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**QUEEN'S**  
MED. SOC. UNIVERSITY OF KINGSTON  
13 Beaufort Avenue, Kingston, Ont., Can.  
**Medical Quarterly**

PUBLISHED BY THE MEDICAL FACULTY OF QUEEN'S UNIVERSITY.

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APRIL, 1908.

# QUEEN'S MEDICAL QUARTERLY

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Vol. XIII, No. 3.  
Old Series

APRIL, 1908.

Vol. V, No. 3.  
New Series

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Queen's Medical Quarterly is presented to the Medical Profession with the compliments of Queen's Medical Faculty. Contributions will be gladly received from members of the Profession and willingly published.

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BUSINESS MANAGER: A. R. B. WILLIAMSON, M.D.

This number is issued under the supervision of  
DR. F. ETHERINGTON.

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Communications to be addressed to Dr. A. R. B. Williamson, Queen's University, Kingston.

Items of interest or original articles for publication solicited from members of the profession.

Office of Publication—Kingston, Ontario.

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The Faculty of Medicine of Queen's University has reason for some degree of justifiable pride in the advances made during the past year. The general improvement in the standard of work done both in laboratory and hospital, the re-arrangement of the course in chemistry, making it more adapted to the special needs of the medical student, the opening of the commodious and well-furnished laboratories building, the extension of the course to five years, all give cause for congratulation.

While along some lines the possibilities are to a certain degree limited, though by no means unequal to the demand of affording a thorough grounding in the essentials (notwithstanding the recent insinuations of the Montreal Medical Journal, quite uncalled for and conducive to no good, we think), there is no reason why, with the increased facilities and comparatively small number of students Queen's should not hold a conspicuous place for the training given in what are generally and properly regarded as the fundamental medical subjects.

\* \* \*

We publish below a comparison of the requirements for license found in the different provinces of the Dominion. The subject of Dominion Registration or Interprovincial Reciprocity must continue

to engage the attention of the medical profession until some definite decision in the matter has been reached or some advance is made in the present anomalous condition of affairs. There seems to be a revival of interest in the matter and we shall publish in our next issue communications along these lines from representative men in the different provinces. Drs. Roddick of Montreal, Stewart Skinner of St. John, Lafferty of Calgary and Spankie of Wolfe Island, Ont., have already promised contributions.

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### CALMETTE'S OPHTHALMO-REACTION.

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THE ophthalmic-reaction of Prof. Calmette, on which this issue of the *Quarterly* gives an excellent article, we cannot but regard hopefully, as promising a valuable aid in the early diagnosis of tuberculosis. That it may be tested carefully and fully, and its merits and shortcomings ascertained, is the wish of all, but we must not be too sanguine or make unwarranted conclusions. Already there has been sounded a note of warning to the profession against accepting too readily so-called 'reactions' as indubitable proof of tuberculosis.

The very simplicity of the method of applying the test may lead to its indiscriminate use, and very easily be productive of misleading reports, if all users are not thoroughly cognizant of what constitutes a 'reaction.' Clinical methods of undoubted utility have in the past fallen into disrepute for similar reasons.

Roseneau and Anderson, in the *Journal of A. M. A.*, Mar. 21, 1908, draw attention to the sensitizing action of an instillation of tuberculin on the conjunctiva, so that a second instillation in the same eye is followed by a reaction even in the case of a normal individual.

The 'typical' reaction appears in from 3 to 12 hours after instillation—sometimes as late as 24 or even 48 hours. The condition is practically that of 'pink eye,' and begins at the caruncle, spreading out towards the limbus of the cornea. The inferior palpebral conjunctiva is not particularly involved. When in so-called 'mild reactions' it is found markedly injected—more so than the ocular conjunctiva—the condition is a 'traumatic conjunctivitis' and must be distinguished from the typical reaction. Where a slight conjunctival irritation is present in both eyes, an instillation of tuber-

culin, acting as an irritant, may set up a conjunctivitis, which is not specific in character. As a rule, it may be laid down, where there is evidence of an active hyperaemia in both eyes, even though more defined in the eye into which the tuberculin is instilled, no conclusion whatever can be drawn; in fact, the test is contra-indicated in this class of case, as well as the more serious eye affections. Attention has been called by various writers to the occurrence of a reaction in a small percentage of healthy individuals.

The explanation of the ophthlmo-reaction depends on the state known as 'anaphylaxis,' as does the reaction following the second instillation of tuberculin in an eye when the first instillation has proved negative. In this connection one cannot but think of the possibility of workers with tuberculin sensitizing their eyes, or of nurses or surgeons working with tubercular exudates 'contaminating' or sensitizing their conjunctivae, so that though they are healthy, the instillation of tuberculin into their eyes produces a reaction. This is purely speculative, but might account for a small part of the percentage of normal individuals who re-act.

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#### ONTARIO MEDICAL ASSOCIATION.

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THE next meeting of the above Association will be held in Hamilton on May 26th, 27th and 28th, ult., and among the gentlemen from outside of the province who are expected to attend the meeting we note Prof. Stockton, of Buffalo; Dr. Scudder, Boston; Prof. Gibney, New York; Drs. Buswell, University of Buffalo; McRae, Johns Hopkins; Lyle, St. Luke's; Armstrong and Garrow, McGill. Some of the papers announced so far embrace the following: Treatment of acromio-clavicular dislocation; vaccine therapy in medicine and surgery; diphtheria antitoxins; neurasthenia; sprains; obstruction of bowels; arterio-sclerosis—a symposium; puerperal complications; obstetrical technique; abortion; ulcer of stomach; quarantine for smallpox; duodenal ulcer; X-ray diagnosis with slides.

The mornings of the three days will be devoted to the meetings of the different sections, the afternoons to the addresses in medicine and surgery and to subjects of general interest, while the evenings will be reserved for entertainment.

Any regular practitioner in the province in good standing is

eligible for membership on payment of a nominal fee of two dollars. If fifty members are present the round trip will cost a fare and a third, while if three hundred attend the return trip will be free; this reduction in fare will be expedited if, on buying your ticket for Hamilton, you ask the railway agent for a standard certificate and hand this certificate to the Secretary of the Association when you report in Hamilton.

We strongly advise the members of the profession in Eastern Ontario to make an effort to be present at the above meeting as we feel confident that every one attending will not only be improved by the holiday but will richly benefit from the papers read and by taking part in the discussion arising therefrom. In conclusion we would extend congratulations to the energetic President of the Association, Dr. Olmsted, Hamilton, to whom much credit is due for the excellent programme provided.

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#### INTERPROVINCIAL REGISTRATION.

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**M**EMBERS of the medical profession throughout the whole Dominion were greatly disappointed that the efforts of Dr. Roddick to secure a system of Dominion Registration proved unsuccessful. It seems now that nothing will be done by federal legislation to bring about the desired result. There remains, however, the possibility of reciprocity in medical registration between the provinces, and for this there seems to be no great difficulty in the way. The first step has already been taken.

Regulations of the Provincial Medical Board of Nova Scotia, 1907-1908, Chapter III, Section 24, (2), reads as follows: "When and as soon as it appears that there has been established in any other province of Canada, or in the Northwest Territories of Canada, an examining board similar to that constituted by the Medical Act of Nova Scotia, or an institution duly recognized by the legislature of any such province or of the said Northwest Territories, as the sole examining body therein for the purpose of granting certificates of qualification for the practice of medicine, and whereof the curriculum is equivalent to that established by the Act, the holder of a certificate of qualification from any such examining body or institution shall, upon due proof and upon payment of the registration fee, be entitled to registration by the Board, if the same privilege is accorded

by such examining board or institution to those holding certificates of qualification from this Board." This is an offer of reciprocal registration on a perfectly fair basis.

A comparison of the regulations and requirements of the Medical Boards of the various provinces will be of interest in helping to determine whether there is any similarity of standards or any possibility of similarity being attained. This enquiry will have reference to (1) Matriculation, (2) Curriculum, (3) Professional Examinations.

#### MATRICULATION.

The regulations of British Columbia, Alberta and Saskatchewan make no reference to a preliminary examination or standard of education. In all other provinces a matriculation is necessary and the details are very fully given. A certain degree of reciprocity exists in regard to matriculation certificates. Thus Nova Scotia accepts the examinations of New Brunswick and Prince Edward Island; the examinations of the education departments of the provinces; and the examinations of any Licensing Board or Council in His Majesty's Dominions with 50% in each subject. New Brunswick accepts the examinations of Nova Scotia and Prince Edward Island. Prince Edward Island reciprocates with Nova Scotia and New Brunswick and offers to do so with other provinces. Manitoba accepts the examinations of the Ontario Council, of the Quebec Council and of the Ontario Education Department. Ontario and Quebec do not accept other examinations than their own.

The General Medical Council of Great Britain requires that candidates for registration must have passed in all subjects of the preliminary examination at one time. No Canadian Council has such a rule. Ontario and Manitoba require that matriculation be completed before beginning medical studies. Nova Scotia, New Brunswick and Prince Edward Island allow one year for the completion of matriculation under certain conditions. Quebec regulations do not refer to the matter.

As to the subjects of examination :

- (1). English,
- (2). Mathematics,
- (3). History and Geography,
- (4). Latin, are much the same in all the regulations.
- (5). Experimental Science (Physics and Chemistry) is required

in Manitoba, Quebec, New Brunswick and Prince Edward Island. It is not mentioned in the regulations of Nova Scotia.

(6). In Ontario any two of Greek, French, German, Experimental Science.

In Quebec French is compulsory.

In Nova Scotia any one of Greek, French, German.

In New Brunswick two of Greek, French, German.

In Prince Edward Island any two of Greek, French, German.

There is also a difference in the percentages required to pass.

Ontario requires 40% in each and 50% aggregate.

Quebec requires 50% in each.

New Brunswick requires 40% in each and 60% aggregate.

Nova Scotia requires 50% in each.

Prince Edward Island requires 50% in each.

Manitoba requires 40% in each and 50% aggregate.

Fees vary as follows:

Ontario—Examination, \$5. Registration, \$20.

Quebec—Examination, not stated. Registration, \$20.

New Brunswick—Examination, \$5. Registration, not stated.

Nova Scotia—Examination, \$10. Registration, \$10.

Prince Edward Is'd—Examination, \$10. Registration, not stated.

Manitoba—Examination, \$7. Registration \$2.

From all these a common standard might easily be selected that would be acceptable to all concerned. For example:

1. Matriculation to be completed before registration.

2. Examination to be upon the following subjects:

(1). English.

(2). Mathematics.

(3). History and Geography.

(4). Latin.

(5). French.

(6). Experimental Science.

3. Percentage required to be 50% in each subject.

4. Fee to be for examination \$5, for registration \$20.

What alterations in the Ontario regulations would be necessary to bring them to this standard? In place of the student having the option of any two of Greek, French, German, Experimental Science, he would be required to take French and Experimental Science. As a matter of fact the student usually does this anyway. Then he would require to make 50% in each subject in place of 40% in each



and 50% on the whole. There can be no serious objection to raising the standard in this way. In regard to Nova Scotia the necessary changes would be to add Experimental Science to the subjects and to make French compulsory in place of any one of Greek, French, German; to make the rule that matriculation must be completed before registration and to advance the fee. Manitoba would require to add French to the subjects, change the percentage from 40% in each and 50% on the whole to 50% in each, and advance the fee. Uniformity in regard to fees would, however, be unnecessary and with this factor eliminated the changes necessary should be readily agreed upon. There is no real difficulty in the way of uniform matriculation.

#### CURRICULUM.

The differences here are in regard to the time to be spent in medical study. The subjects of study so far as specified are much the same in all.

Ontario requires five years' study, four sessions of eight months each and a fifth year of clinical work for which three options are permitted.

Nova Scotia intimates that five years will be required after July 1st, 1908. Details not given.

Quebec requires four terms of nine months each.

New Brunswick requires four terms of six months each.

Prince Edward Island requires four sessions of eight months each.

Saskatchewan requires four years.

Alberta requires four years of six months each.

British Columbia requires four years.

From this it appears that Ontario, Manitoba and Nova Scotia are agreed in regard to curriculum and that reciprocity might be established between them in this respect without alteration of the present regulations. The other provinces will no doubt soon add the fifth year to their requirements.

#### PROFESSIONAL EXAMINATIONS.

The differences here are mainly in the arrangement of the examinations and in the fees. Subjects are much the same and the usual percentage is 50. A comparison of the papers set will show that there is not much difference in standard. The examinations and fees are as follows:

Ontario—(1). Primary, at the end of the second year. Fee \$30.  
 (2). Intermediate, at the end of the fourth year.  
 (3). Final, at the end of the fifth year.  
 Fee for (2) and (3) is \$50.

Quebec—(1). Primary. Fee \$20.  
 (2). Final. Fee not stated.

New Brunswick—One examination. Fee \$10.

Nova Scotia—New regulations for five year course not yet published.

Prince Edward Island—One examination. Fee \$15.

Manitoba—One examination. Fee \$15. License \$75.

Saskatchewan—One examination. Fee \$50. Registration \$52.

Alberta—One examination. Fee \$50. Registration \$52.

British Columbia—One examination. Fee \$100.

It must be evident to anyone who has gone over these comparisons that there is no serious barrier to beginning interprovincial registration. If Nova Scotia and Ontario were to enter upon this relationship it would not take long to complete the arrangement with the others. If there is any real desire for it on the part of the profession generally it can be brought about, without either provincial or federal legislation, by the medical boards themselves. If it were possible to bring together representatives from the medical boards of the various provinces a conference would determine whether any essential points of difference exist, or prepare the way for a uniform standard and interprovincial courtesies. The Medical Council of Ontario should lead.

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#### A VISIT TO ST. MARY'S HOSPITAL.

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TO the medical student living in London, St. Mary's Hospital appeals as a place well worth visiting, for not only is it the home of the Opsonic Theory, but it is here also that one may see to best advantage what is possible of accomplishment in the field of opsonic practice.

That department of the hospital which has made it famous, known as the "Department for Therapeutic Inoculation," occupies commodious quarters in a large new wing of the building, and is devoted almost exclusively to the study and exercise of opsonic principles. To this end, several large laboratories, with incubating and media rooms adjacent, have been equipped with all the necessary

appliances, facilities are maintained for the examination and treatment of outdoor patients, and space has been allotted to admit of the care of in-patients.

Of the laboratories, one is for the purpose of instruction, another for research work, and a third for the carrying on of routine practice.

In the first-named of these, courses of instruction are given by one of the staff who introduces the student to the mysteries of that laboratory technique devised by Sir Almroth Wright and his colleagues. To an observer at one of the demonstrations nothing is more noticeable than the skill which is demanded of the technician before he can be considered an expert. The dexterity required of the student before he can produce a "film" suitable for examination under the microscope is such, we are told, as to be attained by some, apparently never, and by all not without painstaking and persevering practice. In view of such a consideration it may not be surprising that some, whose experience of the technique is limited, are inclined to underestimate the value of the "phagocytic count."

It is in this laboratory, too, that the student is advised to rid his mind, for the time being, of all ideas concerning the *theory* of opsonins: simply to repeat *over and over* the prescribed experiments until he becomes satisfied as to whether or not certain forces residing in blood serum react in a medium of leucocytes and a bacterial emulsion in such a way as to indicate vast differences in these forces for different sera. As to what these forces are is left to the student to find out elsewhere, provided, indeed, it may be possible at all for anyone to ascertain their real nature. As Wright would put it (those bacteriologists who have studied in his laboratory, and who represent nearly every country in the world, being in agreement with him), "We have been informed of a new and valuable method for application to diagnosis and therapeutics, be the phenomena underlying it understood or not. Those who can see "nothing in it" because our findings may as yet be empirical, let us place in the category of him who would never have diagnosed the plague without the bacillus *cestitis*, or who would not prescribe *soda bicarb.* because he has no chemical formula at his command to explain its action."

In the second-mentioned laboratory one finds several men engaged in research work, and it is at once noticed that their investigations are almost entirely confined to the study of opsonins along clinical lines. So much so is this the case that it is men and women—not laboratory animals—that are the subjects of experimentation.

To this fact may be due the failure of the methods to take hold more readily abroad, especially in Europe, where the absence until quite recently of a similar procedure has led to skepticism. It might here be added that the idea seems to be prevalent that not much is being attempted in connection with bacteria other than a few, such as the tubercle bacillus, the streptococcus, the staphylococcus, and one or two others; but, in fact, the number of those bacterial infections which are being studied by the research workers (and in many cases with most gratifying results) is considerable. For example, much has already been done with the Colon bacillus, bacillus typhosus, bacillus enteritidis, bacillus dysenteriac, bacillus melitensis, bacillus septus, the acne bacillus, the Klebs-Loeffler bacillus, the micrococcus neoformans, and many others.

To a stranger, a most instructive view of a part of the laboratory work is to be had in the room where certain members of the staff, generally three in all, are employed in carrying on the routine work of the department. On "clinic days," when the outdoor patients come to the department for treatment, business is here particularly brisk, capsules of blood being withdrawn from each patient, and later on the various samples of sera gathered from this source "opsonized" to T. B., streptococcus pyogenes, gonococcus, pneumococcus, Colon bacillus or some other bacterium, as the case may be. It is not seldom that more than fifty of these "bloods" are to be dealt with in this way, stained and counted as well, before the work of the evening is complete, and often enough it is an early hour in the morning before the last beast has passed under the eye of the watchful opsonist. In this laboratory much is done other than blood examination, for vaccines are to be prepared, emulsions to be standardized, some diagnoses to be confirmed by ordinary laboratory methods, and a few treatments to be given.

But it is in an observation of what is being accomplished from a clinical standpoint that one is naturally most interested.

Two afternoons a week the out-patients come in for examination and treatment, the Professor himself going thoroughly into a description of each case, explaining his methods in regard to it, and making the inoculations according to his system of opsonic vaccine therapy. This system is rigidly adhered to throughout, for not only must the diagnoses of the cases be confirmed by the 'count' already referred to as being made in the routine laboratory, but by the same indications also is the dosage of vaccines gauged, such other treatment as may seem necessary prescribed, and prognosis given.

Of the cases under observation at the clinics from day to day there is a considerable variety, most prominent numerically, however, being those of tubercular, staphylococci, and streptococci infection. It is not common to see thirty or more patients suffering from some kind of tubercular lesion given inoculations in an afternoon, amongst which are to be found some most refractory types of tubercular processes, such as chronic cystitis and epididymitis, lupus in advanced stages, adenitis and peritonitis of long standing. To one unaccustomed to hearing of much else than the progressive decline of the patient in such forms of disease, the usual tale of gradual improvement from the lips of the patients themselves and the certain indication of such on the part of their "opsonic curves" are striking. And if one were to follow up the history of these same cases for some months he would be still further convinced of the marvellous results obtained, for it is safe to say that the condition of every patient is influenced for good, and that the great majority completely recover from their malady. It is for this reason more than another that many are looking (perhaps in vain) for some outgrowth from the present system which may insure its successful application in phthisis, but as yet nothing has been realized in this regard, apart from a knowledge of the effects of auto-inoculations, with the good and evil resulting from the forces which produce them.

The successful treatment of enlarged cervical glands, of furunculosis, of various forms of acne, of septicaemias, of gonorrhoeal arthritis, etc., is even now an old story in medical literature. It might be worth while, however, to cite a few cases such as one is never weary of hearing discussed and which he can see for himself almost any time during a visit to Wright's' clinic.

To speak of a case which is quite typical of the 3,889 which were treated at St. Mary's inoculation outdoor department last year. Not long since a young woman aged 23, suffering for upwards of ten years from a most virulent form of chronic furunculosis, presented herself for treatment. All previous measures had failed and the present attack, the body being literally a mass of boils, had been of some months' duration. Her index to staphylococcus was .5. Three inoculations, given during a period extending over two weeks, resulted in complete recovery, the various stages of improvement being throughout consistent with the phagocytic count.

Quite a remarkable cure was that of a woman with a number of enlarged cervical glands taking the form of an immense sausage-

shaped tumor at the anterior margin of the sterno-cleido-mastoid, which extended from the occipital into the clavicular region. After four surgical operations (as a matter of fact most of Wright's' patients are those 'in extremis') she was referred to the inoculation department. From a month after the commencement of the vaccine therapy she began to steadily improve, and after several months the tumor was so reduced as to be felt only with difficulty, the patient meanwhile having gained 22 pounds in weight. In this instance, as in all others such on record, the benefit resulting from the use of T.R. and B.E. was attributed to the inferences drawn from an observation of the "index curve."

To mention still another case, that of a patient with septicaemia, the focus of infection being in the thumb of the right hand. So great a foothold had the organisms gained that the operation of amputation at the middle third of the humerus had been advised by the surgeon before it was thought that something might be done by opsonic methods. The initial count showed an index of .6 to streptococcus. An inoculation was made and three days later the limb examined and the index again taken. *The blood* was shown to be much higher, the swelling considerably reduced, and other symptoms, of temperature, pulse, etc., less marked. Following a second injection of vaccine still further improvement resulted, and subsequent to a third—ten days after the first—the patient's condition was practically normal.

There is indeed, so many similar cases to which reference might be made that it is difficult to choose which are most suitable for the purpose of illustration.

As is naturally to be supposed, many impressions are formed during a visit to St. Mary's which are unnecessary to mention here. As to the personality of the head of the inoculation department, it might be said, however, that one is pleased to find in it a blending of many virtues, for in this man, who justly ranks as a contemporary of the greatest bacteriologists of the day, we see an industrious and enthusiastic worker, a modest, kindly and conscientious physician, a scholar of no mean attainments, and a generous and sympathetic friend to the cause of truth.

As to a conclusion based upon a glimpse of that which has brought Sir A. E. Wright and his methods into such prominence, after seeing something of his 'workshop' one is at least more ready to concur in the opinion of a recent critic: "Despite all criticisms Wright's method of determining the opsonic index holds complete

sway in England and under its guidance cases are being treated with complete success which previously were quite outside the realm of practical medicine. Considerable perfecting of other methods and evidence of their greater practical utility are required before they succeed in displacing the opsonic index method."

CAMPBELL LAIDLAW.

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### OPHTHALMO-TUBERCULIN.

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THE annual death rate from tuberculosis, in the United States of America alone, reaches the alarming total of 150,000 lives; this from a preventable and curable disease. The general adoption of the preventative measures advocated by the profession and their intelligent enforcement will gradually do much toward stamping out the disease. As to the curability, much depends upon an early diagnosis. The sooner the lesion is ascertained and treatment inaugurated, the greater will be the patient's hope of an ultimate recovery. Indeed, every day that passes is time of inestimable value and in the undiagnosed or untreated case may prove of suicidal import. To this end then anything which assists us in arriving at a definite conclusion should be gladly welcomed. This and this alone is the position, according to the results of our experiments, which should be accorded the Ophthalmio-Tuberculin test for tuberculosis. It is an invaluable aid in arriving at a conclusive diagnosis and as a confirmatory sign. But a few words in explanation of the test before discussing its merits.

Following the results of the cutaneous tuberculin reaction published by Von Pirquet in May, 1907, the conjunctiva was suggested independently by Calmette and Wolf Eisner as a favorable site for the tuberculin test. The tuberculin used in our tests was prepared at Trudeau, the method being as follows: A quantity of old (concentrated) Koch's tuberculin is poured into two volumes of 95% alcohol, allowed to settle and filtered per paper. The sediment is washed with 70% alcohol until the filtrate runs clear, then pressed between layers of filter paper to remove excess of moisture, scraped into a dish, dried in vacuo over sulphuric acid and broken up in a mortar. Solutions of the powder are made in sterile normal salt solution of 1% by weight, boiled in a water bath, filtered, diluted as required, distributed into small tubes containing about two drops which are then sealed and boiled for ten minutes. The necessity of using fresh and properly prepared tuberculin was amply illus-

trated recently when a whole series of 125 experiments, made in a New York hospital, were thrown out owing to unsatisfactory results, and this action was later fully justified with the use of fresh tuberculin.

As to the method of application: Two solutions are employed in the diagnosis which contain 0.5% (No. 1) and 1% (No. 2) respectively, and which may be used successively in each eye if time permits. In this way unnecessarily severe reactions may be avoided. Some investigators have used even weaker solutions with promising results. The tubes are broken at a file mark and a calibrated eye dropper inserted and filled to the mark (.025cc). The eye dropper contains a *trottle* tube to render the control of the drop easier. The dropper should be cleansed with alcohol and sterile saline solution before use and care observed to avoid taking up spicules of glass. It should also be warmed. The eyelid should be held down until the drop is distributed about the sac without overflowing on the cheek. The same eye should not be used for a second test as it appears to become sensitized to some degree by one test. The tested eye should be kept from external irritation by rubbing, wind, dust, and smoke. Contra-indications to the use of tuberculin in this manner exist in any disease of the eye or lids,—conjunctivitis, blepharitis, trachoma, keratitis, and iritis. Eye strain from errors of refraction need not prevent the use of the test so far as has been observed.

The first symptoms of reaction appear in from 3 to 12 hours in most cases but may be delayed 24 or even 48 hours and continue for a week. The latter is of very rare occurrence, however. In the whole series of cases upon which this article is based, not a single instance is recorded in which bad results to the eye followed in the slightest measure. The presence of a reaction is indicated by a scratchy feeling, secretion and redness of the inner canthus, caruncle, and lower lid which may increase and include the entire conjunctiva, with œdema of lids.

For a uniform manner of recording reactions, we are indebted to Dr. Edwin R. Baldwin, of Saranac Lake, whose schema was used. It is as follows:

- Negative*—No difference in color when lower eyelids are pulled down and compared.
- Doubtful*—Slight difference with redness of caruncle.
- x        Distinct palpebral redness with secretion.
- xx       Ocular and palpebral redness with secretion well marked.



xxx Deep injection of entire conjunctiva with œdema of lids, photophobia and secretion.

Below are a few illustrative cases chosen at random :

No.	Family History.	Sex.	Age.	Stage of Disease.	Eye. Amount.	Hours—Reaction.						
						6	18	24	48	60		
158B.	Father and Sister ill.....	F	3½	Susp. Pulm. tuberc.....	R .025cc1%	D	N	N	N	N	N	N
186B	Mother died of tuberc.....	F.	11½	Susp. Pulm. tuberc.....	R .025cc1%	x	xx	xxx	xxx	xxx	xxx	xxx
98B	Unobtainable ..	F	8	Arrested Pulm. tuberc. ....	R do.	x	D	D	D	D	D	D
75B	Father and Mother died tbc.	F	14½	Infiltrate left upper .....	R do.	D	N	N	N	N	N	N
296B	Mother died tbc. ....	F	26	Infiltration right base.....	R do.	x	xx	xxx	xxx	xxx	xxx	xxx
180B	Negative ..	F	13	Infiltration left upper.....	R do.	N	N	N	N	N	N	N
294B	Brothers & Uncle died tbc.	F	26	Susp. Pulm. Tbc. Mitral Stenosis ..	R do.	D	x	x	x	x	x	x
125	Unobtainable ..	F	11	Infiltration right upper .....	R do.	xx	xx	xx	xx	xx	xx	xx
111A	Unobtainable ..	M	7½	Infiltration right upper, commencing left upper (Pott's)	L do.	D	D	x	x	x	x	x
287B	Unobtainable ..	F	13	Infil. both uppers, Nephritis	R do.	D	N	N	N	N	N	N
313B	Negative ..	F	19	Infil. right entire; Infil. left entire, with antrum .....	R do.	x	xx	xxx	xxx	xxx	xxx	xxx
276B	Unobtainable ..	F	14	Infil. L. entire, R. upper.....	R do.	x	x	x	x	x	x	x
46A	Father & Aunt have tbc...	M	10½	Morbus Coxæ, double .....	R do.	N	N	N	N	N	N	N
1905	Negative ..	M	6	Morbus Coxæ, dextra .....	R do.	x	x	xx	xx	xx	xx	xx
374A	Unobtainable ..	M	7	Morbus Coxæ, Sinistra .....	R do.	xx	xx	xx	xx	xx	xx	xx
1905x	Father died Pulm. Tb.....	M	6	Pott's Spine .....	R do.	xx	xx	xx	xx	xx	xx	xx

In all we have investigated 128 cases to date. It has been claimed by some authorities that in far advanced cases no reaction should be secured—a conclusion scarcely in keeping with the evidence forming the basis of this article. Another contention held by many is that the eyes of persons not infected but who are working among tubercular patients will react to the tuberculin. Two such cases were tried here; the pulmonary condition in each individual being entirely normal. One gave a strong reaction, the other negative.

Our investigation of the remaining 126 cases gave varied reactions, summarized as follows, with special cognizance of the state of advancement of the lesions:

PULMONARY TUBERCULOSIS.

*Suspicious cases, 23 in number.*

Reactions—Positive 2, 8.6%. Doubtful 0. Negative 21, 91.3%.

*Incipient cases, 17 in number.*

Reactions—Positive 8, 47%. Doubtful 6, 35.2%. Negative 3, 17.6%.

*Moderately advanced cases, 18 in number.*

Reactions—Positive 10, 55.5%. Doubtful 5, 27.7%. Negative 3, 16.6%.

*Far advanced cases, 36 in number.*

Reactions—Positive 20, 55.5%. Doubtful 6, 16.6%. Negative 10, 27.7%.

*Cases of Pott's Disease (No Pulmonary TB), 23 in number.*

Reactions—Positive 13, 57%. Doubtful 4, 17%. Negative 6, 26%.

*Tubercular Hip (Single), 5 in number.*

Reactions—Positive 1, 20%. Doubtful 2, 40%. Negative 2, 40%.

*Tubercular Hip (Single), 1.*

Reaction—Positive.

*Tubercular Abscess of Thigh, 1.*

Reaction—Positive.

*Tubercular Elbow, 1.*

Reaction—Doubtful.

*Tubercular Adenitis (Suspicious Pulmonary), 1 case.*

Reaction—Doubtful.

The statistics compiled from the orthopedic wards we are of the

opinion are the first to be published, no records having come under our notice of investigation with ophthalmo-tuberculin in this particular class of cases.

Finally, then, what is the value of the ophthalmo-tuberculin reaction? Taken alone it is a symptom upon which a definite diagnosis should not be based, notwithstanding the fact that scattered cases are being reported in which patients showing none of the usual signs of tuberculosis have reacted to the test and have subsequently developed typical tubercular disease. With our present knowledge a reaction cannot be regarded as an absolute diagnostic symptom but rather as confirmatory evidence of great value. Observations of the patient's pulse, temperature, weight and other clinical symptoms may still leave the physician in doubt. It is then that ophthalmo-tuberculin becomes a valuable factor in diagnosis.

RICHARD M. MILLS.

GORDON L. COCKBURN.

Seton Hospital, N.Y., January, 1908.

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## FUMIGATION.

*Read at the Meeting of the Provincial Hospital Association, Toronto,  
April, 1908.*

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1ST VICE-PRESIDENT OF THE ONTARIO HOSPITAL ASSOCIATION.

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**F**UMIGATION has for its object the destruction of the infectious material remaining in the sick room after it has been vacated by a patient suffering from any communicable disease. Routine disinfection is usually carried out in cases of diphtheria, scarlet fever, smallpox and tuberculosis. Many other diseases are on the border line and in hospital usage pus infections are generally included when cleaning a room for occupancy by another patient. The infectious matter is cast off by different parts of the organism according to the nature of the disease. It may be in the form of desquamated epithelium or crusts, or coughed-up particles of membrane. In fact, the discharges from the naso-pharynx in all four of the above mentioned diseases are infectious and, being accompanied

by masses of sputum of various sizes, the organisms remain surrounded by more or less protective material necessitating, for fumigation, an agent with some penetrating power. The organisms are usually found most abundantly in close proximity to the bed and are attached to the bedding, mattress, rugs, draperies or furniture, or deposited as dust in cracks, crevices, and inaccessible corners.

Owing to the fact that washing with disinfecting solutions is a difficult and laborious task, and as we assume that any crack in floor, wall or furniture may harbour the organism, this method cannot be relied upon for total extermination of the germ. This being the view-point of scientists generally, many experiments have been undertaken with the object of securing satisfactory gaseous fumigation.

In this, as in all other lines of medicinal treatment, many agents have been brought forward, have been thoroughly tried and have proven failures. The list is a long one, all we need mention here is sulphur dioxide and formaldehyde. Both these gases have been proven inert in a dry atmosphere. Sulphur fumes are the most penetrating of any agent we have for fumigating purposes and hold first place in the extermination of macroscopic organisms. In the case of disease germs it has been found that in order to kill these with sulphur the atmosphere must be saturated with moisture and, owing to the destructive action of the compound thus produced on metals and fabrics, it has been superseded as a disinfecting agent for the sick room.

In recent years formaldehyde has been universally adopted for fumigating purposes. A large variety of devices has been brought forward in the practical application of this agent. The first mode of procedure we may mention is the sheet method, in which the liquid is sprayed or sprinkled on one or more sheets hung in a room. Another method is boiling the liquid by direct application of heat. Nearly all drug houses have their special apparatus for passing formaldehyde gas into the sealed room through the keyhole. A modification of this last method is the liberation of the gas by heat from paraform candles, the dry gas being liberated. Numerous modifications of the above methods are to be found all leading to the same result. And, lastly, we have the gas volatilized by thermo-chemical means. Two main procedures are to be found here. The first is pouring the formaldehyde on unslaked lime, the lime taking up the water, thus rapidly liberating the gas. The second is pouring the formaldehyde on potassium permanganate in small crystal or

powder form. The result of this mixture is a very complex chemical reaction between the permanganate and part of the formaldehyde, and the heat thus generated causes rapid vaporization of the balance of the formaldehyde and all the water which holds it in solution.

We previously mentioned the fact that the gas is inert in a dry atmosphere. When we consider that in this last procedure over sixty per cent. of the quantity of solution used is water and that this is vaporized in the process, we can readily see the advantage this method has over the others. Added to this advantage we have a very rapid evolution of the gas and a method which requires no special apparatus, in fact a tin pail wrapped in asbestos is all that is needed. Theoretically it appealed to health boards the world over as the most rational method if it would but prove satisfactory. As a consequence a great deal of experimenting has been done along this line and the method has apparently stood the test if one can judge by the published results of the experiments.

The great question to decide has been that of the proportion of the ingredients. The literature on the subject gives a large range of figures as to the correct amount of formaldehyde to use, varying from one ounce to seventy-three ounces per every thousand cubic feet. The amounts recommended by the Illinois State Board of Health are as follows:

When temperature of room is 60 degrees F. or over

Pot. Permang.  $6\frac{3}{4}$  ounces

Formaldehyde 16 ounces

per thousand cubic feet.

When temperature of room is below 60 degrees F.

Pot. Permang. 10 ounces

Formaldehyde 24 ounces

per thousand cubic feet.

These figures have been widely circulated in medical literature and are the ones that we chose as a working basis at the Kingston General Hospital. In order to prove to our own satisfaction how much reliance we could place in this fumigation, with the usual mode of procedure we have followed and the drugs with which we are supplied, we undertook a few experiments.

Choosing a room of twenty-one hundred cubic feet with one door and one window, we sealed it up according to our usual cus-

tom with non-absorbent cotton packed around window and transom (the door was similarly treated when finally leaving room). We pasted paper over the ventilating grates, in fact took exceptional pains to see that the sealing process was as thorough as the method would admit of.

From Queen's Pathological Laboratory we brought over smears from cultures of *B. Diphtheriae*, *B. Anthracis* and *B. Staphylococcus Pyogenes Aureus* prepared in the following manner. Half a dozen glass tubes, similar to the specimen shown, open at both ends, with absorbent plugs inserted and having been sterilized at three hundred degrees F. dry heat for several hours, were secured. Small balls of sterile absorbent cotton were made; a straight platinum needle was passed through the culture and the small quantity which adhered to the needle was wiped off on the outside of the ball of cotton which was immediately placed in the tube. Two tubes of each growth were taken to the sealed room. The end plugs of absorbent were removed giving free ventilation through the tube for any gas which might enter, the roll of cotton being quite loosely packed and not fitting closely. These tubes, one of each, were put on a chair in close proximity to the vessels containing the reagents, and the other three on a dresser near the window.

Six and three-quarter ounces of potassium permanganate and sixteen ounces of formaldehyde per thousand cubic feet were used, the room being left sealed for twenty-four hours. Upon opening the room the end plugs were reinserted and the tubes taken to the laboratory and the pledget dropped into a tube of sterile broth. All six tubes showed active growth after forty-eight hours incubation, the growth in each case proving to be a pure culture of the organism used.

Fearing that the sealing up process had not been thoroughly carried out, we had it gone over again and repeated the experiment. The results were exactly the same as the first.

Upon the suggestion of Professor W. T. Connell, Queen's University, at the next trial we removed the small cotton balls from the tubes and laid them out, three on the dresser and three on the chair as before. This time we increased the amount of formaldehyde to twenty ounces per thousand feet. When the room was opened we brought the broth tubes down and using all laboratory precautions, dropped the cotton into the tubes. Forty-eight hours' incubation again revealed growth in all cases.

Following this we used twelve ounces permanganate and thirty formaldehyde per thousand feet, with the same treatment of the cultures and obtained the same results, six tubes showing growth. We next boiled a teakettle in the room for six hours before sealing it up, using the same amount of material. This time a somewhat better result was obtained, four tubes showing no growth, but one specimen from chair and one from dresser did develop quite rapidly.

Finally, we sealed the room up, using twenty-seven ounces permanganate and sixty-four of formaldehyde per thousand feet. Upon opening it we found the pledgets of cotton covered with paraform flakes owing to the rapid evolution and subsequent condensation of the gas. As a result the broth of the broth tubes by dissolving this was converted into a germicidal fluid and no growth could be expected. Whether or not even with this amount of material the germs would have been killed if placed in some dark corner and kept from the direct action of the paraform, we cannot say. This is simply a preliminary report and we intend to make further experiments along similar lines.

We have learned enough to conclude that, to say the least, we have been using too small amounts of the material. And when you consider that almost double the amount recommended in a moisture-saturated atmosphere did not prove effectual, one is led to wonder whether the method can be relied upon under ordinary circumstances. Great stress has been laid upon the temperature and atmospheric humidity. In the experiments here mentioned the temperature ranged from 63 to 72 degrees F., never below the one or above the other. The humidity recorded on the days of experiments showed a variation of from 52% to 95% saturation. If in a locality with the high average humidity of Kingston and with the use of precautions that are a fair average, at least, we cannot get better results than this, it looks very much as if gaseous fumigation, as we have been carrying it out, is a useless waste of good material.

We think we are quite safe in asserting that the kind of test is a fair one. The amount of material to be dealt with was insignificant, in fact should not be nearly as difficult to act upon as particles of scales, membrane or sputum. There was practically nothing for the gas to penetrate, the germs being right on the surface and in a state of moisture which would rather be to their disadvantage when compared with the conditions of the usual infective material.

To ascertain that the formaldehyde was proper strength we wrote the manufacturers and have their certificate that it was forty per cent. strong when it left their hands. A specimen analysed by Dr. Waddell in the chemical laboratory of the School of Mining showed a strength of thirty-eight per cent.

In conclusion, I would urge that we do not place too much faith in gaseous disinfection. We should use all other means of disinfection, such as taking the fixtures out of the room and exposing them to sunlight and fresh air, then thoroughly wash the walls, floors and woodwork. Keep everything exposed as long as possible to the direct action of fresh air and sunlight, or in the absence of the latter, to diffuse daylight. These are the agencies that have thus far tided us over in spite of faulty fumigation and we should certainly give the credit where it is due.

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#### A CASE OF A FRACTURE OF THE NECK OF THE FEMUR.

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**P**ERHAPS no bone lesion in the body has had more attention given it than fracture of the femoral neck, and in scarcely any other fracture must our prognosis be more guarded. In fact, so unfavorable is the prognosis given in cases of this kind, and so unsatisfactory have been the results in most cases, that it might be of interest to notice the prognoses given by leading writers in surgery and to consider some results reported by leading practitioners.

Da Costa, in reference to cases of this fracture, says: "Permanent shortening to some degree is inevitable and the function of the joint is sure to be more or less impaired." \*

Wharton & Curtis write as follows: "There are, however, occasionally seen cases in which patients recover with fairly useful limbs in spite of considerable shortening." †

Gross almost denies the possibility of bony union.

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\* Da Costa, *Modern Surgery*.

† Wharton & Curtis, *Practice of Surgery*.



Von Bergmann states that the earning efficiency of the patient is not restored, however, when union is complete. \*

The literature contains many reports of results in these cases none of which are very encouraging.

Senn experimentally got bony union only by open operation, and was able to collect only fifty-four cases of bony union from the literature. †

Ruth on one occasion presented at a meeting of the American Medical Association a femur removed from a patient who had been treated some years before. In this case bony union was complete and Ruth's measurements showed very little shortening. Ruth's apparatus for treatment was somewhat complicated. A full description of it was given in the Journal of the American Medical Association.

Ochsner reported sixteen cases treated by Ruth's apparatus. These patients ranged in age between thirty and eighty years. In all of these cases he obtained bony union with an average shortening of about one inch. This was practically the same as obtained by Ruth. ‡ I have been unable to find any other report as favorable as this.

The methods of treatment ordinarily used are described at length in various works on surgery. They consist mainly of longitudinal extension with certain modifications to secure internal rotation of the limb and elevation of the Great Trochanter.

In an issue of the Journal of the American Medical Association, a surgeon after writing at considerable length about the almost universally bad results in lesions of this kind describes an apparatus for their correction which may be a success, but which fills the room with an incomprehensible network of elaborate machinery. Now, I believe, in this as in all other fractures the simplest mechanism which will secure a desired result is the best.

I shall report a case from my own private practice and describe the method of treatment used. The results in this case and in one other were so satisfactory that perhaps a description of the device used may be of service to some one. Its extreme simplicity must recommend it, and if results such as were obtained by its use in these cases can be even occasionally attained it is surely worth a trial.

I have had under my care only two cases of this fracture, both

\* Von Bergmann, System of Surgery.

† Senn, Annals of Surgery, 1904.

‡ Ochsner, Annals of Surgery, 1904.

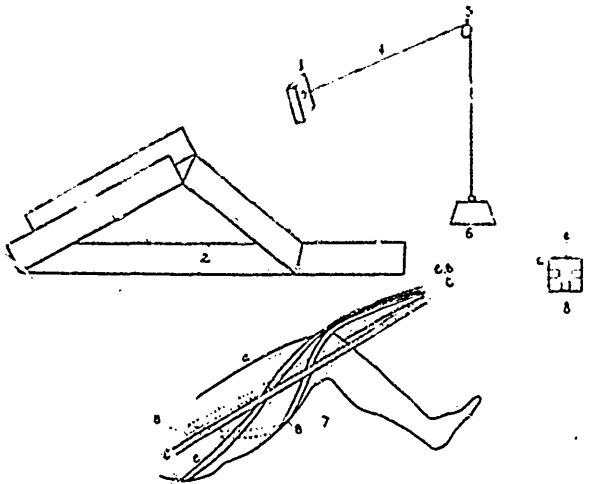
of which were treated in the same manner. One I shall report in detail, merely noting the result in the second case.

On January 19th, 1906, A. M., a man of 39 years, of medium size, of good family and personal history, fell with some violence on a hard floor and was unable to rise. I found him lying as he had fallen and complaining of severe pain in the region of the right hip. The leg was lying helpless and everted. He was removed to his room and anaesthetized, when an examination revealed the nature of the lesion. Regarding the diagnosis it is sufficient to say that the classical symptoms such as are amply described in all text-books of surgery were present. The fracture was unimpacted and the shortening was one and one-quarter inches. The patient was thin and on palpation the outer end of the upper fragment appeared to be slightly tilted upward when the patient was recumbent. Another physician was present, and, bringing the fragments into as good apposition as possible, we applied Buck's extension and used sand bags to support the limb and secure internal rotation. During the next three days the patient complained of intense pain in the hip and also of the inconvenience of the extension apparatus. Pain was present in the lower leg and heel in spite of all contrivances to avoid it. His condition was so very unsatisfactory that some change had to be made. Having in mind the position of the head of the bone at the examination, and believing that the action of the External Rotators could be fully as easily overcome with the thigh flexed as extended, and thinking the Gluteals could be successfully resisted by the increased weight which I thought could be borne if the extension were applied only to the thigh rather than to the leg, I used the mechanism about to be described.

A contrivance resembling the inclined plane splint of Bell, but with sides on the proximal part of it, was made and fixed at an angle of about forty-five degrees, as shown in above cut. It was now padded with cotton. The patient was again anaesthetized and the thigh flexed to an angle of about forty-five degrees. The leg was then flexed on the thigh at the same angle. In this position it was possible to get good apposition of the fragments, when the limb was rotated inward and the Great Trochanter elevated.

The limb was placed in the box, the thigh resting in the trough, the angle under the knee and the leg resting on the distal inclined plane of the apparatus. An adhesive strap reaching from the Great Trochanter to about ten inches beyond the knee was

applied to the external side of the thigh. Strap (c) in cut. Another strap (d) was applied parallel to strap (c) on the inner side of the thigh. These straps were then passed around a block of wood (Fig. 8) about four inches in width, which was held in line with the thigh by an assistant. Another strap (a) was passed along the anterior surface of the thigh, reaching out to, and passing under, the block, to the distal surface of which it was fastened at right angles



1. Trough in which leg rests.
2. Board to which trough is attached.
3. Block to receive adhesive straps.
4. Rope passing through block and pulley.
5. Pulley attached to post at foot of bed.
6. Weight of 15 or 20 pounds.
7. Diagram showing position of adhesive straps on leg. Dotted lines represent straps on inside of leg.
8. Block showing order of attaching straps to block.

to the attachment of the lateral straps (c) and (d). Three straps now encircled the thigh to hold these straps in position. (These latter straps do not appear in cut). The two lateral straps secured extension while the anterior strap was meant to serve as an anchor for the appliance used to maintain the required internal rotation.

Through a hole in the centre of the block of wood a rope was now inserted and made fast, as shown in cut. This rope was passed over a pulley fastened on top of a post at the foot of the bed at such a height as to keep the rope in line with the thigh. To the distal end of the rope was attached a weight of about twenty pounds. An adhesive strap (e) was now applied, beginning at a point just one

inch on the proximal side of the Great Trochanter and slightly below it. The strap passed along the external surface of the thigh leaving the skin at the upper part of the knee and given a half turn was attached to the lower side of the anchor strap between the knee and the block. While this appeared to be almost enough to maintain sufficient internal rotation and elevation, it was reinforced by another strap (*b*). This strap starting on the inner side of the thigh close up to the groin passed under the limb along external surface of the thigh, turned up over the knee and was attached to the under side of the anchor, close to the attachment of strap (*e*). The dressing was complete. From this time on the patient made no complaint of pain and all trouble with the leg and heel was at an end.

The additional weight required to overcome the action of the Gluteals in this position was much more easily borne than was the lesser one when applied to Buck's straight extension.

The fragments remained in excellent apposition and the limb could be examined readily without any moving or alteration of the dressings. I took practically all care of this patient personally, as efficient nursing could not at that time be obtained. In this way I was able to watch more closely than usual the progress of the case.

The perfect freedom of the leg, which could be regularly bathed and attended, rendered it free from the troubles always attendant upon any prolonged occlusive dressing of this part. The patient made uninterrupted progress, remaining in bed scarcely five weeks. In six weeks he was moving about on crutches and allowing passive movement of the hip joint. In a little more than two months he walked without a cane, and in less than four months he was doing his ordinary farm work without inconvenience. The man has absolutely no deformity—no shortening whatever—and has full functional use of the limb. In fact, in speaking to me he said: "Except by memory I have no means of knowing which leg was broken."

The second patient, Mrs. N., age fifty-four years, was treated in the same way except that the mechanism described was applied in her case at the first dressing. She made in a little over five months a full recovery, no deformity—no shortening—and full functional use of the limb. In this case I used this dressing believing the upper fragment to be in the same position as in case 1, though on account of excessive fat I could not verify this by examination. The results, however, showed that the fragments must have been held in good apposition, by the dressing.

I believe that in these fractures it is a mistake to attempt to

maintain a good juxtaposition of the fragments with the limb extended in line with the body. Flexion of the thigh I believe to be a necessity. The Capsule of the Joint is torn and we have remaining to act on the head and neck of the bone only the Ligamentum Teres and the Obturator Externus muscle. If in this condition the Ligamentum Teres can act at all it must from its point of attachment to the head of the bone and the Acetabulum tend to tilt upward the outer end of this fragment. The rigid Transverse Ligament tends to hold it in this position also. But most important of all is the fact that when the shaft of the femur is pulled upwards, so that the Great Trochanter is above Nelaton's line, the Obturator Externus is pressed against the back of the neck and head of the bone and thus by purely mechanical action presses it forward; or upward when the patient is recumbent. In a case of fracture of this sort there is nothing to resist this tendency as the position of the Femur and Great Trochanter with the relaxation of the fascia that accompanies this condition leaves an almost open space about the outer end of the upper fragment. So the head and neck of the bone are fully supported in this position by the Transverse Ligament and the body of the Obturator Externus. Therefore to adapt the lower fragment to this aspect of the upper, and to maintain it there, we must flex the thigh to an angle of about forty-five degrees and fix it there. At least this was my line of reasoning, and while I have had only two opportunities to put it into practice, the results in both cases have been so satisfactory that I believe the method of treatment is worthy of consideration.

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## MEDICAL SELECTION FOR LIFE INSURANCE.

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PERSONAL contact with several hundred medical examiners, coupled with a somewhat extended experience in reviewing medical reports, leads the writer to the conclusion that amongst the majority of physicians there is a lack of thorough knowledge and intelligent appreciation of the requirements of the medical department of a life insurance company.

The time and space allotted excludes a complete discussion of the subject; however, an effort will be made to furnish some practical assistance to those interested.

As a preliminary, a brief survey of the early history and development of life insurance may lend interest and at the same time show the necessity for careful medical selection.

Antedating the Christian era there existed, in both Greece and Rome, mutual or fraternal societies that cared for their sick and infirm members and, in fact, this has ever been the most admirable characteristic of the majority of similar organizations. Some of the ancient guilds in addition to requiring their candidates to be holy, pious and good, are said to have exacted an examination.

The turbulent Anglo-Saxon organized various societies for mutual protection before and after the Norman conquest, and certain of these guilds provided for sick benefits, indemnity for fire losses and relief from almost every calamity. In some instances provision was made for burial of members, and, murder being a common incident, the "Gild of the Thanes of Cambridge" undertook to provide a money indemnity for the killing of one member by another, as the following would indicate: "If he (the homicide) be poor, the society shall pay, if deceased was worth 1,200 shillings, each member half a mark; but if a hind, two orae, and if a Welshman only one."

The philanthropy and beneficence that characterized life insurance in the days of early friendly societies nearly disappeared, being buried by the dishonesty and corruption of succeeding centuries. Those insuring in those dark days saw nothing in the question beyond a wager. Pilgrims might be insured against slavery, or death; ocean travellers might be insured of a ransom in event of being captured by enemies; men might buy annuities for extravagant sums, but all

was pure gamble and the premiums exacted were amply sufficient to give the insurers the long end of the wager. Equitable life insurance was consequently an impossibility under such conditions. The unsettled conditions of society during the period prior to the eighteenth century when every man almost literally held his life in his hand, having only his own personal strength or skill as a guarantee of longevity; when kings were crowned and deposed in a day and dynasties crumbled like houses of cards; when disease swept unchecked across continents and over seas; and from love of gold, fanaticism or through mere spirit of adventure, men took perilous journeys by sea and land, insuring of life could scarcely be anything else than gambling pure and simple. Then all sanitary laws were disregarded; people lived in houses without chimneys; floors were covered with rushes, seldom renewed, and rooms in which they slept were poorly ventilated, improperly heated and imperfectly lighted. Personal cleanliness was an eccentricity, drunkenness a virtue, brawling the test of manliness, and disease was "sent by Almighty God to chasten the sinful spirit of the people"—war devastated the land adding to the poverty of the poor and increasing the wealth of the rich. Thousands, yes, tens of thousands, died annually because of different plagues, and it is no wonder life was considered cheap. Such conditions as these confronted all companies organized during the eighteenth century.

The earliest project of associated life insurance was made in 1699 and was named "The Society for assurance of Widows and Orphans." The originators of this scheme evidently had a very clear idea, not only of its necessities from a financial view-point, but also of its obligations from a moral standpoint, because it contained so many of the elements of modern insurance. The lives were to consist of persons in good health, not over a specified age, and of social position which would enable them to be identified. What were supposed to be extra hazardous risks were excluded and if death took place within six months there should be no claim. The last regulation took the place of the medical examination which was introduced at a later date.

In the crude life assurance project of 1699 a new mode of aggregating wealth had been propounded. The notion having taken hold of the public mind was skilfully but unscrupulously worked by projectors of new schemes. There had probably been fifty life insurance schemes in operation between 1699 and 1720; much of the profits had been invested in the South Sea Company, and with the

bursting of the South Sea Bubble the loss to the public can only be conjectured.

A period which may properly be called one of scientific exactitude began with 1721, at which time there was only one life assurance office in existence in Great Britain, "The Amicable," founded in 1706. This company, as far as is known, was the only Life Assurance Company in the world, and while very defective in its mode of working, yet it stood alone.

Beginning with this period many investigations were made into the subject of life contingencies and many works of much merit were published. There seems to be no evidence of a systematic attempt to apply the results of the search for the law of mortality to the establishment of life insurance as a stable and legitimate business. That the premiums charged, even after many years of experience, by "The Society for Equitable Assurance on Lives and Survivorships" (founded in 1762) were excessive, was clearly shown by a comparison of the actual mortality of this Society, with the theory on which these premiums were based. In the twelve years preceding 1829 the expected deaths by the "Northampton Table" were 2,248, while the actual claims numbered but 1,489. When the records of this Company drew the attention of the public to the profits accruing from the transaction of this business at the then current rates, numerous similar corporations came into being, most of them for the benefit of the stockholders. Few of these companies long survived, and it was not until near the middle of the 19th century that the business assumed a magnitude which commenced to make it a positive force in the affairs of the world.

The decision to construct a mortality table from the data to be furnished by the various life offices was reached in 1838. Seventeen companies contributed their experience, comprising 83,905 assurances. The calculations were made under the direction of the most skilled mathematicians of the day and the result was a table adjusted and graduated in so masterly a manner that it has, up to the present time, been used more generally than any other. It was published in 1843 and called "The Actuaries or Combined experience table of Mortality."

It might not be amiss at this point to explain what is meant by the term "*Expectation of Life*" or the equivalent phrase, "*Mean after lifetime*." If one knows how many of a large group (say 100,000) of healthy men of a definite age will die during each year, it is easy to ascertain what will be the probable duration of life at a



given age. It will always be represented by the difference between the age taken and the age at which the table shows a total loss of one-half the number surviving at the former age, e.g.: If at age thirty, 86,000 were surviving and it were desired to know how long an applicant at that age would probably live, one need only seek the age at which 43,000 only were living and find this to be sixty-seven. The difference between thirty and sixty-seven, 37 years, would represent the probable duration of life.

Selection by medical examiners has from the outset been practised by American companies, but only the physical condition was considered, family history and past disease receiving little or no attention. During the early history of life insurance in this country the physical examination was far from being thorough, the fact that a man wanted insurance seemed to be the only requirement and he was insured. For many years an analysis of the urine was not required, and even now a few companies do not require it, excepting where the sum applied for reaches or exceeds \$3,000, or in event of applicants being above a certain age. It is believed that at this time all companies demand also a microscopic examination of the urine when amount applied for is \$25,000 or more.

Much care is exercised in the selection of competent medical examiners, and the fact of a physician's receiving a commission from a first-class company is *prima facie* evidence that he is considered qualified to protect its interests.

Even now one may hear it said that selection by physicians is unnecessary, and that one might go into the streets of any city and insure the passers-by with safety, and who has not met an insurance agent who believes that he can "size up" an applicant as well as a physician? There is something in the first contention owing to the fact that the risks chosen would be active busy men residing in a respectable part of the city—which of itself would argue a very good average of health. However, ultimately, the selection would be against the company, as those in impaired health would eagerly seek insurance and the healthy defer taking it. The second contention is utterly erroneous making comment unnecessary.

There are three interested parties to an insurance transaction: 1, the *applicant*, who desires protection; 2, the *agent*, who wants to get his commission for securing the application; 3, the *insurance company*, which is anxious to get the premium income which the insured is required to pay. This is mentioned to impress on the examiner that he is the only disinterested party and he should put forth his

best efforts to safeguard the company by whom he is employed and gets his fee for the examination whether the applicant is accepted or declined.

Agents of a life insurance company are permitted to solicit risks at standard rates only in localities regarded as affording a fair chance for the inhabitants to live out a normal life expectancy. In other places, either it prohibits the insurance of risks or it charges an extra premium to cover the increased mortality. The extra risk or residence hazard may be due to several factors:

1. The uncivilized condition of the country may cause much lawlessness and crime, *e.g.*, Manchuria, parts of India, Central Africa, etc.

2. The nature of the country may be so unsanitary and the inhabitants so lacking in hygienic knowledge that they are subject to endemics and epidemics of a severe type, *e.g.*, tropical countries.

3. The inclemency of the climate may be so severe that the mortality is materially increased, *e.g.*, tropical countries, arctic and sub-arctic regions.

Many companies require an applicant to state whether he is acclimated—this applies particularly to regions in which yellow fever and malaria are found; an applicant is required to state how long he has lived in his present residence. To explain: A man may be residing in a high, dry climate because when living in a lower level it may have been suspected he had tuberculosis of the lungs or a tubercular tendency, or the demands of his business may necessitate his removal to an unhealthy locality and he would be apt to take out life insurance to provide against possible mishap.

Some occupations render an applicant very unfit for life insurance, or at least make it necessary to place him in a class below the average risk. This occupation hazard can be subdivided under the following heads:

1. Risk from increased liability to accident, as structural iron workers, railroad section men, locomotive engineers and firemen, electricians, etc., etc.

2. Many occupations are hazardous because of the diseases they may occasion, as stone-cutters, file-makers, brass and copper workers, plumbers, painters, etc., etc.

3. Abuse of alcoholics—all people who handle alcoholics, as bartenders, brewery wagon drivers, and other brewery employees, because they are invariably intemperate in the use of liquors. All companies exclude this class at regular rates and some absolutely.

4. Increased risk from exposure, as fishermen, laborers, teamsters, etc., but alone it can not be a very important factor; however, if to the exposure is added any excess of alcoholics a combination results which makes for diminished longevity at a rapid rate.

In many occupations the mortality is constantly improving. Many factors enter this, as increased intelligence of workmen, general improvement in sanitation, introduction of labor-saving machinery, air-brakes on railroad trains, etc., etc.

This is not the place to discuss the question of prohibition, nevertheless we firmly believe that the total abstainer should be insured for a lower premium rate than the so-called "moderate" drinker. We do not know of any company making distinction between these two classes of risks. No company will knowingly insure a man of intemperate habits, and in accepting an applicant of previous intemperate habits positive proof must be furnished that he has not indulged to excess for a period of at least three years, and if he has taken a "liquor cure" a period of five years must have elapsed.

That the intemperate use of alcohol has an influence upon mortality is well shown by the following table:

<i>Age.</i>	<i>General.</i>	<i>Intemperate.</i>
20 .....	44.2 .....	15.5
30 .....	36.5 .....	13.8
40 .....	28.8 .....	11.6
50 .....	21.2 .....	10.8
60 .....	14.3 .....	8.9

(Vital Statistics by F. G. P. Nieson, p. 217—1852).

It will be seen that at age 20 the expectation of the intemperate is one-third ( $\frac{1}{3}$ ) that of the general; as the age advances this disparity grows less until at age 60 the expectancy is two-thirds ( $\frac{2}{3}$ ).

(*To be continued*).

WALTER A. JAQUITH, M.D.

## PREGNANCY IN A UTERUS SEPTUS.

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**I**N the early part of August, 1907, I was called to see Mrs. S—, five months pregnant. She was of Scotch descent and only recently arrived in this country. In conversation she stated that hers would be a difficult case owing to some malformation which had given her doctor at home much anxiety and had been the cause of repeated miscarriages. She was rather short in stature, weighing one hundred and fifteen pounds. She had had no serious illness in the past and at all times enjoyed good health. She was now twenty-nine years of age and had been married nine years. During that time she had four miscarriages. The first occurred a year and three months after marriage. About six months after this she again became pregnant and miscarried at the third month. About a year later she once more became pregnant. This time there was nothing unusual until the fifth month when hemorrhage from the vagina, not excessive but continuous, made its appearance, but without other signs of abortion. Her medical attendant treated her for two months without satisfactory results, the only change being that the discharge of blood was at times intermittent. At the end of this time her physician induced her to enter the Edinburgh Infirmary under the care of Dr. Brewis and Dr. Simpson. They could find no cause for the hemorrhage but obtained her husband's consent to remove the child should they see fit. Labor was induced and the child removed, but the bleeding continuing she said that some form of operation was performed and after that there was no return of the hemorrhage. She left the Infirmary at the end of three weeks.

About one year after she again became pregnant and started bleeding as she had done previously, but at the end of the third month. This time the fetus was removed without delay by her physician and at the same time was counseled to endeavour to avoid another pregnancy as it seemed certain that she could not bear a living child, and might even lose her own life.

Later she became pregnant for the fifth time and it was for this pregnancy that she consulted me. On examining her the scar of a laparotomy wound could be seen extending from the umbilicus to above the pubes. On palpation the fundus uteri was about an inch below the umbilicus. The fundus was unevenly divided by a deep

stretches into two unequal parts, the left being much the larger of the two and evidently containing the child. The right part felt very boggy, the uterine souffle could be heard very distinctly over it and contracted regularly every few minutes with the rest of the uterus. The swelling was therefore not ovarian in origin but must be uterine. Vaginal examination revealed nothing abnormal; the child was in vertex presentation. On questioning her in regard to her menstrual periods she said there was no pain and no increase in the flow or in the frequency since she was a girl. She had not had trouble with the bladder or rectum nor noticed herself getting stouter until about a month ago and that was due to her being pregnant.

About the middle of September I heard from her physicians in Kirkcaldy who informed me that she had a double uterus which Dr. Brevis had demonstrated by a laparotomy in the Edinburgh Infirmary and asked for a report of the case if she were confined of a full time child without loss of life of either. The patient was now about six and one-half months pregnant, in good health and with no discharge, and accordingly no indications for interference. The letter, however, was not too encouraging and I consulted Dr. Devine, who advised that we allow nature to take her course so long as there were no positive indications for interference. This we did and she went on to full term.

Labor commenced at three o'clock in the morning of the twenty-first day of December. By inspection the fundus was seen to be divided into two unequal parts and this was particularly evident during a contraction. The notch between the two parts seemed to extend down for about two inches and a half. On palpation the child's back and breech were distinctly felt in the left half. On deep pressure above the pubes the child's head was felt, but above the outline of the limbs was very indistinct, as if covered over by some thick soft substance. The fetal heart could be made out below and to the left of the umbilicus. On vaginal examination the os was found to be dilated about one and a half inches and the head presenting L.O.A. Labor went on normally and at noon she was delivered of a live child without any assistance. The placenta was, however, adherent and had to be expressed. When it came away the right half of the fundus at once contracted down. On examining the placenta it was found to be unevenly divided into two parts, the larger part having evidently been attached to the right half of the fundus, while the septum, which also had placental attachments, occupied the fissure between it and the smaller lobe of the bi-partate placenta. The child weighed seven

pounds. With a normal puerperium ended what one would consider a very ordinary labor, and, had it not been for the malformation present and the possibilities it included, one totally without interest.

The case in point was evidently a cordiform uterus with a septum extending for some distance towards the os internum and partially dividing the cavity. Miscarriage is the rule for a uterus of this kind. One case is reported where the septum was divided and the woman then carried the child to full term. There is a tendency to low insertion of the placenta with consequent tendencies to ante-partum and post-partum hemorrhages. Transverse and normal presentations are common. Pregnancy may take place in one side and a false decidua form in the other and keep discharging during the whole of pregnancy. It could not have been due to low insertion as Dr. Brewis would have detected it. Rupture is rare in these cases. Undoubtedly some are never diagnosed because they give rise to no symptoms and labor is normal as in this case.

C. G. MCGREER,

Winnipeg, Man.

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## HIP-JOINT DISEASE.

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### DEFINITION.

Hip-joint disease is a chronic destructive process caused by the tubercle bacillus resulting in deformity and loss of function.

### PATHOLOGY.

The point of invasion in this disease is in the minute foci of the neighborhood of the epiphyseal cartilage of the head of the femur where the circulation is most active and the newly formed bone is least resistant, induced probably by traumatism. These foci coalesce and an area of infected granulations replaces the normal structure. In most cases this granulation tissue spreading over and under the cartilage, destroying it in its progress, forces its way into the joint. The lining membrane of the joint becomes involved, and also the adjoining surface of the acetabulum.

In some few cases—rare in childhood—the process begins in the epiphyseal junctions of the acetabulum. In the common form the

synovial membrane of the joint is congested and the normal quantity of the fluid is increased. As the disease advances the lining membrane becomes thickened and granular lessening, lessening the capacity of the joint.

In the natural cure of the disease the focus may be absorbed and replaced by scar tissue or the products of the disease may be separated from the healthy parts, and discharged by abscess formation. In other instances a part in which the disease is still active may be enclosed within the newly formed tissue and may remain quiescent under favorable treatment, or may relapse many years after the apparent cure.

#### ETIOLOGY.

Predisposition to hip disease as to any tubercular condition may be congenital or acquired. In any case it is always a condition of lessened vital resistance. In about twenty-five per cent. of cases there is a history of some immediate member of the family having had tuberculosis. The acquired predisposition may come from any cause to lower the vitality, and is due to improper food, improper hygienic surroundings, particularly to exposure to depressing contagious and infectious diseases and constant exposure to tuberculosis. Thus it is more common among the poor of cities. The tubercle bacilli may be introduced to the body by inhalation or by the mouth and set up inflammatory process in the glands nearest the point of entrance.

Hip-joint disease is the most common of the tubercular joint lesions and is essentially a disease of early childhood, although no age is exempt.

#### SYMPTOMS.

Symptoms are divided into two classes:

A—What the patients and parents notice.

B—What the surgeon finds at his examination.

A—In looking over the records of five hundred (500) cases now under observation at the New York Orthopaedic Hospital the most common symptoms noticed by the patient and parents were as follows:

**Night Cries:** The child shrieks out while asleep, due to the relaxation of the thigh muscles, allowing the head of the femur to come in contact with the acetabulum. In the more acute conditions the pain awakens the child and he usually tries to hold the thigh or

flex it, to protect the sensitive parts. As the acute condition subsides the frequency of night cries diminishes. Pain is most noticeable in the knee and in some cases in the ankle, due to the distribution of the nerves whose filaments are disturbed by the local process.

**Limp:** A very marked and important symptom in hip disease, and is due to sensitiveness. Later in the disease it is due to inequality in length or restricted motion. The patient will rest the weight of the body for a short time only on the affected side, allowing the toes instead of the heel to touch the ground. It will be noticed that besides some plantarflexion there will also be flexion at the knee and hip.

#### B—What the Surgeon Finds at His Examination:

To examine for any joint trouble the child should be stripped and made to lie flat on a padded examining table. The first thing noted is the fact that the thigh is flexed on the abdomen. This may be slight, and on standing it will be found that the pelvis is tilted forward, and an apparent lengthening of the limb results. On manipulation the limb is found to be stiff, due to reflex muscular spasm restricting or limiting motion in every direction. On flexion the pelvis will follow the arc of motion and on extension marked lordosis will be seen. This spasm or stiffness is the most important symptom of hip-joint disease, and is present before even the limp is noticed, and always persists as long as any disease remains in the joint. The more intense the disease the more acute is the spasm, the more the amount of flexion, adduction and inward rotation. It is noticed that the gluteal femoral fold is almost obliterated. There is also some atrophy on the affected side.

#### DIFFERENTIAL DIAGNOSIS.

Local strains, growing pains and rheumatism present no great difficulty if the examination is careful.

Some instances of acute epiphysitis in rickets have been confused with acute hip disease, but the general symptoms of rickets have been evident and assisted the diagnosis.

A low lumbar Pott's may be mistaken for hip disease, but in Pott's the spasm is present only on extension.

Sacro-iliac disease presents more symptoms resembling sciatica and if the pelvis is held fixed, motion in the hip-joint is found to be free; lateral pressure on the pelvis will cause pain over the affected part. Osteo-Arthritis is more common in adults and usually involves other joints.



## TREATMENT.

Treatment must be both mechanical and hygienic. Mechanical treatment aims to keep the joint at rest and relieve the pressure of the head in the acetabulum, and whether plaster of paris or a brace is used the same result is desired. In the New York Orthopaedic Hospital the brace is used entirely after the first stages of the deformity have been corrected. In the acute cases with flexion deformity, the patient is placed in bed and an inclined plane of gas pipe, covered with canvas, is fitted to the angle of deformity, and a moderate amount of traction is allowed. In some instances, the brace is applied at this time instead of making use of the weight and pulley. When the flexion deformity has lessened, the brace is applied and the patient is allowed up, wearing a shoe with a cork sole on the sound foot. The brace consists of three parts; a hip band which goes around the pelvis at a point midway between the great trochanter and the crest of the ilium. To this hip band is attached a steel bar, hollow in its lower third. Into this hollow part is introduced a foot piece with rubber stirrup and straps to attach to adhesive plaster on the leg. This foot-piece is made on one side like a cog wheel and is regulated through the bar by a key, thus keeping or fixing the amount of traction desired. The leg is covered on two sides by an adhesive plaster known as swansdown and bandaged firmly with muslin bandage. This must be changed every three or four weeks. At the lower end of the plaster are buckles which are attached to the leather straps on the foot-piece.

The pelvis is supported by two perineal straps running around under the pelvis from front to back of the hip band. These must be changed every day and the skin washed clean and rubbed with alcohol to prevent excoriation of the parts. With due care this brace can be worn for years with no serious interruption from sores, etc., on the skin.

If the disease advances to abscess formation the pus is usually evacuated and the cavity treated antiseptically, and good results have been obtained by injecting these sinuses with 20% argyrol solution.

The hygienic treatment is as important as the mechanical, and aims to correct the results of bad air and improper food. In the country branch of the New York Orthopaedic Hospital, which was opened at White Plains in 1904, of which the writer was first resident surgeon, the following daily program is carried out: Patients

arise at six a.m., have a good, hearty breakfast at seven, then they have their braces adjusted and play until nine a.m. Then they go to school until ten-thirty a.m. At this hour every child is given a glass or two of milk and the more delicate ones are given a raw egg. Then they attend school until twelve o'clock. After dinner they play until two, when the older boys take up drawing and manual training work; the girls music, basket weaving and drawing. The younger ones have kindergarten work until three-thirty p.m. Then they play until five o'clock, have supper and are allowed to be up until seven, when they go to bed. The temperature of the sleeping room is 60 degrees and sometimes less, the windows being let down from the top at all seasons of the year. The diet is principally milk, bread, butter, eggs and meat—beef and chicken—fresh vegetables. To look at the rosy cheeks one would not imagine that any of them have been suffering from tubercular joint disease.

#### PROGNOSIS.

In any tubercular disease the prognosis must be guarded and the seriousness of the condition and the length of time necessary for a cure must be impressed upon the patient.

In prolonged suppuration, of course the result is inevitable, death being due to amyloid degeneration of kidneys.

When the disease is cured there is usually some shortening and stiffness, but the patient will have a useful limb and can get around without crutch or cane.

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ADDRESS BY W. SPANKIE, B.A., M.D.,

PRESIDENT ONTARIO COLLEGE OF PHYSICIANS AND SURGEONS.

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**M**R. Chairman, Ladies and Gentlemen: I am very glad indeed to have the privilege of expressing my sincere thanks to you for the pleasure that you have given me in inviting me to these functions. I congratulate you on this newest addition to your equipment which will so much enlarge your already splendid facilities for doing good practical work. I am also glad to see the harmony and good will that prevails amongst the great universities of this country, each bearing greetings to the other and giving freely of its best to help the common cause along. "Sister Universities" has long been, and may it long continue to be, the most popular toast at your banquets. Hold your own and help the other is the proper spirit of your work. May you always be able to say to your visitors from "Sister Institutions": "You love us, we love you, and we'll shake hands."

The evolution of Queen's is a most interesting story and its development during the last 25 years has been marvellous. It is 25 years since I graduated from this platform in Arts, and then this was the new Arts building, now the old, and it was all there was to represent Queen's on this campus. The old medical building was known as the Royal College of Physicians and Surgeons. It is a marvellous change that has taken place, and if we are to judge from that what will take place in the next 25 years we have to look out for larger and better things. We can but hope that this good work will continue, and I say to you, take an active interest in the affairs of life. Study the politics or public affairs of the profession, and public politics. Party politics will look after themselves. The body-politic is in need of your services and requires the work of the physician and surgeon as much as any body I know of. There is a large field for you in the politics of our profession. Years ago quacks and other impostors of all kinds went about individually and gulled the people; nowadays they come in bands or organizations in every conceivable way, defying the law, and even becoming so bold as to ask for special laws in order to enable them the more comfortably to work their game. It will largely rest with you in the near future to

endeavor to eradicate this evil and protect the people from these hordes of get-rich-quick parasites. These schemes have their birth in the densely populated centres to the south of us, and they should not be allowed to secure a footing in our fair land. Nor is there any need for special legislation in this province for any sect pretending to practise a particular kind of healing art. The College of Physicians and Surgeons of Ontario permits all kinds of honourable practice by its members. Let these Yankee inventors now seeking to invade our province and evade its laws pass our examinations and comply with our requirements just as you have to do, and as we all had to do. Our examinations are the fairest possible, and fewer complaints have been made against them than against those of any other examining body in Ontario.

Another large and promising field in the politics of our profession, and one worthy of your best efforts, is that of Dominion registration of medical men. Our system of registration is provincial only. Dr. Roddick, of Montreal, worked faithfully and well in this direction but his efforts have not yet been crowned with success. This is a wide field for the exercise of your political genius. Think it over, discuss it at your meetings and let us have the results of your deliberations. I have known students to succeed when others failed in matters of public interest, and I have faith in the wisdom of the student body. At all events, learn while young to take an active part in the affairs of life, for the good of the profession and for the public good. Inaction is an evil habit that grows fast and strong. Medical men contribute largely to the public good, and are entitled to the prominence their ability merits in the directing of the affairs of their country.

Your chosen profession is ancient and honourable, and The College of Physicians and Surgeons of Ontario is the name applied to it in its corporate capacity in this province. All licensed medical practitioners in Ontario are members of this body, and from among themselves they elect a certain number to compose their council or executive head of the profession. Every member of the profession in good standing is eligible for election to its council and this council is the legislative body or parliament of the profession. Give this system your best support. Uphold this executive head of the profession. It has been in existence for nearly half a century. It is your best professional friend. Its establishment brought order out of chaos, harmony out of discord. By its agency an impetus was given and is continually being given to medical education in this province,

and a high standard of medical ethics is maintained. Its disciplinary powers are salutary though seldom requisitioned because of the honourable practices of the members of the profession. This council has blazed the way for medical curricula and has had loyal support from the universities and the profession. Its prime object is to maintain a standard of medical education in this province that will entitle its members to recognition in any land. You will find it interesting and instructive to compare the requirements here with those of other countries, and let me suggest that you will also find it highly profitable and pleasant to devote a portion of your time to the study of the history of medicine, and thus find out what you can do by learning what others have done towards the progress of a great profession.

In all your labours do not overlook the first law of nature—self-preservation. You require good health and strength in order to be able to protect the health and strength of others. Form the habit of taking regular physical exercise and try to have the physique of a man. You will have much to contend with at times and may have to brush ignorance aside. It will be a satisfaction to you to know you have the strength and ability to do so, and this fact alone may save you the trouble. Like the boy in Chicago who applied for a position in an office there. He was asked if he used profane language. He replied: "I kin if necessary." He secured the position. I advise you to see to the development of your muscular as well as your intellectual system and be able to do things if necessary.

In conclusion let me thank you for the honour of addressing you to-day. I assure you that you have the sympathy of every member of the Medical Council of Ontario. Their hearts are with you in your great and honourable efforts to become worthy members of the medical profession. Continue to do honest work as students and expect honest results at your examinations; then, give to the world the best that you have and the best will come back to you.

## BOOK REVIEWS.

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### *The Bulletin of the Ontario Hospitals for the Insane.*

The object of this publication is clearly indicated by its title. The number before us contains many short articles which can but be of decided value to all who have anything to do with the care of the insane at home as well as in institutions.

The paper entitled "Home Treatment" contains useful suggestions to the general practitioner in reference to a variety of procedures of vital importance to the welfare of the insane at home. The methods of forced feeding by means of the nasal tube through the nares or by the stomach tube through the oesophagus, the use of the hot wet-pack with cold applications to the head in cases of excitement, the avoidance of restraint, the importance of rest in bed and the inadvisability of the use of hypnotics except as a last resort, are suggestions which are modern and in the line of the best practice. There is also a good account of the use of the continuous bath and an illustration showing its water supply and extra large overflows. A summary of the autopsy findings at Rockwood Hospital is not without interest. Of 417 deaths 118, or 28.3 per cent., were from tuberculosis, or its immediate complications. "Gall-stones were found in 15 cases, either in the gall-bladder, cystic, or common ducts, but in only two (3?) cases have their presence produced serious effects. . . . No instance of renal or vesical calculus occurred in the series. "Contrary to expectation very few foreign bodies were noted, none at all being found in the stomach. In two cases death followed the lodgment of foreign bodies in the oesophagus opposite the cricoid cartilage (Nos. 15 and 67). In case No. 65 a pin and piece of wooden skewer (2 inches long) were found in the duodenal wall and head of the pancreas, and another pin in the peritoneal covering of the anterior wall of the uterus. Case 76 (a tuberculosis subject), however, presented a very curious condition; the appendix was enlarged to one inch in diameter for the last inch-and-a-half, and in its lumen were found 48 common pins, all considerably rusted, and the heads of all pointing towards the tip of the appendix, also three pebbles, and a triangular piece of glass, the whole being set in a mass of mucus impregnated with calcareous salts." In a paper "On Diphtheroid Bacilli," the statement is made that but six cases of General Paresis were found among the 600 inmates of Rockwood Hospital,

and in these cases diphtheroid bacilli were found in noses, and in one case in the tonsil. In other forms of insanity, however, diphtheroid bacilli were found in 18 cases, so that a causative relation to General Paresis does not seem to be established. As diphtheroid bacilli were also found in patients in neighboring general hospitals the conviction is forced upon the reader that the bacilli are not uncommon in public institutions. We fully endorse the author's statement that "ne hesitates to accept without complete proof the association of diphtheroid bacilli in the causation of General Paralysis." The *Bulletin* marks a decided advance in the study of psychiatry in Canadian institutions, and is worthy of praise and the "sincerest of flattery"—imitation.—*Johns Hopkins Bulletin*.

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*Hand-book of Anatomy.* James K. Young, M.D. F. A. Davis Company, Publishers.

This little work of 390 pages purposes to furnish a "concise though complete synopsis of human anatomy for students and others." Fourteen pages are given to surgical anatomy and in addition there are one hundred and seventy-one illustrations, many of them of full-page size. Necessarily, then, the work is devoted to 'synopsis,' although it is claimed in the preface that "sufficient descriptive matter has been added to render it valuable to the busy practitioner."

An examination of some of the descriptions reveals considerable inexactitude; for instance, "the inner surface of the spleen is concave and adapted to the cardiac end of the stomach, to which it is attached by the gastro-splenic omentum"—no mention whatever being made of the important renal relationship. Under 'Kidney' mention is indefinitely made that "the left kidney is in relation with the lower end of the spleen" (?). And there is no reference to the adjacent colon.

This is a new edition and one would expect to note the adoption of those changes which have been so generally accepted in the more recent text-books. Nevertheless, the old description of the sigmoid flexure and the rectum of three pieces is retained, no reference being made to the later and preferable division of this part of the bowel into pelvic colon, rectum and anal canal.

But it is unnecessary to examine this work in further detail or to discuss the small value of many of the plates or the excellence of a few. Such a compilation as this can be of value to the student only for the purpose of a hasty review before examination, and the 'busy practitioner' will obtain little of worth from its perusal. It is, however, a decided improvement on the ordinary 'quiz-compend' of anatomy.

F. E.

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*Operative Surgery.* McGrath.

In this work the author has given us a very concise yet withal a complete description of the general surgical operation. He has also prefaced the operative surgery of each region with the surgical anatomy pertaining thereto—a plan which is amply justified, for if we quote the author's own words, "a knowledge of the one is essential to the proper study of the other." In those sections which deal with congenital defects, *e.g.*, hare-lip, cleft palate, undescended testes, etc., a few pages of embryology are introduced in order to elucidate the chapters which immediately follow. Free reference is here and there made to methods employed by different surgeons, the author commending that which from an extensive personal experience seems most preferable.

The treatise is replete with diagrammatic drawings, a style of illustration peculiarly adapted to works of this kind.

G. W. M.

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PERSONAL NOTES.

Dr. W. N. Condell ('98), after a post-graduate course at Moorfield's Eye Hospital, London, has opened an office in Edmonton.

Dr. H. C. Windel ('02), Williston, N.D., has been elected president of the Northwestern Dakota Medical Society.

Dr. Robb, late of Mountain Grove, Ont., has gone to Warren, Penn.

Dr. T. D. MacGillivray ('06), after fourteen months' study in European centres, has returned to Kingston.

Dr. James Third has left for a three months' visit to the continent.

Dr. A. D. Macintyre ('01) has resigned the position of Super-



intendent of the Kingston General Hospital. Dr. Macintyre will leave for England in August.

Dr. W. C. Usher has been appointed house-surgeon the General Hospital, Providence, R.I. Dr. Usher recently graduated from Harvard.

Dr. Joseph Graham, formerly of Campbellton, N.B., has begun practice at Hannibal, Ind.

Dr. C. W. Graham, late of Manhattan Eye and Ear Hospital, New York, has left for Panama, where he has a government appointment.

Dr. Russell Reid ('05) has returned from England. Dr. Reid will shortly begin practice in Pennsylvania.

Dr. Harold Spence ('07), late of the interne staff of the Erie (Penn.) Hospital, has completed his term of service in that institution and will practice in New York state.

Dr. W. C. Herriman, of the Rockwood Hospital staff, has been removed to Mimico. Dr. Young is his successor.

Dr. Forster, at one time assistant superintendent at Rockwood, has been transferred from Mimico to London.

Dr. R. K. Patterson ('06), who recently became a member of the Royal College of Surgeons, England, and licentiate of the College of Physicians, London, will shortly return to Canada.

Dr. George F. Dalton ('02), who has completed his term of service in the Manhattan Eye and Ear Hospital, has returned to Kingston. Dr. Dalton will locate in Springfield, Mass.

Dr. R. A. Scott ('07), for the past year house-surgeon at the Western Hospital, Montreal, has begun practice at Cavalier, North Dakota. At the state board examinations Dr. Scott stood first.

Dr. S. V. Carmichael ('08) will be assistant to Dr. Balfe, Hamilton, for the next year in succession to Dr. A. G. Curphy, who goes to England in June.

Dr. R. Minnes, who has spent the winter in Vienna and London, will shortly return to Ottawa.

Dr. Frederick Etherington, of the Department of Anatomy of Queen's University, leaves in May for Europe.

Dr. W. Workman, after spending the winter in Kingston, has returned to British Columbia.

Members of this year's graduating class at Queen's Medical College have received hospital appointments as follows: Drs. T. R. Ross and H. A. Connolly, the Western Hospital, Montreal; J. E. B. Galloway, Children's Hospital, Randal's Island, New York; W. L.

Yule and R. M. Bradley, Hamot Hospital, Erie, Penn., F. R. Sargent, I. D. Cotnam and W. Beggs, General Hospital, Kingston; T. V. Daley, Hotel Dieu, Kingston; W. D. Kennedy, Water St. Hospital, Ottawa; G. H. V. Hunter, Norwegian Hospital, Brooklyn; T. J. Collinson, Hamot Hospital, Erie, Penn.; H. H. Milburn and H. Dunlop, St. John's Hospital, Brooklyn. Many members of the class are leaving for New York and England for post-graduate study.

Principal Gordon, Dean Connell, Professors Shortt and W. T. Connell have accepted invitations to be present at the sixth annual dinner of the New York Society of Queen's University. This function will be held on the seventh of May, at Hotel Navarre. The officers of this young and vigorous society are: F. J. McCammon, M.D., president; W. F. Marshall, M.A., Vice-President; R. G. Moore, M.D., secretary; C. W. Miller, treasurer.

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#### LIST OF GRADUATES, 1908.

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Austin, C. J.....	Gouverneur, N.Y.
Baker, J. O.....	Newington, Ont.
Beggs, W.....	Hallville, Ont.
Bond, H. E.....	Kingston, Jamaica.
Bradley, R. M. (B.A.).....	Boston, Mass.
Byers, J. C.....	Eganville, Ont.
Carmichael, S. V.....	Spencerville, Ont.
Carmichael, M. A.....	Whycomagh, N.S.
Cays, F. A.....	Kingston, Ont.
Charlebois, J. A.....	Hull, Que.
Clancy, J. P. I.....	Lumsden, Sask.
Cole, W. H.....	Ottawa, Ont.
Collinson, T. J.....	Piercefield, N.Y.
Connolly, H. A. (M.A.).....	Vancouver, B.C.
Connolly, N. W.....	Vancouver, B.C.
Cornett, W. F. (B.A.).....	Kingston, Ont.
Costello, M. C.....	Calgary, Alta.
Cotnam, I. D.....	Pembroke, Ont.
Daley, T. V.....	Kingston, Ont.
Dunlop, H. (B.A.).....	Kingston, Ont.
Fraser, L. H.....	Truro, N.S.
Galloway, J. E. B.....	Kingston, Ont.
Hughes, R. A.....	Kingston, Ont.
Hunter, G. H. V.....	Kingston, Ont.
Hurtubise, J. R.....	St. Anne de Prescott, Ont.
Kelly, J. M.....	Addison, Ont.

Kennedy, W. D.....	Ottawa, Ont.
Laing, A. V.....	Dundas, Ont.
Magill, A. L.....	Kingston, Jamaica.
Milburn, H. H.....	Peterboro, Ont.
Morrison, W. (B.A.).....	Ashgrove, Ont.
Myers, E. T.....	Portland, Ont.
MacDonald, A.....	Regina, Sask.
McIntosh, F. B.....	Edmonton, Alta.
McDermott, J. F.....	Kingston, Ont.
McKinley, N. J.....	Sealey's Bay, Ont.
Nurse, C. T. C.....	Georgetown, B.G.
Patterson, C. A.....	Athens, Ont.
Patterson, G. H.....	Stellä, Ont.
Quinn, P. J.....	Oswego, N.Y.
Ramdeholl, J. E. R.,.....	New Amsterdam, B.G.
Ross, T. R.....	Abernethy, Sask.
Sargent, F. R. (B.A.).....	Kingston, Ont.
Thompson, B. H.....	Kingston, Ont.
Young, F. S.....	Forfar, Ont.
Yule, W. L.....	Gananoque Jct., Ont.

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MEDALS AND PRIZES.

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*Faculty Prizes in Anatomy.*

W. E. Anderson, Kingston.  
S. M. Polson, M.A., Kingston.

*Faculty prize, \$25.00, for highest mark on second year examinations in Anatomy, Physiology, Histology and Chemistry.*

W. E. Anderson, Kingston.

*The New York Alumni Association Scholarship, \$50.00, for highest mark in Honour Physiology and Histology; papers open to Arts and Medical students.*

S. M. Polson, M.A., Kingston.

*Faculty prize for highest percentage of marks on second year examination in Materia Medica.*

S. M. Polson, M.A., Kingston.  
W. E. Anderson, Kingston.

*The Dean Fowler Scholarship for highest percentage of marks on work of the third year.*

J. J. McCann, Perth.

*Faculty prize for best written and practical examination in third year Pathology.*

D. Robb, B.A., Annaheim, Sask.

*The Chancellor's Scholarship, value \$70.00, for highest percentage on four years' course, tenable only by those who take the examinations of the Ontario Medical Council.*

H. Dunlop, B.A., Kingston.

*Prize of \$25.00 given by Dr. W. C. Barber for best examination in Mental Distases.*

F. R. Sargent, B.A., Kingston.

*Medal in Medicine.*

C. T. C. Nurse, Georgetown, B.G.

*Medal in Surgery.*

I. D. Cotnam, Pembroke, Ont.

*House Surgeoncies in Kingston General Hospital.*

The following are recommended in order of merit: I. D. Cotnam, A. MacDonald, R. M. Bradley, B.A. Next in order: J. O. Baker, F. R. Sargent, B.A., S. V. Carmichael.