operation. If the glove fits close the hand becomes anaemic and is soon fatigued. The gloves in the market have another defect; there is no expansion for the ball of the thumb, so that it is difficult to abduct that digit. Moreover, if the fingers are too long, they impede the nimble handling of instruments, especially those having the form of scissors. But even with well-fitting gloves, to some extent furnished to measure, the operation will probably be somewhat prolonged. But what is this, asks the author, compared to absolute reliability of the "boiled hand"? Finally, so far as rapidity is concerned, even major operations, he says, may be

done without noteworthy loss of time. Besides septic operations, he has used the gloves in a Bassini's operation for the radical cure of hernia, in two cases of radical operation for umbilical hernia, in a radical operation for inguinal hernia in the female, and in a resection of the elbow joint by means of a radical incision. Perhaps, he says, these operations lasted from five to ten minutes longer than usual, but he is not yet thoroughly accustomed to the gloves and has none that fit well.

Of course, he adds, he considers it incumbent on him to disinfect his hands first, so far as the circumstances of the case may permit, so that, in the event of the glove being nicked, at least no wholly disinfected skin shall be exposed; this, indeed, is required for the mere drawing on of the gloves, although a sterilized glove may be used for that purpose. He has the sleeve of his operating gown close about the wrist, or at least reaching down as far as that, and the arm disinfected to the elbow. Thus far, he has used gloves somewhat longer than those employed by chemists, reaching up so as to inclose the wristband.

Recently he has used the rubber glove, or at least a rubber finger-stall, in examinations per anum, provided no fine detail had to be made out, and it is astonishing, he says, how little it interferes with palpation if it fits snug. On the whole, he recommends boiled rubber gloves as a very useful article for the operating room. Moreover, he says, they must be particularly useful in country practice, carried about in a glass receptacle, for disinfection of the hands in a farm-house is almost always defective.—New York Medical Journal.

MRS. CASTLE'S OPERATION.

Mrs. Castle, the lady who created such a stir in England as a kleptomaniac, has been relieved by operation.—"Philadelphia Polyclinic" for February 6th. Examination showed that the uterus was hypertrophied to one and a half its normal size, the mucous membrane was ir-

regularly roughened and bled on the slightest touch by the sound, that the cervix was bilaterally lacerated, while there was also ulceration as well as a fissure of the rectum. The uterus was curetted and then trachelorrhaphy performed by denudation of the cicatricial tissue and suturing with silkworm gut and the rectal lesions dealt with. Perfect recovery followed the treatment, while the neurotic condition of the patient has undergone a marked change for the better.—"Southern Cal. Practitioner."

UNIFORM STANDARD OF MATRICULATION.

The following report is presented by Dr. Reddick, on behalf of the committee appointed with a view to obtaining a uniform standard of matriculation, education and examination throughout the Dominion.

"Your Committee beg leave to report that, having examined the present requirements of the Licensing Boards of the several Provinces, with a view to obtaining by mutual concession a uniform standard of matriculation, education, and examination, would recommend the following:—

"I. Matriculation—The schedule of subjects comprise (1) English language, including grammar, composition and writing from dictation; (2) Arithmetic, including vulgar and decimal fractions, and the extraction of the square root; (3) Algebra, to the end of the simple equations; (4) Geometry, euclid, books 1, 2 and 3, with easy deductions; (5) Latin grammar, translation from specified authors, or of easy passages not taken from such authors; (6) Elementary mechanics of solids and fluids, comprising the elements of statics, dynamics, hydrostatics, and elementary chemistry; (7) History of England and Canada, with questions in modern geography; (8) and any one of the three following subjects:—French, Greek and German, the requirements being the same as in Latin.

"Fifty per cent. of the marks in every

subject shall be necessary for a pass, and 75 per cent. for honors.

"In lieu of the above will be accepted a degree in arts of any University in Her Majesty's dominions, or from any college or university that may hereafter be recognized, but no matriculation in arts in any university will be accepted.

"II. Professional Education—(a) The curriculum of professional studies shall begin after the passing of the matriculation examination, and shall comprise a graded course in the regulation branches of four yearly sessions of not less than eight months of actual attendance on lectures in each year. (b) The subjects to be anatomy, physiology, chemistry, materia medica therapeutics, practical anatomy, histology, practical chemistry, pharmacy, surgery and clinical surgery, medicine and clinical medicine, including diseases of eye, ear throat, and nose, mental diseases, obstetrics, diseases of women and children, medical jurisprudence, toxicology, hygiene, pathology, including bacteriology.

(c) "That at least twenty-four months out of the graded four years, eight months each, be required for attendance on hospital practice, to begin with the second year of study. (d) That proof of attendance on not less than six cases of obstetrics be required.

"III. Examinations—(a) All candidates for registration in the various Provinces, in addition to having fulfilled the foregoing requirements, shall be required to undergo examination before examiners to be appointed in each of the Provinces by their respective Councils, or by means of assessors, as in the Province of Quebec, or by delegating their authority to one central body, as has been done in Manitoba. Such examination shall comprise all the subjects of professional study, shall be both written and oral, and 50 per cent. of the marks shall be required in every subject for a pass. (b) The Committee make these resolutions merely as suggestions for the consideration of the Councils of the several Provinces as a mutual basis of agreement, and desire that each be

requested to report thereon to the next annual meeting of the Association, and also to send one or more delegates to represent them at that meeting.

"In order that the Councils may be enabled to consider the question with a full knowledge of the facts, it is also desired that each registrar should send to every member of the Council in Canada a copy of the statutes and of the regulations in connection with the Council that he represents."

DISINFECTION WITH FORMIC ALDEHYD.

In the Sanitary Chronicles of the parish of St. Marleybone, for the month ending March 31st, 1897, Dr. Winter Blyth records some interesting and valuable work done in connection with the disinfecting properties of formic aldehyd, commercially known when dissolved in water as "formalin" or "formol." The antiseptic powers of formic aldehyd are extraordinary; 1 part in 10,000 suffices to preserve milk, soup, and similar articles, for a considerable time, which fact naturally suggested that it might have true disinfecting powers. The aqueous solution called formalin does not give very satisfactory results when exposed in open dishes, as it has the peculiar property of changing into a white solid,—in other words, polymerisation takes place, CHOH changing a far less efficient disinfectant. Bouse and Boudet, however, found that when the gas is dissolved in a solution of calcium chloride, and afterwards heated under pressure, practically dry formic aldehyd was driven off. The ordinary method of disinfecting a room is to seal and plug up every crack and opening; then open a bottle of compressed sulphurous acid, and leave the room undisturbed for about twelve hours or more. A comparative trial was made with sulphurous acid and formic aldehyd, in two rooms, in which were exposed, on bits of linen, four cultures of diphtheria, four of the typhoid bacillus, four of tuberculosis, and four of anthrax; there were also samples of col-

ored paper and materials placed in the room, to enable the officials to observe the effect, if any, on colors. After nineteen hours the rooms were opened, and the infected pieces of linen were sent to Prof. Macfadyen, who reported as follows:—

The tubercle samples could not be properly reported on, as they were found to be contaminated with other micro-organisms. The formic aldehyd room, on being entered, smelled strongly of the gas, but beyond making the eyes smart there was not much inconvenience for a short while; but in the sulphur gas room three attempts, in as many quarters of an hour, were made to open the windows, and in each case Dr. Blyth was compelled to retire, gasping and choking; it was more than an hour before the windows could be opened. As for the colors, both gases showed a trivial bleaching in the case of silk when very carefully compared, but in the dyed papers no alteration whatever could be discerned. In conclusion, Dr. Blyth considers that formic aldehyd gas is superior to sulphurous acid gas as a disinfectant, and he recommends its adoption by the Vestry.

THE DANGER OF VEAL.

At the Paris Academie de Medecine, M. Vallin spoke on the dangers of poisoning from veal as a food. It was well known, he said, that very young veal causes frequently diarrhoea, and arises from the fact that either the animal of a few days or weeks old died from disease, or they were killed a few hours before their "natural" death. The two virulent maladies from which these animals perish are acute septicopyaemia consecutive to phlebitis of the cord or septic diarrhoea. In the case of the former malady, the autopsy reveals the presence of deep suppurations of the organs, metastatic abscesses, and pus in the veins. The flabby flesh of the animals is cut up into mincemeat, and associated with the flesh of pork, is formed into pies, which are simply poisonous. In chronic cases the duration of the af-

fection permits the infiltration of the flesh of ptomaines and other micro-organisms that cooking does not modify; consequently, from six to twenty-four hours after ingestion of the meat, symptoms of cholera nostras set in, which in some cases have ended in death. Similar effects are produced where the animal died from septic diarrhoea, and it behooved the sanitary authorities to pay more attention to the slaughter for food of such animals, and to destroy all those known to be affected with the above diseases.

A STEP IN THE RIGHT DIRECTION.

An Act relating to and defining dispensaries, requiring them to be incorporated or licensed, forbidding their establishment in a "drug store," or a "tenement house," providing that the word "dispensary" shall only be used in connection with an incorporated or licensed dispensary, that persons shall not obtain relief from dispensaries by false representations, and that a violation of this act shall be a misdemeanor; also, empowering the State Board of Charities to make rules and regulations and to annul or suspend incorporations and to revoke licenses.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:—

Section 1. By this act a "dispensary" is defined to be any institution, agency or place, society or association, whose actual or alleged purpose it is to furnish either gratuitously, or at a merely nominal price, to indigent, needy, or other persons not resident therein, medical or surgical relief, advice or treatment, medicine or orthopedic or other like appliances.

Sec. 2. On or after the first day of October, eighteen hundred and ninety-seven, it shall not be lawful for any one to establish, conduct, or manage at any place in this State, a dispensary not duly incorporated as such under the laws of this

State, or not connected with another incorporation licensed by the State Board of Charities.

Sec. 3. In no case shall a dispensary be established, carried on or conducted in any place in this State commonly known as a "drug store," nor in any place or building in the State defined by law or by an ordinance of a Board of Health as a "tenement house."

Sec. 4. It shall not be lawful for any person or persons to display the word "dispensary," or to cause the same to be published in any form or in any manner in order to attract any indigent, needy or other person to any dispensary not duly incorporated or licensed as provided in Section 2 of this act.

Sec. 5. Any person who shall, by means of any wilful, false representations on his or her part, obtain at any dispensary medical or surgical relief, advice or treatment, medicines or orthopedic or other appliances, or any person who shall wilfully violate any of the provisions of this act, shall be guilty of a misdemeanor, and upon conviction, shall be required to pay a fine of not less than fifty nor more than two hundred and fifty dollars.

Sec. 6. The State Board of Charities is hereby empowered to make rules and regulations and to alter and amend the same when, in its opinion, necessary, in accordance with which, indigent, needy, or other persons shall be given medical or surgical relief, advice or treatment, medicines and orthopedic or other like appliances by such duly incorporated or licensed dispensaries, and the said board is hereby empowered, a chance for a hearing having been given, to annul the incorporation, or suspend the operations, or to revoke the license of any dispensary for wilful neglect or failure on the part of its managers, trustees, officers, or employees to comply with the rules and regulations so established by said board; but nothing in this act contained shall be construed to mean that said board shall have power to determine the particular school of medicine under which the dispensary shall be conducted.

Sec. 7. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

Sec. 8. This act shall take effect on the first of October, 1897.

INCUBATION PERIOD OF INFECTIOUS DISEASES.

The Clinical Society of London has recently published the result of extensive observations regarding the period of incubation of some of the infectious diseases. A constant period of incubation is not to be expected. In most instances, as will be seen from the following table, the difference between the maximum and the minimum period is not very great. It seems remarkable, however, that a disease should show such extremes as typhoid fever.

| | Nor- mal. Days. | Maxi- mum. Days. | Mini- mum. Days. |
|-------------------|-----------------------|------------------------|------------------------|
| Variola | 12 | 14 | 8 |
| Varicella | 14 | 19 | 13 |
| Measles | 10 | 14 | 4 |
| Rubella | 18 | 21 | 8 |
| Scarlatina | 2 | 7 | 1 |
| Influenza | 8 | 5 | 1 |
| Diphtheria | 2 | 7 | 2 |
| Typhoid fever ... | 12 | 23 | 5 |
| Mumps | 19 | 25 | 12 |

It is a peculiar fact that the diseases in which the period of incubation is shortest are those in which the infection persists the longest.

COMPARISON OF THE ABSORPTION BY CRYSTALLIZED MEDIA, OF LUMINOUS RAYS, AND X RAYS.

On studying my proofs I was surprised to find that there exists a general opposition between the absorption for the luminous rays and for the Rontgen rays. The sulphates very transparent for the ultra-violet rays are extremely opaque for the X rays. The inverse holds good for the majority of crystalline organic compounds. The nitrates absorb the luminous rays more than the sulphates and less than organic bodies; the X rays, on the contrary, less than the sulphates and more than organic bodies.—V. Agafonoff.

THE IMPERIAL HYGIENIC LABORATORIES OF JAPAN.

Soon after Japan had, in 1869-70, made the treaties now in force with foreign countries, medicines were imported in large quantities, and, in order to protect the public against quackery, the Department of Education established a sub-department or Medical Bureau to examine and report on the quality of all medicines imported. This department has gradually grown, and so increased its scope that it now undertakes the analysis and examination of all kinds and sorts of substances. During the year 1895 the total number of bottles, cans, bags, and other packages examined, amounted to 1,122,733, of which 63,277 were reported to be unfit for use: these figures give an idea of the enormous amount of work done, and it is interesting to note that for some years past the work has been entirely done by the Japanese themselves.

FORTUNES OF BRITISH PHYSICIANS.

The Practitioner records the following amounts devised by doctors in England who have died during the year 1896:—Dr. Patrick Fraser, \$2,100,000; Sir John Erichsen, \$450,000; Sir George Humphrey, \$400,000; Dr. Samuel Holdsworth, \$265,000; Dr. William Statten, \$200,000; Dr. Geo. Harley and Sir William Moore each \$125,000; Sir George Johnson and Sir Russell Reynolds each about \$60,000. The comment is made by the same authority that these fortunes were not made so much by the accumulation of fees as by judicious investments.—Medical News.

A SERIOUS CASE.

Late one evening a doctor received a note from a couple of fellow-practitioners, saying: "Pray, step across to the club. We are one short for a game of poker." "Emily, dear," he said to his wife, "I am called away again. It appears to be a very serious case, for there are already two doctors in attendance."—American Druggist.

In the treatment of fractured patella, the method of Barker is to encircle the patella with a vertical, antero-posterior silk ligature, which, when tied, holds the fragments firmly together. The operation is done subcutaneously, and the ends of the ligature are cut short.—British Medical Journal.

I do not advise using milk diluted with plain water for young babies under four months old. The simplest and most commonly used diluent is barley-water, which is almost entirely innutritious, its action being purely mechanical in breaking up the casein.—Griffith.

At the recent examinations for the M.D. degree of the University of Manitoba, the following answer was given by one student to the question: "Describe Pasteurization of milk, and sterilized milk." In Pasteurization, you sterilize the cow's udder.

UNIVERSITY OF MANITOBA — EXAMINATION FOR M. D. DEGREE 1897.

MEDICINE.

1. Diagnose and treat a case of scarlet fever in a child eight years of age. What complications and sequelae may occur, and their treatment?
2. Diagnose between aortic and mitral valvular diseases of the heart, and describe the various morbid conditions which they may produce.
3. Describe the morbid anatomy, general symptoms and physical signs in fibroid phthisis.
4. Give characteristics of the apoplectic state, and various pathological conditions under which it occurs.
5. Give the pathology, etiology, symptoms and treatment of bulbar paralysis.
6. Describe and treat a case of (1) psoriasis, (2) tinea tonsurans, (3) eczema.
7. Ascites; causes, symptoms and treatment.
8. Give the causes, varieties and symptoms of renal calculus. Treatment during an attack, and also in interval.

SURGERY.

1. Mention the causes of Epididymitis and give the causes, symptoms and treatment of this disease.
2. Write a short account of the fractures of the lower end of the humerus and diagnosis of each.
3. State the various complications which may accompany fractures of the ribs and their treatment.
4. Describe the course, symptoms and treatment of acute osteo-mycelitis of the tibia.
5. Describe the course, symptoms and treatment of Scirrhus of the breast.
6. Describe carefully the condition known as acute Intestinal Intussusception. What are the symptoms produced by it?

SURGICAL ANATOMY.

1. Exposure of the sciatic nerve; where most accessible; the structures severed.
2. Supra pubic cystotomy; name the tissues divided; the strictures to be avoided. Discuss any

anatomical points which may be of value in this operation.

3. Nephro-lithotomy. Lumbar operation. Describe the site of the incision; the fascia, muscles, arteries and nerves met with; the perineal fat, exposure of the kidney, the structures to be avoided.

4. The knee joint:

Describe (1) the ligaments, (2) cartilages, (3) synovial membrane, (4) nerve supply, (5) bursa that may be connected with the joint. Name the ligaments which check—extension, flexion, pronation, supination, sliding movements.

5. (a) Describe the male urethra, (b) explain the cause of the direction of the urine which has leaked from behind a tight structure, situated one inch forward in the bulbous portion of the urethra.

6. Discuss the disposition of the peritoneum in the right upper half of the abdomen, and its possible value in the surgery of the gall ducts.

7. The lower deep cervical lymphatic glands on the left side are enlarged (hazel nut in size) and matted to adjoining tissues. Name the structures incised and the structures to be avoided.

8. Amputation of the breast. Structures divided.

9. The right arm is slightly abducted and the head of the humerus is rotated outwards. An incision just external to the coracoid process cutting down on the humerus for four inches, the incision with a slight curve is carried outwards to the posterior border of the axilla, after the humerus is disarticulated the head is projected above the glenoid cavity and the remaining tissues are divided.

Name the structures divided, and especially locating the arteries and where cut.

OBSTETRICS.

1. Enumerate the symptoms and signs of pregnancy—which of these are positive?

2. What different presentations of the fetus may we have? Which is the most common and what renders it so? How would you diagnose it?

3. How would you treat each of the following: Nausea during pregnancy, pruritis vulva of pregnancy; after pains; albumenuria; fissured nipples; post-partum hæmorrhage.

4. Mechanism of labor.

(a) Describe the mechanism of labor in right occiput posterior position.

(1) When the occiput rotates to the front.

(2) " " " into the hollow of the sacrum.

(b) If necessary to apply forceps what would be your direction of traction in each case and why?

5. Eclampsia

(a) Definition.

(b) Premonitory symptoms.

(c) Etiology.

(d) Treatment.

6. Give explicit directions for performing podalic version.

7. Give explicit directions for preparing food for an infant a week old, with reasons for each step. How often should it be fed, and how much each time?

GYNAECOLOGY.

1. Amenorrhœa—Enumerate causes and outline the treatment according to these.

2. Chronic Endometritis—Varieties, causes, physical signs and treatment.

3. The Bladder—(a) Mention affections of the genital organs most liable to cause disturbance of its functions.

(b) Give indications for and describe the "button hole" operation.

4. Pelvic hæmorrhage—Give differential diagnosis and treatment.

5. Describe:

Fait's terinorrhaphy Alexander's operation. Martin's colporrhaphy.

6. Give in detail (a) the after treatment in a typical case of ovariotomy, (b) evidence of post-operative peritonitis, and the measures you would adopt to prevent or combat it.

MATERIA MEDICA AND THERAPEUTICS.

1. Give a classification of antipyretics. Name the principal drugs of this class, with the dose of each, and describe the physiological action of Quinine.

2. What are tonics? Describe their action. Give fully the physiological action of iron, and name 5 of the principal drugs of this class, giving dose of each.

3. What are the chief Alkalies? When should they be administered? Give the physiological action of Sodium Bicarbonate.

4. Give the mercurial treatment of the different stages of Syphilis, stating what preparations of the drug you would use. Give the various preparations of mercury, with dose of each.

5. Describe the physiological action of Volatile Oils. Name the drugs of this class, with dose of each.

6. Give the physiological action of Saline Purgatives. Name the principal drugs of this class, with dose of each.

7. Give physiological action of Cocaine.

8. Give dose of the following:

| | |
|--------------------------|------------------|
| Pulv. Jalapa Co. | Caffein Citrate. |
| Aloes. | Atropine Sulph. |
| Liq. strychnic. | Easton's Syrup. |
| Ext. Belladonna. | Salol. |
| Acid Hydrocyanic dilute. | Cantharidies. |
| Amyl Nitrite. | Anti-toxic. |

SANITARY SCIENCE.

1. Give best means for lessening the unhealthy effects of summer heat.

2. Give best method and material for filtering air and give requirements of flues and air conduits.

3. Give the best diet for girls attending school from 14 to 18 years of age.

4. Describe Pasteurization of milk and sterilize milk. Name which is to be preferred; and why.

5. Give simple tests for organic matter in *drinking water*.

6. Traps lose their water seals from several causes. Name some of the most frequent.

7. Give possible sequelæ of scarlatina, diphtheria, mumps, and how best to avoid.

NAMES OF GENTLEMEN WHO OBTAINED THEIR DEGREES AT RECENT PASS EXAMINATION UNIVERSITY OF MANITOBA.

M. D.—50 per cent.

MANITOBA MEDICAL COLLEGE.

Andrew Boak Alexander.
Andrew Thomas Argue.
William Thomas Barrett.
Olafur Bjornson.
William Wesley Bride.
William Harry Brothers.
William K. Funn.
Arthur James Burridge.
Vestes Ernest Daniel Casselman.
James William Cross.
Alexander Joseph Douglas.
Robert D. Ferguson.
John Albert Graham.
Harvey Elgin Hicks.
James W. McCulloch.
Morton Dykes McEwen.
Robert Sidney McMunn.
Thomas Andrew Morris-on.
William Morris-on.
Murrrough Charles O'Brien.
Cecil Albert Parr.
James Pullar.
Robert George Stevenson.
Joseph Wilkinson.
Thomas Wilson.

C.M.—75 per cent.

Olafur Bjornson.
Alexander Joseph Douglas.
Cecil Albert Parr.
Silver Medal, A. J. Douglas, B. A.
Bronze Medal, H. A. Hicks.