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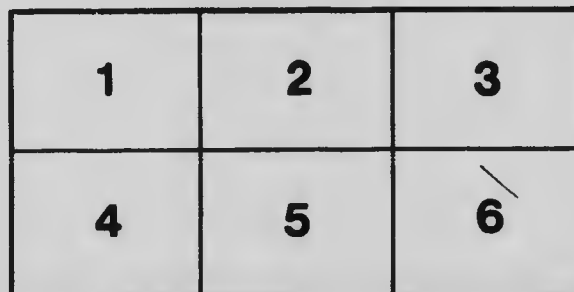
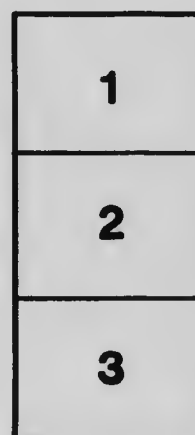
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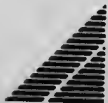
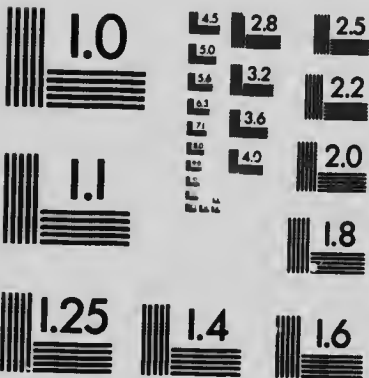
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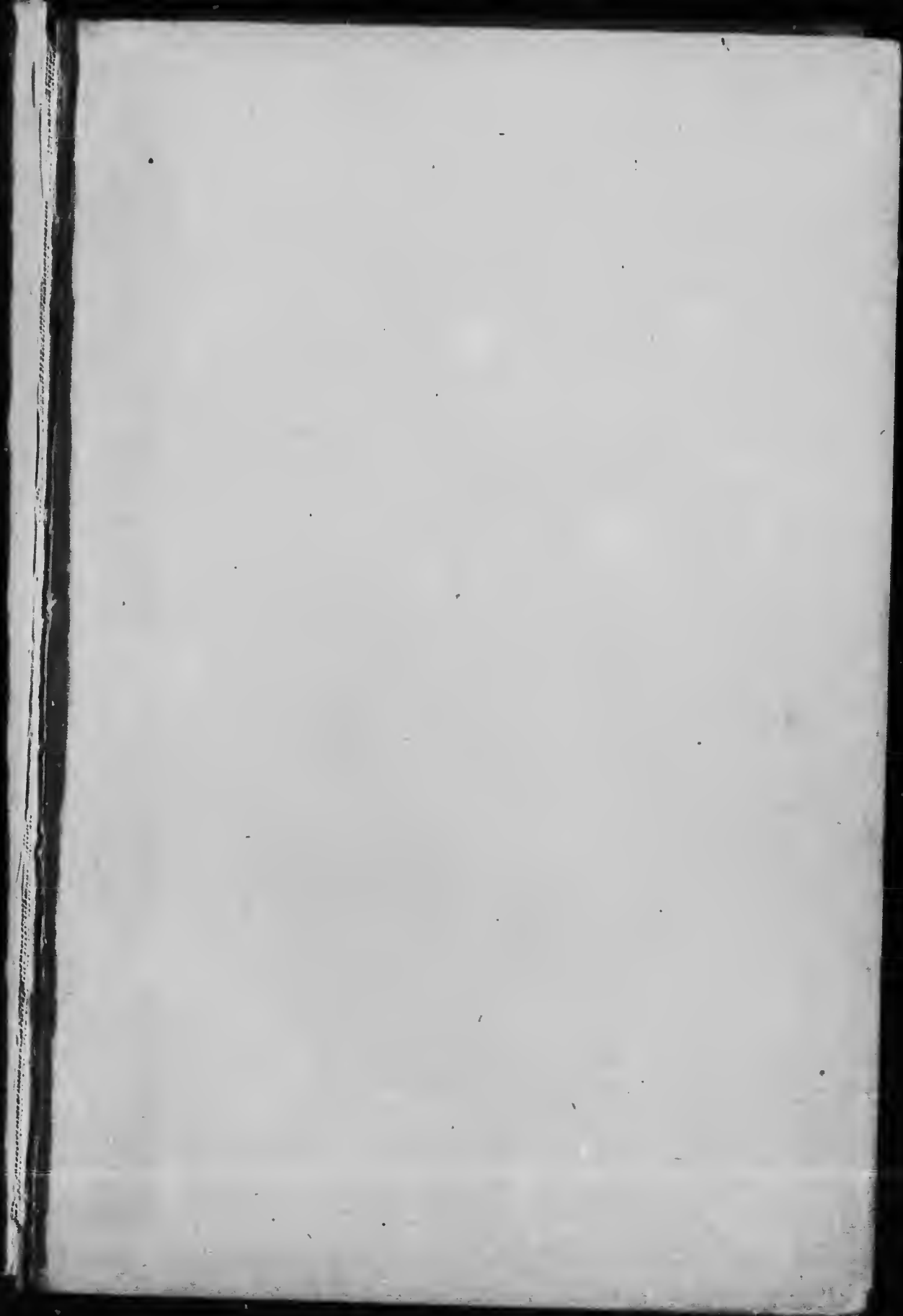
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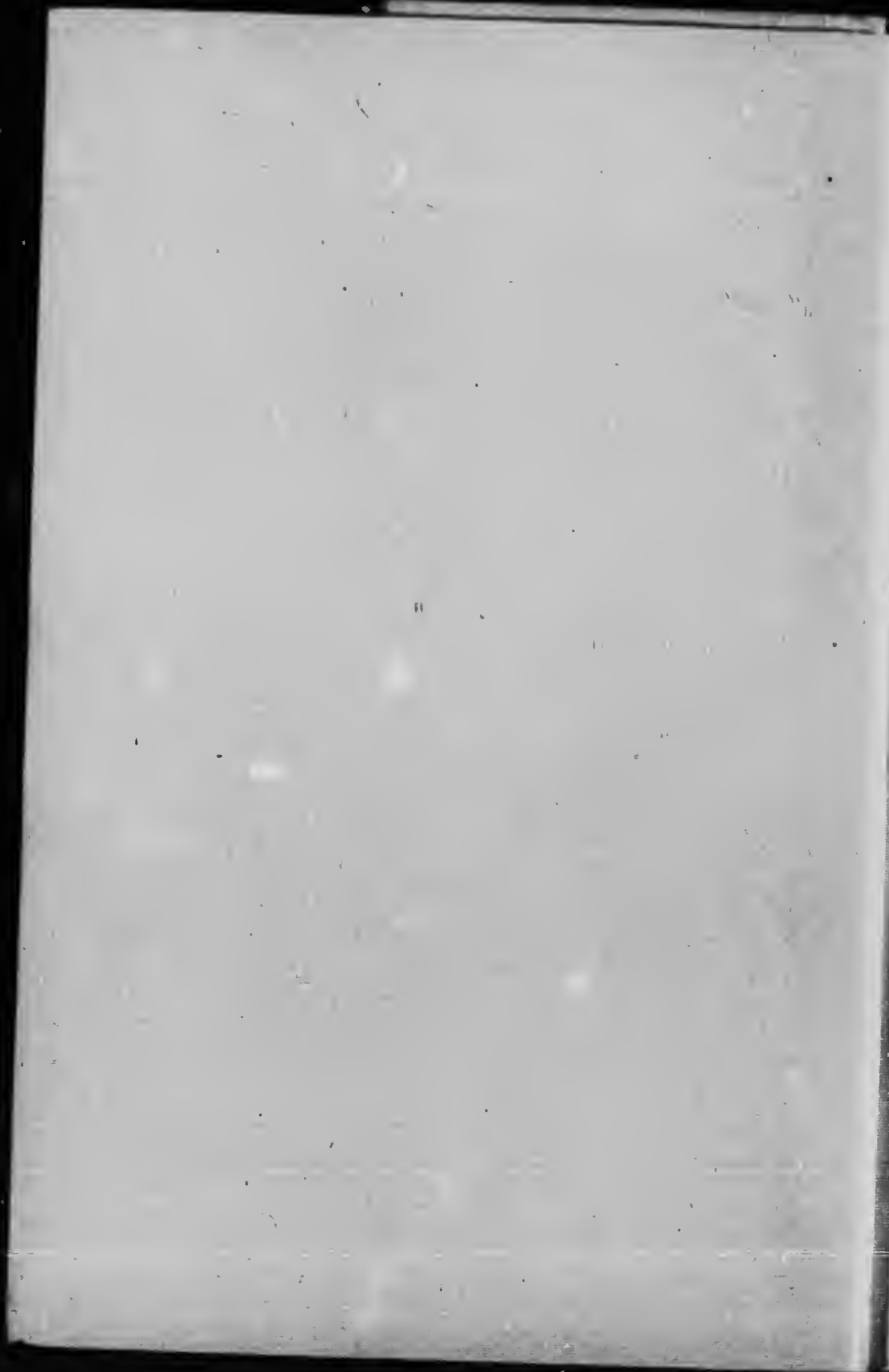
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PAPERS
AND
ADDRESSES

BY

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INTRODUCTION

This book of addresses has been published to perpetuate the memory of one who, during his whole medical life, was connected with the Medical Faculty of McGill University, and who had much to do with the shaping of its destinies. His interest in Medical Education was always of the greatest, and his whole heart was in the work of increasing the efficiency of the Faculty with which he was connected, and keeping it well up in the forefront of scientific progressive schools of medicine. His advocacy of any new method of teaching or new department to be added to the curriculum was always vigorous and candid, provided he was assured that it was in the interest of the School. These addresses will be valuable to all graduates who wish to know the history and progress of their Alma Mater, for they contain a narrative of the advances made during the most progressive period of the Faculty, and also the difficulties and trials which had to be encountered in order to arrive at such brilliant results. As Dean, Dr. Craik was the moving spirit in the Faculty from 1889 to 1902,

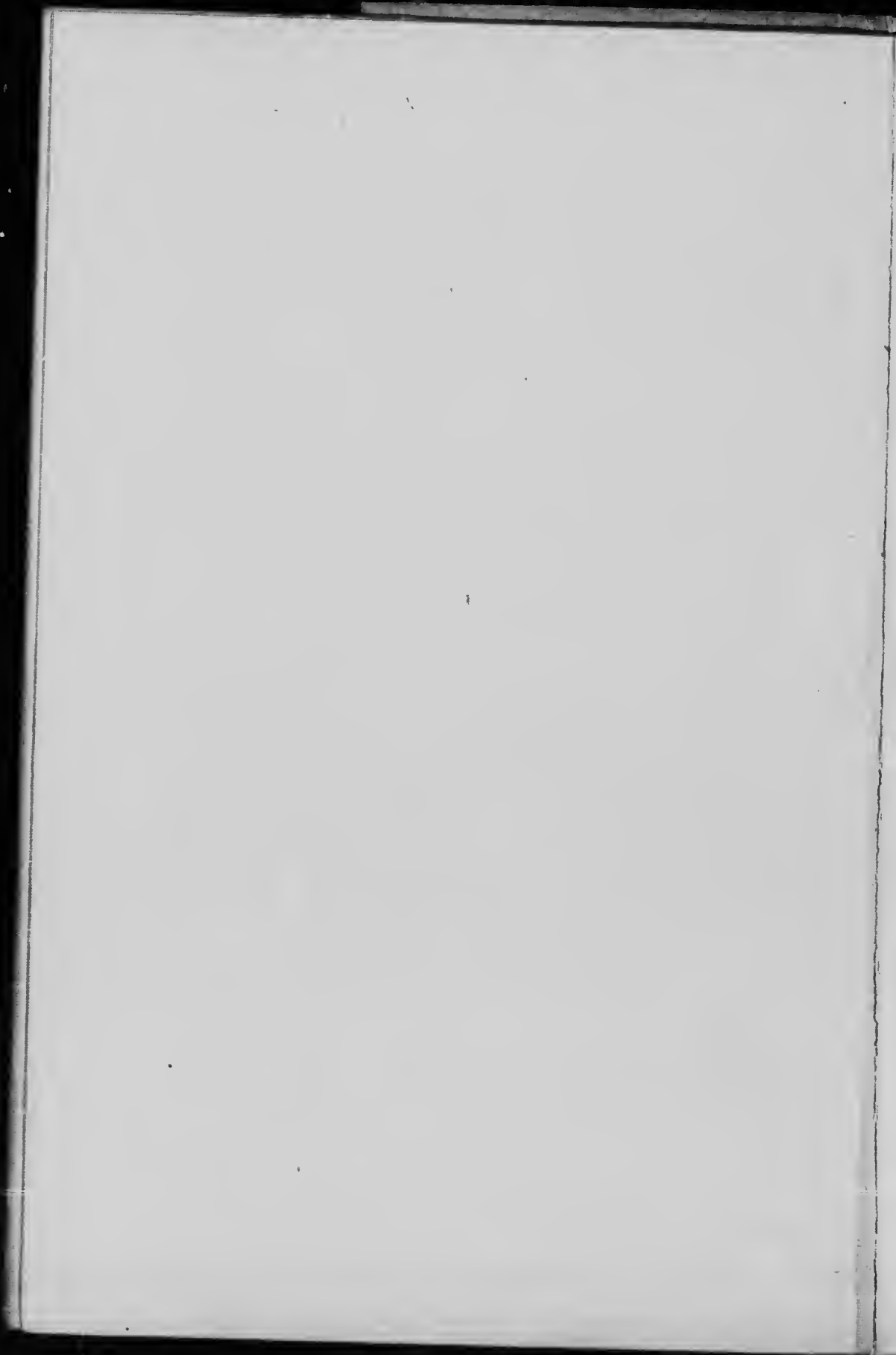
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and after resigning his Deanship, as governor of the University his interest never flagged until his death in 1906. Included in this series are some addresses to nurses, in whose education and welfare he was much interested. Dr. Craik's graduation thesis, "On the Nature of Morbid Poisons," has also been added. This thesis, though written as long ago as 1854, maintains the theory of the microbic origin of disease and the local origin of cancer, theories at that time not at all looked on with favour by leaders of medical thought.

FRANCIS J. SHEPHERD.

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THE NATURE OF THE MORBID POISONS AND THE DISEASES TO WHICH THEY GIVE RISE

GRADUATION THESIS PRESENTED TO THE MEDICAL FACULTY OF
MCGILL COLLEGE, MARCH 1st, 1854

It is not my intention in the following pages to attempt an elaborate description or explanation of all the phenomena connected with the diseases produced by the morbid poisons. The subject is too extensive to be included within the narrow limits of an inaugural dissertation, and too abstruse and intricate to be undertaken by any but those whose minds have been trained by long habits of research and discrimination.

But there are certain prominent points that stand out as landmarks, challenging the attention of every observer, and which have been subjects for investigation to men of science, ever since Medicine deserved the name of a science.

Some of the most remarkable of these features, for instance, are the contagious nature of the diseases to which the morbid poisons give rise; the great disproportion between the cause and the effect; the immense multiplication or reproduction of the poison within the system; the regular sequence which the symptoms generally preserve; the immunity from a subsequent recurrence which many of them have the power of conferring; together with other peculiarities less prominent, but scarcely less characteristic. It is the consideration of some of these prominent features, including the nature of the morbid poisons themselves, that I propose as the subject of the

following essay. I do not intend to take them up seriatim, in the order in which I have just enumerated them, but as they suggest themselves in their appropriate places as I proceed. In the examination of the subject, cursory as it must necessarily be, I shall pass lightly over those parts which may fairly be considered as settled, and enter more fully into those which still remain in obscurity, alluding briefly to the various theories which have been advanced by different authors, stating the objections to them, and in some cases venturing to suggest others which may seem more strongly supported by analogy, and which may explain as fully the various phenomena under consideration.

Of the names made use of by authors to designate the class of diseases produced by the action of the morbid poisons, the term "zymotic" seems the least objectionable, and I shall therefore adopt it. Cullen's order of exanthemata includes many of them, but not the whole, so also the term contagious or infectious diseases, though it would include all the diseases in question, yet it would comprehend others, as scabies, porrigo, and such other diseases as from their purely local nature are not generally ranked in the same class with the others.

The division of the subject which I shall adopt will be the following:—

FIRSTLY—I shall consider the seat of the zymotic diseases.

SECONDLY—The conditions necessary or favourable to their production.

THIRDLY—The probable nature of the poisons themselves and their mode of action, which, together with the preceding divisions, will include the explanation of most of the phenomena of the diseases.

LASTLY—I shall conclude by alluding briefly to the indications for treatment, furnished by the consideration of the foregoing divisions of the subject.

I.—The Seat of the Zymotic Diseases.

All pathologists seem now to be agreed in considering the blood as the primary seat of these diseases; the local affections being merely the result of the general contamination, and, for the most part, caused by the efforts of nature to expel the offending matter from the circulating fluid, and hence, these local affections are generally found in excreting structures, as the bowels, kidneys, skin, etc.

That such was also the opinion of the ancients may be seen by reference to their old humoural pathology, by which they were wont to explain these diseases. The solidists have since then attempted to locate them in the solid tissues, but these opinions were grounded on mere speculations, and have yielded entirely before the modern views, based as they are upon actual experiment and observation.

That the blood is the primary seat of the diseases, may be proved in many ways. By the simultaneous appearance of eruptions over the whole body; the symmetrical distribution of some of these eruptions; and by the production of a specific disease by direct inoculation or transfusion of blood, as has been done in measles.

II.—The Conditions Necessary or Favorable to the Production of the Zymotic Diseases.

That these diseases depend for their production, in most instances, if not in every case, upon some material introduced from without, seems highly probable, though there are not wanting many who assert strongly the opinion,—that all of them may, and frequently do arise spontaneously under particular circumstances, and who deny alto-

gether the infectious nature of many of them. These opinions will be again reverted to; for the present, let it suffice.—that many diseases are undoubtedly produced by the introduction to the system of morbid matter from the person of another labouring under the same disease.

But this morbid matter is not sufficient alone to produce the disease; it can only co-operate with certain other matters within the system; and if these latter be not present, it can no more produce the disease than a candle can continue to burn, or an animal to live, in an atmosphere which contains no oxygen.

These matters contained in the blood of persons susceptible to the action of the morbid poisons constitute what Simon calls the "specific internal cause," in contradistinction to the matter introduced from without, which he calls the "specific external cause." The best example of the mutual action of these two causes is the inoculation with small-pox matter of two persons, one of whom has previously had the disease, while the other has not. The former will remain unaffected by any amount of the matter, because the specific internal cause has already been exhausted, while in the latter, a minimum quantity will suffice to produce the disease, the internal cause being ready to respond to the external.

Again, there must be supposed to exist within the body a different specific internal cause, corresponding with each of the specific external. For example, after the susceptibility to small-pox has been exhausted, the poison of measles or of scarlet fever will be found to act as readily as if small-pox had not occurred, thus proving that each of them has its own particular cause, otherwise the latter two would have remained inert.

But, it may be asked—What evidence is there of the existence of this specific internal cause, and of what may it be supposed to consist? With regard to the first question; we have sufficient proof of the existence of a specific internal cause in the circumstance, that after the occurrence of some of these diseases, and the consequent separation from the blood of the matter peculiar to the disease, the susceptibility to a recurrence is exhausted, leading us to infer, that the particular ingredient of the blood which has thus been separated was absolutely necessary for the production of the disease. But no analysis, however minute, has yet been able to detect the slightest difference in the composition of the blood, before and after the disease.

With regard to the other question—of what the specific internal cause consists—it is evident that the search must be directed towards either the essential or incidental constituents of the blood. Simon gives strong reasons for concluding that neither the blood corpuscles nor the salts can be the ingredients in question, inasmuch as their exhaustion or material alteration would of necessity prove fatal. He thinks that it will be found, more probably, among the effete matters of the tissues, some of these existing in the system only once during life, and hence, when removed, can never be replaced. Such are the waste materials of the temporary cartilages, the thymus gland, etc., and some of these might be supposed to constitute the liability to such diseases as occur only once in life.

But it is not necessary for the explanation of these latter diseases, that their internal cause should be produced only at one particular period of life; for, as suggested by Mr. Paget in his lectures on surgical pathology, the immunity

from future attacks may depend on what he calls—the assimilative power of the blood. Thus, when the structure of a part has been altered by disease or injury, as in scars, indurations, etc., the altered texture continues to be nourished, and its particular structure to be perpetuated, in the same way as normal tissue. So, also, when the constitution of the blood has been changed by any of these diseases, this assimilative power maintains it in its altered condition, as it formerly maintained it in its natural state.

But there is a constant tendency in the system, in these cases, to return to the normal condition. Scars in process of time become lessened or obliterated, and indurations become softened and removed, so also the altered constitution of the blood produced by these diseases may in process of time gradually subside, and finally altogether disappear; thus accounting for the wearing out of the protection afforded by vaccination, and the recurrence of small-pox or measles a second or even a third time.

A strong reason for supposing the susceptibility to these diseases to depend upon the effete matters of the tissues is, that the accumulation of these matters in the system is well known to create a predisposition to the attack of epidemic and contagious diseases; thus, these diseases are generally found to break out first, and to be most severe, in those localities where impure air, imperfect ventilation, etc., prevent the proper elimination of these matters from the blood. So also with great muscular exertion, from the waste which it causes in the tissue. The influence which these matters have in promoting the tendency to the accession of zymotic diseases, with the conditions which favor their accumulation in the system, are well given in a paper by Dr. Carpenter, an abstract of which

may be found in "Braithwaite's Retrospect" (Part xxvii).

But, as before hinted, neither can this specific internal cause be looked upon as sufficient in itself to produce the disease, notwithstanding the many persons who believe that these diseases may be, and often are thus produced, or how could the fact be accounted for, that villages, towns, and even continents have remained not only for years but for centuries free from them, so long as the inhabitants avoided all communication with those laboring under the diseases. That the same specific internal cause existed in these individuals, cannot be denied from the great rapidity with which the diseases were wont to spread, when once introduced by infection or contagion. With these facts before us, it is difficult to admit that these cases occur without any external cause, which are from time to time breaking out in localities apparently cut off from all sources of infection; for, taking into consideration the subtle nature of these poisons, their diffusion through the atmosphere, and the length of time they may remain in a dormant state in fomites and in other situations, it is more than probable that these anomalous cases owe their origin to some lurking infectious matter, which has been unwittingly communicated, and which has really kindled the flame ascribed by many to spontaneous combustion.

On the other hand, it is most difficult to conceive how these diseases first originated, if we do not admit their origin independently of contagion. We have no record of their having existed from the creation, the history of most of them dating back no farther than a few centuries; hence we are constrained either to admit that they have arisen without any external cause, or to seek for some way of reconciling their present prevalence with their former

absence or obscurity. The reasons why the former admission cannot be made, have been already given; with regard to the latter circumstance, nothing can be brought forward except conjecture.

We are aware that there are many agencies, such as time, and a variety of circumstances, which exercise a powerful modifying influence on many things, and even on diseases themselves. Plants have been taken in their natural state from their native forests and plains, and by the force of circumstances arranged by man's ingenuity, have been transformed in the most wonderful manner. The same may be said of many of the lower animals. Man himself has undergone various changes, both in his physical and moral constitution; and even those very diseases of which we are now treating, have, at various periods of their history, presented characters widely different from those presented at other times; in fact, no two epidemics of the same disease can be said to have been perfectly alike in all their characters.

Is it not reasonable, then, to infer that these diseases have been at one period of their history very different from what they now are, so different, indeed, as to render their recognition as the same diseases highly improbable, if not impossible.

(It has been all but proved that small-pox is greatly altered by transmission through the system of the cow. If this be correct, then, may not the systems of other animals possess the same transforming power over many of these diseases, some of them rendering them milder, while others render them more virulent: and might not even those diseases, now so distinct, and in many cases so malignant, have first existed as obscure and perhaps trivial disorders in some of these lower animals, and by various

circumstances have become developed and altered until their present condition has been attained. This suggestion is somewhat imaginative, and might almost be called chimerical; but it is not destitute of probability, and it is offered in a case where actual proof is out of the question.)

Taking it for granted, then, that two causes of a specific nature co-operate in the production of these diseases, one of them existing within the body, and the other introduced from without, we have a clue to the explanation of many of their peculiarities. It explains the reason why small-pox should in general be so much more mild when communicated by inoculation than when contracted by accidental infection, for the blood of those who take the disease in the latter way must be supposed to contain the specific matter in large quantity, and hence the disease is severe, while inoculation will produce the disease in those whose blood contains the matter even in minimum quantity, and in whom the disease will be proportionately slight.

For the same reason, those first attacked during an epidemic have the disease more severely than those attacked at a later period, for the greater liability to the infection in the former is caused by the large amount of the specific material in the blood. As already shown also, it explains the protection afforded by many of those diseases against their future recurrence.

Although it may be very evident, that two causes of a specific nature are concerned in the production of these diseases, it is not so evident in what these causes respectively consist, or in what way they react upon each other. One of them has already been considered, it now remains for us to consider the other, and their mutual reactions.

Various theories have been proposed in explanation of these obscure and difficult points, but the most important

hitherto brought forward have been, Liebig's fermentation theory, and the parasite theory of Dr. Holland and Professor Henle.

Liebig compares the action of the morbid poisons on the blood to that of yeast on the sweetwort during the process of fermentation. He points out the close analogy which exists between the two processes, the phenomena being so similar as to appear at first sight almost identical. This theory is so familiar to all, that it would be needless repetition to detail it here. An excellent abstract of it is given in Dr. Watson's lectures, under the head of Exanthemata.

Simon, in his lecture on the morbid poisons, summarily condemns this theory. He denies that the two actions are at all analogous, because, in the first place, the morbid poisons are very various, affecting the different ingredients of the blood severally and distinctively, while yeast is the only ferment capable of reproducing itself in the vegetable solution, and its action always gives rise to the same products. I need scarcely say, that this argument, however strong it may be against the *identity* of the actions, does not in the slightest degree affect the *analogy*.

In the second place, he objects that their sphere of action nowhere extends beyond the particular ingredients which they respectively affect to an entire fermentation of the blood. This objection also is overstrained, for the analogous part of the process of fermentation is the reproduction of the yeast, and not the production of alcohol and carbonic acid. The morbid poisons extend their action to all the ingredients of the blood susceptible to their influence, the mass of the circulation being protected by the vital power of the system. The action of yeast extends no further. If the solution contain matters not susceptible to this action,—under the control, it may be,

of some power stronger than that of the yeast, that of chemical affinity for example,—these matters remain totally unaffected.

Thus the blood may be said to undergo as complete a change as the sweetwort, although the change may not be so practically demonstrable; but have we not sufficient proof of such a change in the fact, that it now possesses a power which formerly it did not possess, namely, that of resisting contagion.

The fact that yeast is an organic production, instead of a chemical substance, as Liebig probably supposed it to be, is a stronger objection to the theory, as a theory. Even any of the foregoing, for, from such a chemical, it becomes changed into a parasite theory, a consummation which Liebig cannot be supposed to have either foreseen or intended.

But whatever may be the defects of this theory, it has served to call attention to a striking analogy which had before been unnoticed, it has given definiteness to phenomena which were before vague and obscure, and it has pointed out the direction in which future investigations would be most probably attended with success.

After condemning Liebig's theory as inapplicable, Simon throws out a few suggestions of his own, regarding the phenomena of these diseases. He says, "in many respects they seem to be *sui generis*. Certainly they are chemical." Now, he brings no reasons to show why the phenomena should be looked upon as chemical, nor can I conceive why they should be considered as such, for they certainly have no analogue among ordinary chemical actions, properly so called. Proceeding from this assumption, he next assigns them a place among that class of actions styled catalytic, with the condition, however, that if included in this class, they must constitute a new species.

Now, whatever be the nature of the action which the morbid poisons exert upon the blood, it seems sufficiently clear that it cannot be catalytic, seeing that an essential law of catalysis is, that the agent which produces such action should not itself enter into any combination resulting from that action. The action of yeast in the alcoholic fermentation is catalytic, in so far as the formation of alcohol and carbonic acid is concerned; but the analogous part of the process,—the multiplication of the yeast,—cannot be considered as a catalytic action, for a direct affinity, chemical or vital, exists between the yeast and the gluten of the wort.

With regard to the morbid poisons, it cannot be shown that they induce any new combinations in the blood into which they do not themselves enter, for the only appreciable changes which are produced, are the removal of the material which gives the susceptibility to the action of the morbid matter, and the increase of the morbid material itself, both effects evidently depending on an affinity exercised between the latter and the specific ingredient of the blood, thus placing the action without the pale of catalysis.

Another theory which has been considered by many as being liable to fewer objections than any other hitherto proposed, is the parasite theory. This theory was first suggested by Kircher, and has since been warmly advocated by Dr. Holland and Prof. Henle.

Prof. Henle argues in support of this theory. Firstly, That no substance other than an organic one is known to increase by the assimilation of foreign materials.

Secondly, The effect produced by the morbid poisons bears no ratio to the quantity of the substance introduced, which circumstance must evidently depend upon the pro-

lific power of the latter, therefore, according to the foregoing argument, this substance is probably organic.

Again, The periodic nature of many of these diseases shows a close analogy with what occurs in the development of organic substances. The definite period of what has been called incubation, and the time which elapses between the commencement of the fever and the breaking out of the eruption, are very similar to what occurs during the progressive development of organisms.

The same means, also, which favor, limit, or prevent the formation or development of organic substances, also favor, limit, or prevent the action of infectious matter, as heat and moisture, which are favorable to both; and acetic acid, which acts as a poison to organisms, and whose influence in checking contagion is well known. Moreover, organic substances, as infusoria, and parasitic vegetables, may, like contagious matter, remain dry for years without losing the activity.

In addition to these general arguments tending to prove the organic nature of the morbid poisons, Henle endeavors to support the theory still further, by referring to several diseases found among the lower orders of animals, and especially to one, eminently contagious and of a parasitic nature, existing among silkworms. He attaches great importance to this disease (muscardine), evidently considering the analogy to be perfect. If the contagious nature of the disease be alone considered, the analogy is certainly complete; but the resemblance does not extend to other equally important characters of the zymotic diseases, for, as shown by Simon, this disease, together with other diseases commonly known to be parasitic, such as scabies, the various kinds of porrigo, hydatids, etc., are of all diseases the most essentially local, proving injurious only

in one of two ways: 1. Locally, from pressure or irritation. 2. Generally, from the local irritation becoming inflammatory, or by the system becoming animated. This is especially true of muscardine, to which Henle attaches so much importance. The disease is purely a local one, extending from the point of inoculation until it involves the whole body, and proving fatal only as the extreme result of pressure or exhaustive drain.

The course of most of the true zymotic diseases differs widely from this. In them the local symptoms are generally trivial when compared with the constitutional affection; indeed, in the severest forms, as in cholera, plague, etc., the disease often proves fatal before the local symptoms have begun to show themselves.

This theory, then, in its present form, cannot be considered as sufficient to explain the phenomena of the zymotic diseases; for none of the examples cited are so closely allied to them as to admit of our inferring a similarity of cause. It is true, that of late years animalcules have been seen among the products of one or two diseases sometimes included under the same head, such as gonorrhœa, glanders, etc., but these diseases are so different in most of their characters from the true zymotic type, that the propriety of admitting them into the same class may well be questioned.

But though the arguments brought forward in support of this theory have failed to prove that the active principle of the morbid poisons consists of parasites or animalcules, according to the common acceptation of these terms, yet they go far towards proving that it is organic; so that, instead of condemning the theory as altogether erroneous, we should rather attempt to modify or remodel it, in such a way as to obviate the difficulties which hitherto have opposed its adoption.

The animalcules or organisms found in the products of parasitic diseases seem to me to be too highly organized, or of too large a size, to admit of their existing in the blood and circulating with that fluid. They have been found in various extra-vascular situations, as between the fasciculæ of muscular fibre, in the mucous and cutaneous follicles, etc., but I am not aware that any such have been found within the vessels.

But organisms may, and do exist in the blood. Modern physiology has shown us, that nearly every function of the body is performed through the instrumentality of cells; indeed, so numerous are they, that the whole body might almost be considered as an aggregation of them. These cells are possessed of vitality, at least they are subject to its ordinary laws. They have a period of progressive development, a period of maturity, and one of decadence, and they perform vital functions, as those of nutrition and secretion. In the healthy state, the blood is loaded with these organisms in the shape of corpuscles, which, in countless myriads, roll on with its ceaseless current.

But it is not in the healthy condition alone that living cells exist in the blood. Pathology has also pointed out to us more than one disease, whose proximate cause consists of the development and multiplication of cells within the blood.

Take, for example, pyæmia. A vein inflames and suppurates. A circumscribed abscess is formed which contains pus. This pus, so long as it is separated from the circulating blood by the fibrinous barriers, produces only local results. It probably goes on increasing at the expense of the superimposed textures, until it reaches the surface and is expelled, scarcely any constitutional effect being produced. But suppose the abscess does

not reach the surface. The dykes are broken down, and the pus cells make their way into the circulation along with the blood corpuscles! What then is the result? Do they act as simple foreign bodies, suffering themselves to be quietly extruded from the system, or at most, giving rise to small and circumscribed abscesses in some of the organs? On the contrary, the disease, from being purely local and of little moment, at once becomes constitutional and most intense; a fire is instantly lighted up which soon spreads over the whole system. The pus corpuscles are reproduced in immense numbers, infiltrating the internal organs or forming large purulent depots external-- The pus here comports itself in a manner very similar to the morbid poisons, producing immense results from a very trifling cause.

Another example of the presence of morbid cells within the circulation may be found in secondary cancer. These secondary formations are produced by the arrest, in some organ or tissue, of cancer cells or their germs, derived from a primary cancerous growth, and circulating with the blood. The prolific nature of the cancer cells explains the rapidity with which whole organs become converted into a cancerous mass.

Primary cancer, like a common abscess, is purely a local disease so long as it remains primary, producing only local results, and in most instances curable by local means. But if in any way the cancer cells or their nuclei, like the pus-corpuscles in pyæmia, find their way into the blood, then again, an intense constitutional disease is lighted up, the products of which, as in the foregoing case, are identical in character with the primary matter introduced into the blood.

Cancer has been all but proved to be transmissible from

one individual to another. Langenbeck produced cancerous growths in the lungs of a dog, by injecting cancerous matter into the veins. The disease, however, is far from being contagious to the same extent as most diseases known as contagious; but this is easily understood, if we bear in mind the comparatively large size of the cancer cells and their nuclei, which precludes their entrance into the circulation under ordinary circumstances, or their dissemination in the atmosphere, like the poison of infectious diseases.

Here, there are two diseases in which cells figure as the active and essential cause, proving not only that morbid cells may exist within the circulation, but that they may there reproduce themselves, acting in a manner very similar to some of the morbid poisons, and in one of the diseases at least, (if the contagious nature of cancer be admitted,) giving rise to a remarkable property, common to all the zymotic diseases, namely, the capability of being transmitted from one person to another.

These diseases constitute another link in the chain of evidence supporting the organic nature of the morbid poisons, while at the same time they lead us towards the conclusion, that as in the former, so in the latter, cells constitute the active principle.

Another argument in favor of the organic nature of the morbid poisons, (and which I have purposely kept back until after the consideration of cancer,) may, I think, be drawn from the action of some of that class of remedies commonly known as alteratives.

Let us take a common example. Arsenic has been found useful both locally and constitutionally in the treatment of cancer; in fact, it is almost the only substance which can be said to possess any power whatever over this dis-

ease. It has also been used, it is said, with great success in cases of poisoned wounds from the bites of serpents. In intermittent fevers, and in other periodic diseases, it has often proved successful after all other curative means have failed. There are some other diseases not very closely allied to zymotic diseases, but which have many characters analogous to them, in which arsenic forms almost the sole remedy: such are some of the squamæ, as lepra, psoriasis, etc. As an external application, arsenic has been found preferable to more powerful caustics in cancer, and in such diseases as lupus, and an ointment of it has been found almost a specific in onychia maligna. But arsenic is not the only one of the class which possesses this extensive range of specific actions. Many others possess similar powers. The curative power of mercury is well known in at least one contagious disease. It has also been found to possess great power in checking the progress of cholera, and its use in many forms of fever is well known. Many chronic skin diseases have yielded to it, when all other remedies have failed. Local applications of it also, in the form of corrosive sublimate, have been found very useful in some forms of porrigo.

Nitrate of silver is another of this class, so is iodide of potassium, and I might go on enumerating others, all of them possessing the same qualities; let these, however, suffice for our purpose.

Now, how are these actions to be explained? I am not aware of any satisfactory or definite explanation having ever been given. These remedies are said to exert a peculiar influence on the system, by which its morbid functions are corrected, etc., etc.; but the nature of that influence has not been satisfactorily explained.

It will be observed that those substances which I have

mentioned, and many others belonging to the same class, possess properties highly destructive to life in all its forms. Now, may not their alterative action depend upon this property? Some of the diseases in which their beneficial influence is exhibited have an organic cause, such as cancer, porrigo, etc., and in most of the others there are strong reasons for inferring the cause to be of a similar nature.

The well-known beneficial effect of mercury in common inflammation might be explained in this way. Inflammation is a disease commonly connected with increased vitality of the system. In those persons possessed of the inflammatory diathesis, the blood corpuscles exist in large proportion, and all the functions of the body are carried on with unusual activity. May not the mercury, then, act beneficially by reducing this superabundance, as it were, of vitality, by virtue of its specific power; possibly by retarding or preventing the growth of the blood corpuscles; while blood-letting produces the same effect by directly withdrawing from the system a portion of its vitality, represented by the amount of the vital fluid abstracted? This view will be still further strengthened if we consider the injurious effects of mercury in strumous or cachectic habits, where the vitality of the system is already low, and where the depressing effects of the medicine must of necessity prove deleterious.

There are other substances, such as cod-liver oil, sarsaparilla, etc., commonly classed among the alteratives, and which cannot be said to possess these destructive powers; but the impropriety of placing these substances in the same class with the others seems sufficiently manifest, for their beneficial effects are much more easily and satisfactorily explained, by ascribing them to their tonic and dietetic qualities, than to any specific power which they can be supposed to possess.

The conclusions to be drawn from the action of alterative medicines may be stated briefly as follows. 1st, That most substances properly included in this class possess properties unfavorable to the development, and destructive to the life of organisms in general. 2nd, The beneficial operation of these substances is manifested in diseases known to depend on the development of organisms, as in cancer, porrigo, scabies, etc. 3d, That their beneficial action is also often seen in diseases known to depend on the action of morbid poisons, as in syphilis, cholera, fevers, etc. 4th, Their beneficial action in these cases will be best explained by supposing the proximate cause of such diseases to be organic.

To sum up, then, how stands the case? The action of alteratives adds another item to a mass of evidence almost incontrovertible in favor of the organic nature of the morbid poisons. The only question which yet remains to be definitely settled seems to be, the precise grade or class to which the organisms belong. I have stated my reasons for believing that they cannot belong to any class commonly understood by such names as parasite, animalcule, insect, etc., and I have also given reasons for supposing them to belong to the class of organisms known as cells. Whether these reasons will be satisfactory to other minds as they now are to my own, remains to be seen. It is true, the cells which have been assumed as the agents in the zymotic diseases have not as yet been physically demonstrated; but may we not hope, and indeed predict, that accurate observation will yet enable us to identify the peculiar cell or germ of each disease as unerringly as we can now identify those of cancer or pus.

In such an investigation, our search is not to be directed towards objects so palpable as a pus-corpuscle or a cancer cell, but towards objects so minute as to be capable not

only of diffusion through the atmosphere, but of finding their way into the blood, through membranes now considered to be perfectly continuous.

The disease which offers the best prospect of success in this examination would seem to be small-pox, or some disease abounding in material products, in which the contagious matter is unquestionably given off, mingled with the products of common inflammation. The matter taken from a small-pox pustule, for instance, must contain ordinary pus, and, in addition, the specific contagious substance, whatever that may be. Now, the microscopic characters of pus being tolerably distinctive, its admixture with this foreign material must necessarily be supposed to alter its appearance, the only difficulty being, that our present means of examination are not sufficiently refined to enable us to detect the difference; but when these means shall have been rendered more efficient as science advances, we may, I think, reasonably expect such discoveries, nor would they be so surprising as the original discovery of the pus or blood corpuscles themselves.

In the first place. By way of preventing the spread of these diseases, every effort should be made to destroy the infectious matter external to the body, in fomites, etc.; and this will be best accomplished by the use of means or substances which have the power of destroying the vitality of the poison: such as exposure to heat, cold, chlorine gas, solutions of chloride of zinc, arsenic, corrosive sublimate, etc., etc.

Secondly. In view of the great predisposition to these diseases, engendered by the accumulation of effete matters in the blood, all circumstances should as much as possible be avoided which tend to produce such an accumulation, as fatigue, exposure to noxious exhalations, damp and low situations, crowded dwellings, etc.

Thirdly. Whenever a specific antidote or preventive is known to exist, such as vaccination, its use should be made as universal as possible.

Fourthly. When the poison has already been introduced into the blood, its development might be prevented, or at least diminished in many instances, by the timely use of alteratives.

Fifthly. The system should be supported by nourishing diet, and stimulants if necessary, to enable it to bear up against the depressing effect of the poison, and of the remedies necessary for counteracting it.

Sixthly. All the excretions of the body should be kept, as much as possible, in a healthy condition, that no obstacle may be presented to the elimination of the poison.

Lastly. All complications which arise during the course of the disease must be treated on general principles, avoiding, as much as possible, everything which may tend to reduce the strength, or impair the vital energy of the system.

Thus, then, I have endeavored to embody, in as concise a manner as possible, a few ideas which suggested themselves with regard to these obscure diseases. As stated at the commencement, I have not attempted an elaborate, a complete treatise on the subject of morbid poisons; but have mostly confined myself to those prominent points which have from time to time been the subjects of controversy and investigation. Any suggestions which I have made must be regarded more in the light of first impressions than as the results of mature reflection. The impossibility of obtaining many of the most valuable works on the subject, and the hurried and interrupted manner in which I was obliged to use those within my reach, have prevented me from bestowing upon the subject the amount of care

and deliberation which its interest and importance demand. It is with diffidence that I have ventured to give an opinion on subjects which have occupied the attention of some of the most eminent men of our profession, but I have endeavored to consider each theory on its own merits without regard to its authors, and when I have ventured to differ from them, I have been careful to state, as clearly as possible, my reasons for so doing.

Experienced readers will, no doubt, find many, and perhaps important defects in the foregoing pages, but I trust they will make some allowance for inexperience and many disadvantages, and if they find in them anything worthy of their approval, or which may serve to render the obscure diseases under consideration one whit more clear, my utmost expectations shall have been fully realized.

VALEDICTORY ADDRESS TO THE GRADUATES IN
MEDICINE OF THE UNIVERSITY OF MCGILL
COLLEGE, MONTREAL.

DELIVERED AT THE ANNUAL CONVOCATION, FIFTH MAY, EIGHTEEN
HUNDRED AND SIXTY-THREE.

GENTLEMEN :

The ceremony through which you have just passed is one which is well calculated to make a deep and lasting impression upon your minds, for it not only marks an important period of your lives, but it possesses a significance which, I trust, you fully comprehend and appreciate.

The University has this day conferred upon you the honour for which you have been striving during the last four years,—an honour which consists not merely in an empty title, but which implies your fitness for a position of influence and responsibility. You have completed the prescribed course of study, and your teachers, after a careful and searching examination, have declared you to be "learned in the Science of Medicine and Masters of the Art of Surgery." But it cannot be pretended that entering this stately Hall as students only, you are to leave it as accomplished practical physicians. The ceremonial of to-day possesses no such magic influence. —it merely marks the point at which one part of your studies ends and another and more important part begins. It is with reference to this latter part of your studies that, in taking leave of you, I offer a few words of parting counsel.

Gentlemen, I trust that you are fully conscious of the

importance of the duties on which you are now entering. You are assuming a vast responsibility. You have equipped yourselves like a band of warriors to ward off the attacks and to stop the ravages of the most insidious and the most insatiable of enemies; and you must remember that yours is a very peculiar position. You are not to go forth as a united band, where a steady discipline will maintain you in your ranks, and where you will be cheered by the presence and support of your comrades. Each of you has to march forth alone, and must be prepared to act unsupported in any emergency which may arise. Not in the glare of day and before admiring spectators are your laurels to be won. In darkness and in solitude must your struggles be maintained.

Each of you who in after life shall practise his profession, will doubtless find himself in circumstances where, humanly speaking, life or death is in his hands. He may be out of the reach of all additional assistance, or the danger may be so urgent that the time in his hands may be counted by seconds. A decision as to his line of practice must be come to on the spot. There is no time for consulting others, no opportunity for referring to books; and now, if he be found wanting, how terrible is the result? Losses of almost every other kind may be made good, mistakes as to any other subject may be rectified; but the vital spark once fled,—no sacrifice, no effort, can restore it.

You will often hear it remarked of a timid or of an indolent physician or surgeon that, if he can do no good, he will at least do no harm; but a moment's reflection will show the utter fallacy of such a conclusion; for a doctor's sins of omission are quite as fatal as his sins of commission; and he who stands impotently by, or runs affrighted away, when a fellow-creature's life is in mortal peril and might be

saved by prompt and skilful interference, is no more free from blood-guiltiness, than he who slays his victim by ignorant presumption or reckless officiousness.

To fit yourselves for the proper discharge of your responsible duties you must continue to be diligent students. Medicine is essentially a progressive science. The improvements of one year are constantly being superseded by discoveries in the next, and your duty to your patients requires you to furnish yourselves with every available means of resisting disease and death.

Gentlemen, the life which you have chosen is no mere pastime. You need not expect to dream away your time on beds of roses. Your life must be one of labour, for in every part of your career you will meet with difficulties to be surmounted, trials to be endured, and arduous duties to be performed.

In the earlier years of your practice, however qualified you may be, most of you will have to contend against neglect, distrust and prejudice, ere you can convince the public that you deserve their confidence; and it will require all your fortitude to reconcile you to the slow process by which you are to win professional success, while your youthful ardour prompts you to carry the citadel of public confidence by storm.

You will also have to contend against what seem to be the prevailing weaknesses, if not the vices, of this age. I allude to scepticism and credulity. You will be jostled in your work by quacks and charlatans. You will find men writing books and delivering lectures to prove that all the science of medicine,—that is, of regular medicine,—is mere guess-work or worse, and that all the labours of all the physicians since the earliest times have taught us absolutely nothing. These writers and lecturers, however,

never fail to add that *they* have somehow acquired the grand secret, and that *they* can readily cure all the ills that flesh is heir to, and especially such as are usually considered incurable.

But the wonder is not so much that ignorant and unscrupulous men should thus write and speak, but that so many believe their wholesale assertions; and it is not merely among the less educated classes that this fallacy prevails, for any one who observes what goes on around him will soon see that even the best educated classes are largely infected with it.

Now, that this tendency to adopt the bold assertions of the quack doctors and to regard medicine as utterly devoid of a scientific foundation is a fallacy, it is impossible for any one to doubt who considers the subject with attention. The object of medicine being the cure of disease or the alleviation of suffering, it is plain that he who would succeed in it must make himself acquainted with the natural structure and functions of the human body, with the manner in which these are altered and affected by disease, with the natural characters of diseases themselves, with the nature and effects of remedies, and with the experience of past ages. Now, in all this the student of medicine is merely doing for his subject what every man does for whatever he may undertake. He is studying the facts and laws of nature as they concern his profession, and he brings to his aid that which the experience and sagacity of others have added to the common stock of knowledge.

Surely there can be no better conceivable method by which medicine ought to be learnt. He who is best acquainted with the objects of his profession, with the means at his disposal, and with the knowledge transmitted from past times, is certainly far more likely to prove a successful

practitioner than he who despises study, and who, because in the treatment of the diseases affecting the wonderfully complex frame of man absolute certainty has not been attained, at once asserts that medicine is unworthy the name of a science.

The common sense of the community in every-day matters contrasts favorably with their judgment in this respect. If a man's watch go seriously wrong, he does not trust it in the hands of one who has never studied the mechanism of watches. If a merchant's business be in disorder and bankruptcy stare him in the face, he does not seek the advice of those who have no knowledge of the laws which regulate commerce and finance; and yet these same men in matters where their own lives and the lives of their families are concerned, will trust blindly to him whose chief recommendation is, that he unsparingly abuses all medicine except his own panacea, and all medical men except himself.

You must be prepared to find many examples of the fallacy I allude to, but you must never lose sight of the true principle: that he who most carefully and conscientiously studies a subject must infallibly, other things being equal, become the best qualified in regard to it, and that his fellow-citizens will sooner or later find this out.

But the profession itself is not entirely innocent in this matter; carelessness or routine may bring the practice of medicine into disrepute, or the mistakes of one age may prepare the way for quackery in the next. Had it not been for the abuse of drugs during the last century, the doctrine of infinitesimal doses would have been impossible in the present. But even within the profession itself there is much quackery, and it is this which is most dangerous, because more insidious and more difficult to be guarded

against. Traitors in the camp are more to be dreaded than foes in the open field. The worst enemies of legitimate medicine are often its professed friends.

From all such crooked paths let me most emphatically warn you. Let it be your object never to commit an action or to say a word you could afterwards be ashamed of. By never making professions which you do not conscientiously feel that you can fully carry out, by never seeking to advance your own interests at the expense of another's, you will preserve your own self-respect, and you are sure to merit and to obtain the approbation of others.

But, gentlemen, supposing that you have surmounted all the difficulties incident to the earlier part of your career, and have established yourselves in ample practice, your troubles are by no means at an end. The public can have no conception, and you yourselves but a faint one, of all the stern realities of a doctor's life. How few will give him credit for his quiet endurance, his anxious watchings, his baffled hopes, his untiring self-sacrifice? See him in the full tide of his professional career; what a life of anxious troubled unrest, what exorbitant exactions are made upon his resources, what unthinking demands upon his time and his vital energies? By day and by night, in sunshine and in storm, on work-day and on the day of rest, for rich and for poor, with or without recompense, he must ever obey the call of suffering humanity.

And again, he must be ever ready to encounter accidents, disease, and death, in all their most appalling forms; when friends are paralyzed with fear, when contagion carries panic to the stoutest hearts, he must be there calm and unmoved. Life may be ebbing fast through the bleeding artery or the shattered limb, the victim of cholera may present the most hideous features of death whilst yet

writhing in vital agony, delirium or convulsions may compress the energies of a life in a few brief, racking, fatal hours, and still he must be there, battling manfully, and it may be impotently, with busy death.

But, it may be asked, what is it that induces you voluntarily to undergo such difficulties and trials as I have attempted to describe? I reply, your chief incentive must be an ardent love for your profession. If you have not this love you had better turn back at once, for assuredly without it you will never be a credit to yourselves, nor to the profession whose name you bear. But the profession of medicine is one well qualified to enlist our warmest feelings. It consists of the constant and eager pursuit of truth, and the application of that truth to the relief of suffering and the promotion of human happiness. It embraces the most comprehensive study of nature, and endeavours to utilize knowledge in every department of science.

It is this ardent love for his profession which explains much in the conduct of the practitioner of medicine that is incomprehensible to the public, or that is misconstrued. Herein lies the secret of that singular characteristic of our profession—the eagerness to work for nothing. This is why we see young men contest with a vigour, and often a pecuniary cost equal to those expended for a seat in parliament, the privilege of working gratuitously in our hospitals and dispensaries. Governors and the general public are mostly unable to recognize any but the sordid motive of worldly advantage. They see the earnest applications, the voluminous circulars and testimonials, the active canvass from door to door, and they not unnaturally conclude that what is solicited at so great a cost of time, trouble, and even of personal dignity, must possess a

commensurate pecuniary value. The simple fact is, that medicine and everything connected with it is progressive. It is progressive as an abstract branch of knowledge, and it is progressive as regards every individual who follows it as a profession. The medical man is always and above all a student. Deprive him of the means of observing disease and you render him miserable. Not because he is enamoured of disease, still less because the sight of human agony has any attraction; not because the employment is profitable in a pecuniary sense, but because he feels that without the opportunity of observation the knowledge he possesses will decay, the faculties which are strengthened by exercise will grow torpid, and the skill that is acquired by practice will be lost.

Actuated as you are, gentlemen, by love for your profession, you must pursue it with earnestness of purpose. What was it that inspired the courage and foreshadowed the successes of an Alexander, a Hannibal, a Cæsar, and a Napoleon? What embalmed the memories of Newton, of Milton, and of Herschell? What was it that enabled Arkwright, and Watt, and Stephenson to revolutionize the physical world? What was it in our own profession that has rendered the names of Sydenham, and Harvey, and Hunter, and Jenner, "familiar in the mouth as household words?" It was,—take it as the most solemn truth which the history of these men proclaims,—that they possessed earnestness of purpose. To them life was no plaything, time was no bauble. So it should be with you, so with all, in every calling in life, who desire to achieve success. Earnestness of purpose will overcome defects of early education, it will compensate for the lack of genius, and it will give pledges of success which will prove the true harbingers of greatness.

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And now, gentlemen, in conclusion, what is to reward you for your toils and struggles? Not wealth,—for in no other profession are large fortunes so rarely amassed. Not heraldic honours,—for no coronet has ever graced the brow of a physician. Had such been your ambition, you should have plunged among the “glorious uncertainties of the law” to “perplex and dash maturest counsels,” have marched amid the “pomp and circumstance of glorious war,” or mixed in the noisy turmoil of party politics. No, gentlemen, your reward must be sought in the consciousness of having contributed to the welfare and happiness of your race, in the respect and esteem of your fellow-men, and in the knowledge that you are humbly following in the footsteps of the Great Physician, who went about continually doing good.

Go, then, gentlemen, on your mission of mercy. Do battle honestly and manfully in the cause of humanity; and when at last—worn out or stricken down—you fall with the harness on; though for you may not resound the boom of cannon or the blast of trumpets, yet your memory shall not lack the more touching tribute of the grateful sigh and the silent tear.

ADDRESS AT THE MEDICAL CONVOCATION,
MCGILL UNIVERSITY.

APRIL SECOND, EIGHTEEN HUNDRED AND EIGHT-NINE.

My appearance here to-day to announce the results of the session of the Medical Faculty which has just closed is a reminder of the great loss which the Faculty has sustained by the lamented death of Dr. Howard, our late Dean and senior Professor of Medicine in this University. It is not for me, nor is this the occasion, to gauge the length, breadth and depth of the sorrow which has been caused in all classes of the community by Dr. Howard's untimely death; but I cannot refrain from saying a few words concerning more particularly his relations to the Medical Faculty itself. Connected as he has been with the Faculty for more than thirty years as one of its most successful and active teachers, beginning at the bottom of the list as Demonstrator of Anatomy, and winning his way upward till he reached the highest position in the Faculty as Dean and senior Professor of Medicine, his career has been such as to win for him the admiration and affection of all with whom he was associated, from the humblest student to the oldest of his colleagues, as well as to all those associated with him in the other departments of the University. You, gentlemen, graduates to-day, but for the last four years students of the University, have often been cheered and your labours lightened by his rare courtesy, his kindly sympathy, his ever ready word of encouragement and his warm smile of approval; and wherever your lot may be cast, you will always associate with your memories of McGill University

the affectionate and active interest displayed towards every one of you by your late Dean.

It would be difficult to over-estimate his services to the Medical Faculty. To his rare gifts as a teacher were added unfailing tact and sagacity, as well as executive ability and administrative talent of a high order. His uniform courtesy and kindness of manner often disarmed opposition where more energetic means would have failed. But he was also instrumental in aiding the Faculty in a more direct and material way. He was chiefly instrumental in procuring for the Faculty its first and only endowments in the shape of the Campbell and Leancoil memorial funds. These funds, contributed by our citizens and by the ever generous benefactor of this University, Sir Donald A. Smith, to commemorate the connection of the Faculty with its former Dean, Dr. George W. Campbell, have been of the very greatest service to the Faculty. Indeed, I may say that it would have been impossible for the Faculty to have maintained its position in the front rank among medical schools without them. The increased income derived from these endowments has not been frittered away in useless architectural ornamentation or in useless displays of any kind, but under Dr. Howard's guiding hand they have been utilized to the utmost in extending the usefulness of the University, first, by providing additional and much-needed class-room accommodation; secondly, by enlarging and increasing the equipment of our laboratories for important practical work, chiefly in the departments of physiology, pathology and practical chemistry; and lastly, by supplementing by small amounts the fees arising from some important practical branches, which, though indispensable to the student, could not be made self-supporting.

But though great has been the loss to the Faculty and the University in the death of Dr. Howard, we must not waste valuable time in useless repining; we must rather close up our ranks and press on shoulder to shoulder, to carry on the work on the lines and in the direction so energetically followed by our late Dean; and in our work we must look to the friends of the University of every degree for that help and material assistance without which our efforts will be of little avail. We will look to our graduates to supply the talent and the scientific knowledge required to fill the gaps which must from time to time occur in our ranks; we must look to our statesmen and men of influence to protect us against unjust legislation, calculated to cramp our efforts and to cripple our usefulness; we must look also to our wealthy men and wealthy women to furnish us with means to keep abreast with the scientific progress of the day; and lastly, and above all, we ask for your hearty good-will and active sympathy; for upon them must largely depend the success of our efforts.

Relying then upon your active help, and with an earnest and sincere determination to use the means at our disposal to the best advantage in the interests of the Faculty and the University, may we not hope to carry forward and maintain the Faculty in the very front rank among the medical schools of this continent; and in so doing shall we not also be building up to the memory of Dr. Howard a most fitting and enduring monument?

ADDRESS AT THE MEDICAL CONVOCATION,
MCGILL UNIVERSITY.

APRIL FIRST, NINETEEN HUNDRED AND NINETY.

SIR CHANCELLOR, LADIES AND GENTLEMEN,—The fifty-seventh medical session, which is now closing, and the first after the lamented death of our late Dean, Dr. Howard, has not been widely different from the others that have gone before it. Indeed it is matter for congratulation, that, notwithstanding the many changes which have necessarily taken place in the readjustment of our classes, the prosperity of the school as a whole has apparently not sensibly been diminished. In numbers there has been a notable increase, from 233 last year, of whom 227 were undergraduates, to 261 this year, of whom 256 were undergraduates, a difference of 29 in favour of this year. It cannot, of course, be considered that this increase is in any way due to the recent changes in the Faculty; it is simply one step in the steady progress of the Faculty since its beginning in 1829, and which from various causes is, and always must be, more or less, fluctuating. This will be more readily understood by comparing the numbers at decennial periods from the first session in 1829-30, to the present time, including the session just closed, as follows:—

Session, 1829-30	Students, 30.	Increase, 0
“ 1839-40	“ 28.	Decrease, 2
“ 1849-50	“ 44	Increase, 16
“ 1859-60	“ 108.	“ 64
“ 1869-70	“ 141.	“ 33
“ 1879-80	“ 166.	“ 25
“ 1889-90	“ 261.	“ 95

The decrease of two during the first decade is accounted for by the circumstance that the school was closed for three years, during the Political Troubles from 1836 to 1839. Notwithstanding this, however, at the end of the third decade the number had more than trebled, and at the end of the succeeding three decades that number has again been more than doubled; or taking the whole six decades together, the number to-day is 8.7 times greater than it was at the commencement sixty years ago. It would be absurd to suppose that this rate of progression should continue as the numbers grow larger; and almost equally absurd to attempt to predict any definite rate of increase for the future; but from all indications, there can be no reasonable doubt that a substantial increase from year to year is likely to continue for many years to come.

The contemplation of this increase is not only a source of pleasure to us, but it is also a source of some anxiety. Less than ten years ago, our progress was checked for want of building accommodation, and students seeking their education here were actually compelled, from want of room, to go elsewhere.

This calamitous state of affairs could not, of course, be long allowed to continue. The University not having any available funds to enlarge the building it had so generously constructed for the Faculty in 1872, the Faculty was reluctantly compelled to borrow from one of its then recent endowments—the Campbell Memorial Fund—no less a sum than \$23,000, to construct an annex to its main building. The Governors of the University were good enough to promise the restoration of this sum to the Campbell Memorial Fund, so soon as the condition of the University's funds would admit of it. The annex was completed

during the summer of 1885, and the session of 1885-86 was opened with class rooms and laboratories much enlarged and improved, and with 234 students.

The anticipated increase in the number of students during the next two or three years, was prevented by the outbreak of small-pox in 1885, and by the state of alarm which followed it; and it is only during the last year that the rate of increase has returned to something like its normal proportions. We are, as yet, fairly well provided for in the matter of room, and could probably find accommodation, without overcrowding, for from forty to fifty additional students; but with anything much beyond that number, we should again be under the unfortunate necessity of sending students away for want of necessary accommodation; or of still further depleting our much needed endowments by making further additions to our present buildings. Such actual and possible depletion of the Faculty's only endowments,—the Leancoil Endowment Fund of \$50,000, contributed by our generous friend the Chancellor; and the Campbell Memorial Fund, also originally of \$50,000, contributed by other good friends of the Faculty,—cannot be contemplated without much anxiety; for the revenues from these endowments are urgently needed for the maintenance of the teaching departments in a proper state of efficiency.

The Faculty has had occasion also to consider and to deal with other matters of importance during the year. Urgent and repeated applications have been made to us to admit female students to our classes; and influential deputations, composed of persons of both sexes, have waited upon us, and urged their views in support of their side of the question. The Faculty, while far from denying the desirability, under suitable conditions, of admitting

women to the practice of medicine, could not see its way to the admission of female students to its classes, hitherto designed exclusively for men; and was, therefore, reluctantly compelled to withhold its consent.

Principal McEachran, on behalf of the Montreal Veterinary College, made application through our Faculty, for official connection with the University. Our Faculty, after the most careful scrutiny into its whole course of study and examinations—both preliminary and professional—was satisfied with its completeness and its high standard; and having also in view its increasing influence in matters connected with the Live Stock interests of the Dominion; recommended to Corporation that it be elevated to the position of a distinct Faculty of the University, under the title of "The Faculty of Comparative Medicine and Veterinary Science."

The readjustment and consolidation of students' fees also engaged the attention of the Faculty during the year. The old system of separate and different fees for the different classes, and even for the different sessions, was found to be complicated and unsatisfactory. It was, therefore, decided to make a fixed charge for each session, to cover all the classes; and a uniform charge for all the sessions; this fixed sum being one hundred dollars for each of the four sessions, or four hundred dollars for the whole course of collegiate teaching. This amount is exclusive of the Graduation and Hospital fees, and will add a small amount to the sessional charges made to students; but not at all in proportion to the additional expenditure by the Faculty during the last few years in making its teaching more efficient. Moreover, the new scale of fees will not apply to students now on the College books; but only to those who enter after the present session.

The 261 students who have been in attendance during the year have come to us from all parts of this continent, and one from England. Ontario has sent 111; Quebec, 71; New Brunswick, 27; Nova Scotia, 20; Prince Edward Island, 11; Manitoba, 7; United States, 7; Newfoundland, 2; British Columbia, 2; West Indies, 2; England, 1.

Our 56 graduates, who are now before you—and who need not fear comparison with any that have gone before them—have come to us from almost the same localities, and nearly in the same proportions.

The work of the session has gone on smoothly and well. There have been no unpleasant incidents to mar our progress; and although we may not, in all things, have achieved that high degree of excellence at which we aimed in our good resolves of last year, while under the dark shadow of our great loss in the death of our late Dean; I think we may, without affectation, fairly claim to have honestly and earnestly striven to deserve it.

OPENING ADDRESS, SESSION 1890-91, FACULTY
OF MEDICINE, MCGILL UNIVERSITY.

GENTLEMEN,—It has long been the custom in this as in other medical schools, for the teachers in turn to deliver to the students and others, two discourses or addresses in each year. One, usually known as the valedictory, at the end of the winter session, and more or less of a retrospective character, dealing with the session which has passed, and offering words of kindly counsel and good wishes to the graduates who are then to leave us. The other at the beginning of the following session, and more or less prospective in character, welcoming the new as well as the older students, and mentally shaking hands with each of them, preparatory to joining in the mutual labors of a busy session.

It has fallen to my lot this year to be asked to deliver this opening address, and it is with feelings of sincere pleasure that I offer to every student, on behalf of the professors and teachers, a cordial welcome and our best wishes for their welfare, physically and socially, as well as professionally.

In the remarks which I propose to address to you to-day, I have thought it might not be amiss to depart somewhat from the beaten path of introductory lectures, and to take a somewhat retrospective, as well as a prospective view of the changes which medical education in general has undergone during the present and perhaps the preceding generation, and the changes which it may be expected to undergo in the generation which is to follow. In doing so I may be pardoned if I take my examples and

illustrations largely from the experiences of our own school; for I think I may fairly claim for it that, so far at least as this continent is concerned, it has always since its commencement maintained a leading position, in the thoroughness of its teaching, in the high and advanced standard of its curriculum, and in the reputation and prestige which its graduates have carried with them to every part of the world.

Medical education half a century ago was a much more primitive and simple process than the elaborate and complex systems of to-day, and yet no part of the present system is superfluous or could be omitted without producing dangerous weakness, and if we are to keep pace with the present rapid progress of medical science and medical discovery, we must be prepared for the same development and increase in the future as we have experienced in the past.

Up to a comparatively recent date, the system of medical apprenticeship formed an important part of medical education, and indeed necessarily so, for in the absence of the present facilities for hospital clinical instruction, no other means were accessible to the student, by which he could learn to apply in actual practice those principles and precepts which he had learnt from his books and in the lecture room. In the old time curricula, one or two years of private study with a private practitioner was accepted as equivalent to the same time passed at the schools; and even at the present day the licensing board of this province concedes the privilege of one year's study with a private practitioner, as an optional part of the full four years' medical curriculum. In the better equipped schools of the present day this system has passed almost entirely away, and has been replaced by the more systematic and

skilled instruction in the hospital wards and in the laboratories. Didactic lectures also formed a far more important part of a medical course in former years than they now do, and indeed private medical instruction by private practitioners and didactic lectures in the class room, with perhaps a few demonstrations in anatomy and chemistry, may be said to have made up the sum of medical education until within the last twenty or five-and-twenty years.

But such antiquated methods could not long withstand the contagious example of the modern processes of scientific investigation and research in other departments of natural science, and the dry lectures delivered in nearly or quite the same words and order from year to year, and which might with as much or more profit have been delivered directly from the text book, gradually began to be replaced by others of a more demonstrative kind, and to be illustrated by diagrams, plates and apparatus, and ultimately by specimens and instructive examples, both living and dead. It thus came about that the didactic lecturer, with his well-worn manuscript, and who found it no more difficult to lecture to four hundred students than to four score, began to find it necessary to improve his methods, or to find that his usefulness and his occupation were alike slipping away from him; while the practical teachers and the demonstrators found more and more calls upon their time and energies, and found that more students meant for them more labor and more responsibility, and after a time more help; so that the descriptive lectures were at first supplemented, and afterwards many of them replaced, by practical demonstrations and individual teaching, and the laboratories and working rooms gradually grew to be more numerous and important than the lecture rooms.

A similar change has also been going on in the methods of hospital teaching.

The old time custom of "walking the hospitals" is almost a thing of the past. The student no longer lounges through the wards as if his object were to kill time, if not the patients, and the attending physician or surgeon no longer hurries from patient to patient, contenting himself with the attentions and instructions to the patients themselves which their safety demands. But the students are now taken into his confidence; they become helpers to him and to the patients, while they themselves receive help, experience and instruction which they could never hope to obtain in any other way.

It will thus be seen that the changes which have come about in the manner and methods of teaching medicine have been somewhat radical in their character, that, in fact, they have turned the old system upside down. The practical and personal parts of the teaching which in the schools, at least, were subordinate to the descriptive and didactic, have now become the most prominent and important, while the more formal lectures as such, are mostly confined to those fundamental and elementary facts and principles, which must always form a necessary foundation for practical knowledge.

But if the changes in the methods of medical teaching have been great and have added greatly to its effectiveness, they have also rendered necessary a greatly increased expenditure. A systematic course of lectures once written out, and even when illustrated with plates and diagrams or simple apparatus, is a comparatively simple affair, and can be maintained year after year at little expense, and can be made to serve for three hundred as well as for three score; but with practical teaching and demonstrations it

is entirely different. One teacher may be able to give proper personal attention to the practical work of say forty or fifty students, but if the number is increased to two hundred or two hundred and fifty, it will require five teachers instead of one to do the work. It does not necessarily follow that the expenditure must increase in the direct ratio of the numbers, for qualified assistants may often be employed at less expense, but in any case augmented numbers in practical classes means increased expenditure.

Laboratories also are expensive affairs. Their construction, equipment and maintenance are attended with great and continued expenditure. Technical apparatus is usually expensive on account of the comparatively limited demand, and consequently limited supply, and is usually perishable and difficult to keep in order and requires frequent renewal, and the cost of maintenance, even with the greatest care, is always considerable.

Nor does it seem at all likely that there is to be in the future any material diminution in the cost of practical work in connection with medical education, and as practical work is still likely more and more to replace mere descriptive teaching, the necessary expenditure may be expected rather to increase than to diminish.

But, it may be asked, are not the fees from the students intended to meet these expenses, and has not the cost of a medical education been increased to the student in proportion to the cost of providing it? The answer is, that medical teaching, properly so called, has never been self-supporting, and is now less so than ever before. It is true that the aggregate amount of a student's fees is now greater by some twenty or thirty per cent. than it was five-and-twenty years ago; but in the same period not only has

the aggregate of school expenditure been more than doubled, but in some of the departments it has been even trebled and quadrupled, and all this while practising the most rigid economy in every particular.

Nor does there seem at present to be any remedy for this disparity between the price paid for a medical education and the increasing cost of providing it; for the scale of fees is virtually controlled by those schools which have the fewest real advantages to give to their pupils, while their degrees have the same legal value as the best in the land. There are many and strong reasons, also, for considering it most undesirable to attempt to impose any additional burdens upon the medical student of to-day. He has sufficient to contend with in the increased requirements of the ever extending curriculum in matters connected with his preliminary examination, and in the vexatious differences and re-examinations which are brought upon him by our absurd provincial medical laws.

Having thus endeavored briefly to outline the important changes which the system of medical education has undergone in the past and is likely to undergo in the future, let me endeavor to show also very briefly how these changes have affected our own school, the Faculty of Medicine of McGill University, and how we have been enabled to meet them.

I think it may safely be taken for granted that nearly every doctor worthy of the name, who loves his profession, also loves to talk about it, and being fully impressed with the noble character of his calling, he naturally longs to impart his knowledge to others. This is the true missionary spirit, and bearing this in mind it will be more easy to account for the fact that medical schools are apt to break out at most unexpected times and in most unex-

pected places, and are apt also to exhibit most wonderful vitality under adverse circumstances. They may be starved, they may be persecuted, they may be legislated against, and they may seem to be blotted out, but they will crop up again and go on with their work with a persistency and a dogged determination which are but the evidences of a powerful, though, perhaps, unrecognized impelling force. It was in some such way as this that our school first came into existence, and it has been in great measure the influence of some such impelling force, that has enabled it to overcome the many and great difficulties which it has had to encounter in the course of its career.

It was sixty-six years ago that, in 1824, four earnest and energetic men, Drs. Robertson, Holmes, Caldwell, and Stephenson, founded and opened the nucleus of this school under the name of the "Medical Institution." It was continued under that name until 1829, when it became the Medical Faculty of McGill College. Of its early history little need be said. It was simply a struggle for existence, in which failure much of the time seemed quite as probable as success, and when, during the political troubles from 1836 to 1839, it was obliged to close its doors, it seemed as if its light had gone out for ever.

But that inherent love for teaching which so largely pervades the ranks of our profession, and which had been sufficient to open the school in 1824, was again sufficient to revive it in 1840, when its classes were reopened, and shortly afterwards, in or about 1842, it was almost entirely reorganized, its corps of teachers considerably enlarged, its curriculum extended and improved, and comfortable quarters were provided for most of its classes in the central college building now occupied by the Faculty of Arts.

Up to this time the assets of the school may be said to

have been *nil*. There was neither museum nor library worthy of the name, and each teacher worked for his own hand, and furnished his own equipment of every kind, paying for it as best he could out of his few straggling fees, and trusting to his private practice to support himself and his family. But the school had now a local habitation and a name; it was the Faculty of Medicine of McGill College, and it was housed in the college buildings.

From this time its success was no longer doubtful. There sprang up an *esprit de corps* among the teachers, among the students, and among the graduates, which became an important factor in the work, and which has continued and grown ever since, and has contributed in no small degree to the reputation and prestige of the school, and has encouraged and helped the Faculty in its efforts to maintain the high standard of excellence at which it has always aimed.

At this period, and for many years thereafter, the teaching was almost wholly of the didactic kind. The only real exception was practical anatomy, which had its special demonstrator; and with the help of the advanced students a few lessons and experiments were given in operative surgery and in chemistry. In 1845 the chairs of Clinical Medicine and Clinical Surgery were established.

Encouraged probably by the continued growing success of our school, the St. Lawrence School of Medicine was opened in 1851, with a strong staff of teachers and with its class rooms in the heart of the city. As the college buildings were at that time looked upon as being rather remote from the centre of the city and from the General Hospital, it was feared, rightly or wrongly, that the more central site of the new school might attract away from us some of our students. It was resolved, therefore, to re-

move our own classes also to a more central site, and as no University funds were available for the purpose of furnishing us with a building, three of the professors purchased a lot and put up the old brick building on Coté street, where, for twenty years, the work of the school was carried on, and where many, if not most, of the present staff of professors received their medical education.

Several important steps were taken and some important changes made while the work was being carried on in the old Coté street building. It was here that our beloved Principal, Sir William Dawson, took his place at our head, and enrolled himself as one of our co-workers as professor of botany and zoology. It was here also that the next step in practical teaching was taken, by the establishment of a chair of practical chemistry under Professor Girdwood, though for many years his work had to be carried on without the advantage of a college laboratory. It was here also that the members of the Faculty, not wishing to be outdone even in the ornamental aspect of their work by the more favored Faculty of Arts, founded the Holmes' gold medal in 1865, paying for the die out of their hard-earned fees.

The history of these years was one of steady and continued progress, not only in the numbers of our students and graduates, but in the more thorough and practical character of the teaching and in material improvements in the curriculum, more particularly with reference to the preliminary examinations and the division of the professional examinations into primary and final.

But the building which had served our purpose for so many years had latterly been inconveniently over-crowded, and more room was needed, not only for the larger classes, but to accommodate the growing library and museum,

and to afford room for contemplated improvements in the way of laboratories and working rooms in several of the departments. At this juncture, and guided chiefly by the wise counsel of Sir William Dawson, we resolved once more to retrace our steps, and to ask the college authorities to receive us again into their classic precincts. The governors responded generously to our appeal, and in 1871 the front or main portion of the present building was built for us and placed at our disposal.

But, willing as the governors were to come to our relief, the means at their disposal for this purpose were very limited, only sufficient to give us the building with its bare walls, and without fittings or furnishing of any kind. These, with all the necessary equipment of laboratories, class rooms and other requirements for improved methods of teaching, had to be provided by the members of the Faculty from their own personal means. Our late Dean, Dr. Campbell, headed the list with one thousand dollars, and the rest of us followed as best we could with smaller sums, until a sufficient sum, amounting to a good many thousand dollars, was forthcoming, the building was made ready for occupation, and the work itself, under greatly improved conditions and surroundings, was begun in the new building in the autumn of 1871.

Closely following upon the opening of the new building came the next important forward step in the matter of practical teaching. Laboratory work was begun in 1874 in physiology, histology and pathology by Dr. Osler, one of our own graduates and fresh from the laboratories of the most distinguished workers and authorities of Europe.

The improved methods of teaching and the increased facilities had the effect of attracting to us a constantly increasing number of students, until it soon began to be

apparent that our new premises, commodious as they seemed at first to be, were rapidly becoming too small for our steadily enlarging classes. The increased cost also of the practical teaching was beginning to tell seriously upon our resources, and we had again to look about us for the means of adapting our income to our increasing needs and to our increased expenditure. It was about this time that the Faculty had the misfortune to meet with a very serious loss in the death of its Dean, Dr. Campbell, one who for more than forty years had devoted his great talents and his great influence to the service of the Faculty, and whose loss at the time seemed to the Faculty to be almost irreparable.

But Providence, whose ways are often inscrutable, seemed even to overrule this misfortune for the good of the Faculty; for he put it into the heart of our present noble Chancellor, Sir Donald A. Smith, while listening to a eulogy of Dr. Campbell by his successor, Dr. Howard, to offer to the Faculty the munificent sum of \$50,000 as an endowment fund, on the condition that the citizens of Montreal should contribute a like sum for the same purpose; the two sums to be called respectively the Leancoil and the Campbell memorial funds. I need not say how gladly the Faculty accepted the generous offer, nor how eagerly they set to work to collect the stipulated sum from the citizens. Nor need I try to tell how well and generously they were met by many of the citizens, nor how they themselves personally tried to add their full share to the subscription. Suffice it to say that the amount was soon raised, the sum promised by Sir Donald was promptly paid over, and the Faculty found itself apparently relieved of all its difficulties by the magnificent endowment of one hundred thousand dollars.

We found ourselves, therefore, in 1883 with a handsome

endowment, with a growing reputation, with a large staff of practical and enthusiastic teachers, with a constantly increasing number of students, and with a building too small to accommodate them. It thus became necessary to take immediate steps to enlarge our building, and to provide additional accommodation for our growing classes. We again applied to the governors of the college for the required additions to the building, hoping, from the increased income from the endowment, to be able to meet the necessary expenses of fitting up and maintaining the new buildings. To our great disappointment we found that the governors were without means at their disposal from which to carry out our wishes, and their only alternative, therefore, was to borrow from our fund the necessary sum required for the erection of the additional buildings, with the promise, of course, of repayment of the amount so soon as the condition of the finances of the University made it possible to do so. The sum thus withdrawn from our fund amounted to nearly one-third of the whole, and the result has been a source of considerable embarrassment to us, for it has deprived us of a large portion of our expected revenue from this source, and has left some of our important practical departments without that material aid which we had hoped to give them, and has to that extent impaired their usefulness and interfered with the reputation and growth of the Faculty as a whole.

But that is not all, nor even the worst. The buildings which five years ago seemed large enough to serve us for nearly a generation, are rapidly becoming full to overflowing, and we must look about us again almost immediately for increased accommodation. What is to be done? Are we to let students leave us for want of room? Are we to send them to places where their education will be less

efficiently carried on? And are we to confess our weakness, and say to the world that we must shut our doors in the faces of those who are knocking at them for admission.

Gentlemen, I know that we shall do none of these things. It cannot be possible that we should be asked to do any of them. We will ask our friends to help us. If necessary we will take our hats in our hands and go through the streets and ask them to help us. And they will help us. They will not allow the tide of our success to flow backward. They will not allow the standard of our medical education to be lowered. They will not allow our doors to be closed to those who are seeking to come in; but they will help us to open them still wider. They will help us to raise still higher the high standard of our medical teaching, and they will help us in sustaining before the world the reputation of our Faculty and of our University, which are so dear to all of us.

And, gentlemen, if we are to ask and to expect our friends to come to our relief and to give us of their means to help us out of our difficulties, what have they a right to expect of us in return? Have they not a right to expect us to give full value for all we have received? Undoubtedly they have, and let us see to it that that full value is given in no stinted measure. Let our benefactors of the future, like those of the past, see that their benefactions have been put to the very best of uses, that they have neither been wrapped up in a napkin and buried in the earth to rust and rot uselessly away, nor have they been squandered and frittered away in idle experiments or useless display. No, gentlemen, let us prove to them that we are in downright earnest in trying to make the most of the means which they have placed, and which they in the future, let us confidently hope, intend to place at our disposal.

And may we not reasonably claim for our profession that it does confer great benefits not only upon private individuals and public charities, but upon the community at large, upon the country itself, and even upon the race in every part of the world? Think of the millions of lives which Jenner has saved by his discovery of vaccination. Think of the benefits and the relief which Pasteur has bestowed upon his fellow-men by his researches into the cause of the failure of the silk trade by diseases in the silk worm, and latterly by his skill in robbing that most dreadful of all diseases, hydrophobia, of most of its terrors. Think of what the wise counsels of Mr. Simon, as medical adviser to the Privy Council, has done for the masses in sanitary and social matters in England. Think of the labors of Koch in unearthing the consumption bacillus, and in our own country, in matters political and social as well as professional, let us think of the important part which they have played in the development and progress of our institutions, and of the influence which they have wielded among our young and growing communities. Look at the oldest of our graduates, Joseph Workman, who probably did more than any man now living to ameliorate the condition of the insane in our asylums. Look at Dr. Maurice Bucke, another of our graduates, at the head of the asylum near London, following closely in his philanthropic footsteps. Look at Dr. Church in our Legislative Assembly, on the Bench, on the Board of Governors, an honored and trusted counsellor. Look at Sir Charles Tupper, our High Commissioner and framer of treaties; and look at our graduates scattered throughout the growing towns and villages of our great Northwest, and each a centre of culture, intelligence and influence, whose advice is sought on almost all subjects,

and who probably do more in a young country to impress their ideas and individualities upon the plastic elements of the growing population around them, than any other class of persons whatsoever.

But to come down to our own institution, to the Medical Faculty of McGill College, what is it that gives to its graduates the high rank to which they attain wherever they may go? It is due to no one cause, but to a combination of causes. It is due, first, to the fact that we strive to make their education as thorough as possible from beginning to end. It is due also to the fact that we try as much as possible to keep the whole training of the student in our own hands, and that we do not encourage him to wander about from school to school, taking a little from one and a little from the other, to the confusion of his ideas and the weakening of his character. But, lastly, and most of all, we aim at making our graduates not mere medical and surgical automata, not mere empirics or slaves to authorities, who prescribe for diseases according to their names, or because some Professor This or some Doctor That has said that it is the proper thing to do; but we aim to make them thoughtful and philosophical men; men who are accustomed to think for themselves, and who are able to give a sufficient reason for the faith that is in them.

We endeavor also to impress them with a full sense of their great responsibilities—that their sins of omission may be quite as serious as their sins of commission—that it is their duty not only to save life, but to save health and to save organs, and that the man who knowingly allows a curable disease to permanently damage a heart or a lung, or who allows a continued high temperature to inflict serious injury upon a sensitive brain or nervous system, is quite as much to blame as the surgeon who

would lop off a limb which a little more skill or trouble might have saved, or who would risk a dangerous operation to relieve some temporary inconvenience.

Gentlemen, time will not permit me to pursue this subject further. I have endeavored to show the effect which changes in the methods of modern teaching have had upon our school. How it has increased our expenditure, while it has also largely increased our efficiency. I have endeavored to call attention also to our efforts to cope with our difficulties, and I have endeavored to show the crippling effect which want of means is likely to produce in the near future. Our most pressing needs are, first, the restoration as soon as possible of the sum borrowed from our former endowment. Second, a provision for the endowment of a chair of Practical Pathology, which is greatly needed; and third, a sum set apart for building extensions which must become necessary in the near future. There are other matters which I would fain mention, such as a residence for medical students and extensions of practical teaching in other departments; but these must not be insisted upon at present.

In conclusion, then, let us endeavor to accomplish our wishes by all acting together, and laboring to the same end. We will look to you, students, to show yourselves diligent and earnest in your work; we, your teachers, will endeavor to do our full share. There shall be no drones among our workers and no drags upon our wheels of progress; and we will look to the generous public and to the large-hearted men and women, who have so often before come to the relief of our distressed educational institutions; and let us hope and pray, that Providence may put it into the heart of some of them to lift us out of our present difficulties, and set us up again on the high road to progress and prosperity

ADDRESS AT THE MEDICAL CONVOCATION,
MCGILL UNIVERSITY.

APRIL 2ND, 1891.

Our fifty-eighth session which is now closing, although not in any important sense an eventful one in the history of our Faculty, has, nevertheless, been marked by some incidents and changes which are deserving of more than a passing notice, and which we trust may be considered not only as evidences of our steady and continued progress as a medical school, but also as earnestness of a greater development of usefulness and efficiency in the near future. The number of students in attendance during the winter session, though apparently less by one than during last year, is actually greater by seven, the apparent difference in favor of last year being due to the larger attendance upon the summer session, and to the number of students presenting themselves for supplemental examinations. The actual attendance upon the classes, therefore, has shown a larger average than in any year in the history of our Faculty.

But not only has the attendance at our lectures and in our laboratories been gratifyingly large, but the harmony and good-will among the students and teachers have been maintained without interruption, and the work of the session has been carried on with a degree of earnestness and diligence which has borne good fruit in the excellent results of our examinations.

But while the results of the session as a whole have given us good cause for congratulation, there have also been some things that have caused us keen regrets. Our distinguished and highly esteemed Professor of Surgery, Dr. George E. Fenwick, has found it necessary, from his advancing years and somewhat failing health, to resign the Chair which he has so long held with such marked distinction to himself and benefit to this University. Professor Fenwick's reputation as a surgeon has penetrated to every part of the civilized world, and wherever scientific surgery has been taught his results and his opinions have been quoted as worthy of respect and emulation. His retirement, therefore, from the active duties of teaching, cannot but be looked upon as a serious loss to the Faculty, but the position of Emeritus Professor of Surgery, which the governors have conferred upon him, will enable us to utilize, to our great advantage, the many years of unofficial work which we hope and trust are still before him, and which his proverbial philanthropy and industry will not allow him to withhold from us. The vacancy created by the retirement of Professor Fenwick from the Chair of Surgery has been filled by the appointment of Dr. Thomas G. Roddick to that Chair, an appointment which we have every reason to believe is the very best that could have been made in the interests of all connected with the University. The promotion of Dr. Roddick to the Chair of Surgery made it necessary to provide him with assistance in his allied chair of Clinical Surgery, and this has been done by the appointment of Dr. James Bell as Lecturer on Clinical Surgery, an appointment which has also proved eminently satisfactory.

At the commencement of this session, also, the Faculty met with a serious misfortune in the sudden and severe

illness of Dr. Ross, Professor of Medicine and Vice-Dean of the Faculty. This made it necessary to make provision for the work of the Chair of Medicine until such time as Dr. Ross should be able to resume it, and this was accomplished by his colleague, Professor MacDonnell, of the Chair of Clinical Medicine, undertaking a large share of the work, assisted largely by Dr. Stewart, Professor of Therapeutics, and in a lesser degree also by myself. We have now the happiness of seeing Professor Ross again actively at work and rapidly regaining his health, and we hope long to have the benefit of his practical skill as a teacher and his ripe judgment as a counsellor, to the great advantage of his colleagues, of the students and of the whole community.

In the other departments of the Faculty the work has been carried on efficiently and well, measured, of course, by the standards of the past; as well, indeed, as we can hope to do it with our present appliances and resources.

If the accepted system of medical education were to continue in the future after the same model as in the past, we would find ourselves in a very enviable position. With a staff of trained and skilful teachers, with laboratories, hospitals and other facilities for efficient teaching which can scarcely be excelled; with an endowment conferred upon us not many years ago by our generous-hearted Chancellor and other good friends of the University, which seemed at the time to be ample for all our requirements, and with a reputation for thoroughness, built up by eminent and unselfish men after more than half a century of unremunerative work; it might well be asked, What is there that we still need to keep us in the van of medical progress?

The question is one that scarcely admits of a definite answer. In conformity with the progressive spirit of the

age the whole system of medical teaching has been, and is still, undergoing a profound and radical change. That the change is greatly for the better there can be no manner of doubt, and on that account it is sincere matter for congratulation; but, on the other hand, the change has also been in the direction of considerably increased expenditure. Practical teaching and demonstration are year by year and more and more taking the place of mere descriptive teaching, and it can readily be understood that the greater amount of individual attention required necessitates a much larger staff of demonstrators and assistants, as well as more apparatus and laboratory equipment, than the older and simpler methods.

Another result of the changed methods of instruction has been the splitting up of several important departments into sub-divisions, which have themselves greatly increased in magnitude, some of them even rivalling in prominence and importance the parent branch from which they sprang. This has been more particularly the case with the allied subjects of Physiology, Histology and Pathology. All three of these were, not many years ago, included in the single department of Institutes of Medicine, and the teaching of all three was entrusted to one individual. To cover the same ground now in a proper manner, and in accordance with modern scientific methods, would require at least five teachers or demonstrators, and ten times the amount of apparatus and appliances. It does not, of course, follow that the increased expense is in the same ratio, for skilled assistants can often be made to take the place of professors and demonstrators at less expense, but the increase in the individual and personal work, of course, means also additional outlay.

Expansions and amplifications of a similar kind, though

less in degree, have occurred in many, and indeed in most of the other departments, and while they have added greatly to the efficiency of the teaching, they have also added somewhat to the expenditure.

Unfortunately, it has not been possible to meet this increased expenditure by a corresponding increase in the fees charged to students in medicine. When students are selecting the institution at which they are to receive their medical training, or when their friends or parents are making the selection for them, they are not always in a position to estimate correctly the value of the facilities offered by each; and knowing that they are all equal in the eye of the law, they are apt to be drawn aside towards some of those that will enable them to obtain the necessary licence to practise at the least expenditure of money, and this, of course, to the detriment of their future usefulness, and of the public to which they are to minister.

The greater amount of time and labor required in the practical teaching of such branches as Physiology, Pathology and Chemistry, not to mention others of equal importance, makes it almost absolutely necessary that the professors of these departments should devote the whole of their time to their teaching functions, and thus debar themselves from that portion of their income which they might otherwise derive from private practice; indeed, it is difficult to see how, in a prosperous school, the work can be efficiently carried on in any other way. But if the Faculty is thus to demand a skilled professor's undivided services, surely he also is entitled to demand, that he shall receive at least reasonable remuneration, and unless this be given him we cannot long expect to command his services.

It must be remembered in connection with this part of

the subject that in the departments of Practical Physiology and Pathology, as taught in the best of the modern schools, the number of really valuable men who have devoted themselves to this kind of work, and have undergone the necessary preparations for it, is as yet comparatively small, and their services are in active demand. Indeed, this Faculty, which was one of the first on this continent to inaugurate the new system, was also one of the first to suffer for it, for scarcely had it started in its new career of teaching Physiology according to the most modern method, when its distinguished professor, Dr. Osler, one of its own graduates, was induced to accept a more lucrative position in connection with the University of Pennsylvania. It was fortunate for us that we had in Dr. Wesley Mills one in every way a successor to Dr. Osler, and one who, in addition to a long experience in the art of teaching, brings to bear upon it an enthusiasm and a personal influence, which have been of the greatest benefit, not only to his own Class, but to the Faculty as a whole.

But here again we have been threatened with the same danger as before. We have, unfortunately, not been able to make the assured income of Dr. Mills equal to what his value as a teacher should represent, and overtures have recently been made to him also, tempting him to leave us and offering him increased remuneration elsewhere.

Such recurring dangers have really been a source of much anxiety and discouragement to us, and have caused us to look eagerly around for some means of averting the threatened calamity; and it gives me great pleasure to be able to announce that a promise of very material help in this matter has been made to us from a source which makes it particularly gratifying, being in a manner closely connected with the department of Physiology

itself. Mr. Walter Drake, of this city, being aware of our pressing need, and realizing that, in such circumstances, "he gives twice who gives quickly," has promised, in grateful remembrance of his brother, the late lamented Dr. Joseph M. Drake, formerly a distinguished professor of Physiology in this University, to place an annual sum of \$500 at the disposal of the Faculty for purposes in connection with the Chair of Physiology. This sum is to represent the interest at 5 per cent. on a capital sum of \$10,000, the annual payments of interest to be redeemable at any time within five years, by the payment of the capital sum itself. I cannot at present speak further as to Mr. Drake's generous intentions, as the matter has not yet been fully discussed nor laid before the Board of Governors, but those of us who know Mr. Drake best, may reasonably hope that, having put his hand to the plough, he will not be likely to look backward, until he has placed the Chair of Physiology upon a secure basis.

But serious as have been our anxieties in connection with the Chair of Physiology, they are even more serious in relation to the department of Practical Pathology. This department is coming rapidly to the front in the best systems of medical education, and is probably doing more to bring our profession prominently before the public than any of the other departments of Medicine, as witness the recent excitement with regard to Professor Koch's experiments in tuberculosis.

But although our Faculty has always recognized the supreme importance of establishing the department of Practical Pathology on a sound and efficient basis, it has not yet been able to accomplish its wishes in this respect, and the prestige of the school must soon suffer, if it has not already suffered, from this deficiency. Instead of

having a well trained, well paid and thoroughly efficient professor in this department, such as Professor Welch, of the Johns Hopkins University, whose reputation and opinions would add strength and influence to the University, we have been fain to confine our efforts in this direction to the services of a single demonstrator, ill paid and poorly supported, and not in a position to place the department on such a footing as its importance demands. We may be told that such men as Professor Welch are few and hard to find, and this is doubtless true; but there are such men to be found, and when such a man is found and secured he is a tower of strength to the institution with which he is connected. In our case such a man might well represent both the Faculties of Medicine and Veterinary Science, for Pathology in its widest sense must always include both. Shall we ever possess such a man? When we do, our equipment will be surpassingly strong, and until we do, there will always be weakness where we are most in need of strength.

I might go on to point our other and pressing needs connected with our Faculty, such as some provision for early extension of our present buildings, and more particularly the early restoration to our Endowment Funds of the amount necessarily borrowed from them in 1885 for the same purpose; but I fear I have already dwelt too long on the depressing subject of our wants and wishes.

It is not for me to say how these wants are to be supplied. I feel that I may safely leave that to those true friends of progress who have always come to the relief of our University in its pressing needs, but I should be remiss in my duty if I failed to point out that they are real and pressing wants, and that we ask them to be supplied not to enrich ourselves, but to strengthen an Institution which has done

good service in the past, and which hopes to do still better service in the future in the interests not only of the University of which it forms a part, but of the Profession with which it is connected; and the cause of suffering humanity wherever it may be found.

ADDRESS AT THE FIFTY-NINTH CONVOCATION
OF THE MEDICAL FACULTY OF MCGILL
UNIVERSITY.

APRIL 4TH, 1892.

After the ceremonies and addresses which to-day have marked the close of the fifty-ninth session of our Medical Faculty, it may, perhaps, be proper for me to add a few words having reference to the conduct of the session, to the changes of personnel which have occurred since our last meeting of convocation, and to allude very briefly to the progress and future prospects of the Faculty as an integral portion of the University.

The actual working session has not been an eventful one in any special sense. The students have been regular in their attendance and attentive to their studies. Their conduct has been everything that their best friends could desire, and the results of the examinations have borne good testimony to the earnestness and intelligence with which they have applied themselves to their work.

It can scarcely be necessary for me to remind those whom I am now addressing of the great—I had almost said the irreparable—loss which this Faculty and the University sustained by the death, last summer, of one of their brightest ornaments, Dr. Richard MacDonnell, the able and accomplished professor of Clinical Medicine. Though young in years, he was ripe in all those qualities which make such a life valuable and useful. Talented, highly educated and accom-

plished, he was a born teacher and leader of men, and particularly of young men. Amongst them his influence was almost unbounded, and always and entirely for good. His was a nature that could not conceal its contempt and dislike for everything that was mean or ignoble, and nothing savoring of dishonesty, license or vulgarity could survive in the pure atmosphere with which he was always surrounded. Nature had endowed him to an uncommon degree with those gifts and graces which fit so well into our ideal of a perfect man, of a gentleman in the highest sense of the word. It was my privilege to have known him intimately from his childhood upwards, and if it were permitted to us to follow him into the domestic circle, where, perhaps, the true character of a man is better known than almost anywhere else, I could tell of him as the most loving and devoted of sons, the most warm-hearted and helpful of brothers, the best and truest of husbands. The influence of such a man lives after him, and it is some consolation to know that the memory of his virtues will tend in some degree, at least, to assuage the grief that otherwise would be inconsolable.

Happily for the Faculty, circumstances pointed plainly to his best possible successor. Associated with him in the work of Clinical Medicine during the session of 1890-91 was Dr. James Stewart, then Professor of Pharmacology and Therapeutics. Dr Stewart having already shown his fitness for the work of Clinical Medicine, he was, with the full concurrence of the Faculty and of every one connected with the University, appointed to the vacant Chair.

The Chair of Pharmacology and Therapeutics having become vacant by the resignation of Dr. Stewart, the professorship was conferred upon Dr. Alexander D. Blackader, B.A., a graduate in Medicine and in Arts of this University. Dr. Blackader brings to the work of his Chair the learning, the

ability, the earnestness and the energy which have characterized him throughout his career, and which eminently fit him for the important work which he has undertaken.

In the Chair of Theory and Practice of Medicine also we have the satisfaction of seeing Professor George Ross again at work, with restored health and the prospect of long years of usefulness to the Faculty and the University, as well as to the community at large. To assist him in the arduous work of the Chair, Dr. H. A. Lafleur, B.A., late of the Johns Hopkins University, of Baltimore, has been appointed as his assistant, and he brings with him those stores of knowledge and experience acquired in a two years' residence in the Johns Hopkins University Hospital, probably the best field for scientific medical research of an advanced kind in America. Dr. Lafleur has also performed for us the practical pathological work of the session, work which he had previously performed for us in the absence of our Demonstrator of Pathology, and in this work also, Dr. Lafleur has had the advantage of study under Professor Welch, of Johns Hopkins University.

The lectures on General Pathology have been given this year by Dr. Wesley Mills, Professor of the allied subject of Physiology, and it is scarcely necessary to say that that gentleman has performed the work with all his well-known ability and thoroughness.

To mark the appreciation of the long and able services of Dr. Ruttan in connection with Chemistry, the appointment of Assistant Professor of Chemistry has been conferred upon him, and in like manner, in recognition of Dr. James Bell's valuable work in connection with Clinical Surgery, he has been made Associate Professor of that Chair.

In consequence of the increased labor connected with the Chair of Clinical Medicine, Dr. Stewart has found it necessary to resign the position of Registrar to the Faculty, an office

which he has held for many years, with credit to himself and with much benefit to the students and the University. Dr. Ruttan, Assistant Professor of Chemistry, has been appointed Registrar in the place of Dr. Stewart, resigned, and with his well-known energy and earnestness, and his intimate knowledge of the wants of the students and of the profession throughout the Dominion, he will undoubtedly make a most valuable officer.

We have had the satisfaction this year of seeing the increase in the number of our students returning to something like its former ratio. For reasons which, happily, have proved only temporary, this ratio has been somewhat interrupted for several years. The panic which followed the outbreak of smallpox in 1885 brought our numbers down from 237 in 1884-85 to 227 in 1888-89. In 1889-90 the number rebounded to 261, but in 1890-91 there was no increase, possibly because in that year we had been compelled, in consequence of our gradually increasing expenses, to add somewhat to the amount payable by students entering on and after that date. This year, however, the number of our students has risen to 291, a number greater by 30 than in the preceding year, and, of course, greater than in any year in the history of the Faculty. This is particularly gratifying to us at the present time, for it shows us that, notwithstanding many changes and many depressing influences, we have still been able to retain the confidence and the good will of those friends throughout the length and breadth of the land, on whom we have always relied in maintaining our leading position among medical schools. But there is another circumstance connected with the number of students this year which calls for more than a passing mention, and which is peculiarly pleasing to us. It is that among the various provinces and countries from which our students are

drawn, Ontario still maintains its leading position, with 115 students. The province of Quebec comes next with 105, and then follow, in the order of their numbers, New Brunswick, Nova Scotia, Prince Edward Island, Manitoba, the United States, British Columbia, the West Indies and Newfoundland.

But, it may be asked, what is it that enables the Medical Faculty of McGill University—in Montreal—in the French province of Quebec—in the face of disadvantages of climate, of varied and often adverse medical legislation, of local and other influences, to attract students from other and more favored provinces and countries? The principal reason is that, being aware of the disadvantages under which we labor, we have striven with the greatest earnestness to utilize to the utmost such advantages as we happen to possess. Chief among these is our unrivalled field for clinical instruction, for it may safely be claimed for the hospitals and charities of Montreal, and for the old Montreal General Hospital in particular, that no institutions on this continent, and very few in any part of the world, have done more for the cause of sound and practical medical education. To the credit also of our medical students let it be said, that so uniformly decorous and seemly has been their conduct while in the wards of the hospital that it has never been found necessary to exclude them, as has only too often been the case elsewhere.

But great as have hitherto been our facilities for practical medical instruction, they are soon largely to be increased by the opening of that magnificent pile now approaching completion, the Royal Victoria Hospital, the joint gift of our large-hearted Chancellor, Sir Donald A. Smith, and another large-hearted and warm friend of this University, Lord Mount-Stephen. It would, of course, be premature to attempt at present to gauge the benefits likely to accrue to us from the opening of this noble institution; but whatever our

opportunity may be, it behooves us to see to it that they are utilized to the utmost, in the cause of suffering humanity and of sound, scientific medical learning.

The functions of large hospitals in their relations to medical education have been considerably changed of late years, and these changes have been becoming more and more pronounced from year to year, chiefly in the direction of minute modern pathological research. Modern microscopic and bacteriological investigations have shown that this universe of ours is apparently as limitless and as potent for good or evil in its minuteness, as it is in all its vastness, and while the astronomer and the spectroscopist are from time to time discovering and analyzing new nebulae and stars and comets, of whose influence upon ourselves we are only as yet dimly suspicious, the pathologist and the microscopist are every now and then detecting some new form of bacillus, bacterium or microbe, whose influence upon our minds and upon our bodies has been only too well shown to be deleterious and deadly. Pathology has become the necessary complement to medical practice. It is the key by which its mysteries may be unlocked, the test by which its processes may be verified and corrected. Such being the case, it will at once be seen how imperfect any system of medical education must be where pathological research does not play a prominent part, and how great must be the advantage to those institutions where its importance is properly recognized and duly provided for.

A properly equipped pathological department in connection with our medical school, with a well trained and skilful professor, would go far towards placing our Faculty on a permanently self-sustaining basis; for with our unrivalled hospital facilities rendered thus more valuable than they could ever otherwise become, we could fairly ask of the student to submit to such slight modification of the fees as would

be sufficient to convert our present constant state of financial weakness into one of permanent and assured strength.

Our late lamented Dean, Dr. Robert Palmer Howard, had deeply at heart the importance of such an achievement. A well equipped and adequately endowed Chair of Practical Pathology was the dream of his declining years. Will not those who loved him and respected him for his many noble qualities help us to realize his dream?



ADDRESS AT THE SIXTIETH CONVOCATION OF
THE MEDICAL FACULTY, MCGILL UNIVER-
SITY.

APRIL 5TH, 1893.

In reviewing and summing up the work and events of the past year, according to our usual custom on Convocation day, I shall have occasion to refer very briefly to circumstances of a somewhat varied character. Some of them have been sources of grief and sorrow to us; some, while causing us more or less anxiety, have, upon the whole, given us cause for satisfaction and hopefulness, while others of a more recent character have carried away our doubts and fears in a full tide of gratitude and rejoicing.

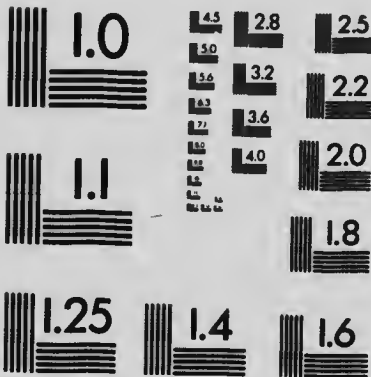
For the first time in many a year, our Medical Convocation is held to-day without the presence and assistance of our much loved principal, Sir William Dawson, to whose wise counsels, great talents and unselfish devotion every department of this University owes so much. It will be good news to Sir William's host of friends, to be told that his health has been greatly restored by his winter's residence in the South, and that there is a probability of his being present at, and taking some part in, the proceedings of the approaching Convocation of the Faculty of Arts.

Following closely after Sir William's illness came the illness and death of Dr. George Ross, Professor of Theory and Practice of Medicine and Vice-Dean of this Faculty.



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Dr. Ross's failing health for some years had made the end not altogether unexpected, but the death of such a man as Dr. Ross is always a calamity to those with whom he has been associated, and by his death the Faculty finds itself with a blank which it will be difficult adequately to fill. As a professor and teacher Dr. Ross was a man of whom any university might be proud. His professional insight was clear and accurate, and he had in an uncommon degree the faculty of imparting his knowledge in a clear and impressive way. He was not given to much speaking, nor could he be said to carry his heart upon his sleeve, but his word was ever as good as his bond, and his actions were always better than either. In him the students have lost a valued preceptor and guide, and the University a talented and trusted officer.

The very considerable increase in the number of our students this year, and the increased numbers from outlying provinces and countries, have been matters for sincere congratulation. While the provinces of Quebec and Ontario still continue to furnish the largest number—122 from Quebec and 102 from Ontario,—the Maritime provinces furnish this year no fewer than 62 students. The United States send 13; the Western provinces and Territories 9, and the West Indies 3; making a grand total of 312, the largest number by 21 in the whole history of the Faculty. These figures are interesting, not only as indicating numerical growth, but as showing that the University is outgrowing its provincial limits, and may now fairly begin to claim to be representative of the whole Dominion, and, indeed, to be, to an appreciable extent, cosmopolitan in its character.

Such considerations as these are interesting, not only in a sentimental sense, but as conveying an important lesson and involving a distinct and serious responsibility. If we are to attract students from an ever-widening area,

and to send them away again as graduates to work in every part of the world, we must see to it that their equipment is equal to their needs, and that their training is the best that we can possibly provide for them. As an abstract proposition it would seem impossible that the limited English-speaking population of Montreal, in the French province of Quebec, should be able to furnish such an equipment and such a training; but, thanks to the enlightened enterprise and the great liberality of some of the citizens of Montreal, what seems impossible in the abstract is being accomplished in the concrete. Hospitals and laboratories and scientific workshops are springing up around us on every side like castles in a fairy tale, and the end is not yet, for the only apparent limit to the generosity of our benefactors is the limit of our real needs.

Our Faculty has watched with much anxiety for several years the gradual overcrowding of its lecture rooms and laboratories, until the present session saw them overflowing to a serious extent, and students lounging in the lobbies unable to gain admission to the crowded rooms. Such a state of things could not, of course, be allowed to continue, and the Faculty determined to borrow the necessary funds to enlarge its buildings, trusting to be able to meet the interest on the outlay by increased economy in other directions. To carry out our views, however, it was necessary to lay the matter before the Board of Governors, and to ask them to acquire for our use the necessary land on which to erect the proposed new buildings. The land was estimated to cost twenty-five thousand dollars, and the proposed buildings thirty thousand more, making a total of fifty-five thousand dollars required to provide the increased accommodation.

Scarcely had we made known our need and our wishes

before Mr. John H. R. Molson, one of our senior governors, expressed his desire to come to our relief, and to save the remnant of our endowment fund, from which we had proposed to borrow, by placing at our disposal the sum of sixty thousand dollars, a sum greater by five thousand dollars than the estimated cost of the whole proposed extension.

It is difficult to find words to express our appreciation of such spontaneous and princely generosity, for it not only relieves the Faculty from all anxiety about accommodation for the increasing number of its students, but it leaves unimpaired the bulk of the Leachoil and Campbell memorial funds, the interest from which forms so important a part of the ordinary revenues of the Faculty. This act adds another to the many obligations under which the University has been placed by Mr. Molson, by his amiable and much respected wife, and by other members of his family.

Other timely and valuable gifts and bequests have also been made to us during the year. The late Mrs. Dow bequeathed to us the sum of ten thousand dollars, of which, however, one-tenth has been taken by the Provincial Government. Mrs. McDougall, of Dorchester street, has given us five hundred dollars to be added to our permanent fund and promises us five hundred more; and a gentleman, who withholds his name, has contributed five hundred dollars towards the expenses of Pathology during the current year. These generous gifts have given us the means of adding greatly to our facilities for teaching, and they have furnished us with incentives to increased earnestness and energy in endeavoring to prove ourselves worthy of such generosity. We fully realize this responsibility, and it shall be our care to show our appreciation of it, not only

by unceasing efforts on the part of every one of us to do his full duty to the best of his ability, but when a vacancy occurs we must unselfishly endeavor to fill it with the best available talent wherever it is to be found.

Acting already upon this principle, we have brought from the ancient University of Cambridge, England, our new Professor of Pathology, Dr. Adami, with a reputation as a teacher and as a scientific investigator already well established both in Europe and on this continent. Prof. Adami has already won golden opinions among us, and his advent has very appreciably added to our working strength.

A renewed attempt has been made during the present year to damage the prestige of the Faculty, and, through it, of the University, by hostile and vexatious legislation. An attempt has for the third time been made to impose upon our graduates seeking a licence to practise in this province, an additional examination before a so-called central examining board, consisting chiefly of practitioners from the country districts, unskilled in the methods of modern examination, and without the necessary appliances of laboratories, anatomical rooms or hospitals. To subject the graduates of a respectable University to such an examination would be a long step backwards, would be unfair to graduates educated and trained in modern methods, and would be a degradation to the University.

As there seemed to be at least a possibility of the measure becoming law, unless it were strongly resisted, it was resolved to oppose the measure by every constitutional means, and to that end a strong deputation, consisting of governors, deans and other representatives of faculties, as well as representatives from other universities, waited upon the Government at Quebec, and were heard before the Committees of both Houses, to whom the measure had been

referred, and the University had the satisfaction of seeing the measure defeated in the Lower House by a decisive majority. It is to be hoped that the attempt to pass such a law will be abandoned, but the attempt itself will have borne good fruit, if the resistance to it shall have tended to bind together more closely the different faculties and governing bodies of the University, as well as to bring the other Universities of the province into more harmonious action.

But, in conclusion, ladies and gentlemen, much as we have to be grateful for, and, believe me, we are grateful, I feel that I may without offence say that we have not yet all we need. Pathology, in a way, has been provided for, though the Chair has no endowment, but following closely upon the heels of Pathology comes Hygiene, carrying with it the whole domain of Public Health and Prevention of Disease. These matters are too important to be ignored, or to be omitted from any scheme of medical education that claims to be fairly complete, and the Faculty, therefore, cannot rest until they have been provided for. That they will be provided for, I cannot for a moment allow myself to doubt; but in what manner such provision is to be brought about, I cannot, of course, foretell; but when it has been brought about, the Medical Faculty of McGill University will occupy a position far in advance of any medical school in Canada, and not to be over-shadowed by the very best and strongest on this continent.

ADDRESS AT THE ANNUAL CONVOCATION OF
THE FACULTY OF MEDICINE, MCGILL UNI-
VERSITY.

APRIL 5TH, 1894.

The sixty-first session of the Faculty of Medicine of this University, which closes to-day, though not differing greatly from those which have immediately preceded it, has, nevertheless, been marked by some important incidents and occurrences which call for more than a passing notice.

The steady increase in the number of our students, which has been going on without interruption for several years, has this year been greater than ever. In 1891-92 the number was 291; in 1892-93 it rose to 312, and this year it has reached the gratifying figure of 350. Of this number 135, or rather more than one-third, were from this province; 108, or a little less than one-third, were from the province of Ontario, and the remainder, 107, also a little less than one-third, were from the other provinces, the United States, the Northwest Territories, and the West Indies.

It seems to me that it is a matter for sincere congratulation that this province, and McGill University in particular, should be able to attract students in such numbers from so wide an area. And not merely are they attracted to the University as a moth might be attracted to a flaring light, to scorch its wings and, if possible, to flit away again, but they remain with us, as a rule, through their

entire course of medical study, culminating year by year, as you see to-day, in a bright class of graduates, eager and enthusiastic, well equipped, as we believe, for the battle of life, and carrying with them to their homes the respect and good wishes of their teachers and the community.

Of the 55 graduates who take their leave of us to-day, 17, or nearly one-third, are from the province of Quebec; 19, or a little more than one-third, are from the province of Ontario, and 19, also a little more than one-third, from the other provinces, the Northwest Territories and the United States.

It will thus be seen that the work of this Faculty has become continental rather than provincial, and that, not on account of its cheapness, for our fees are greater than those of most other medical schools, but rather, we are fain to believe, because our aims are higher, and our means of realizing them have been, and now are, exceptionally good.

Our Faculty has long recognized the importance of clinical and practical work, and has endeavored to give them due weight in its curriculum. The clinical instruction in the wards of the Montreal General Hospital has in the past, perhaps more than anything else, attracted earnest students to our school; and supplemented as it has been by practical courses in Anatomy, Chemistry, Histology, Physiology, and latterly of Pathology, with Hygiene in process of active organization, we may reasonably claim to take rank as a working Faculty second to none on the continent. But great as have been our advantages for clinical work in the past, they have now been practically doubled by the opening of the Royal Victoria Hospital. That magnificent charity, the gift of our Chancellor and Lord Mount-Stephen, has now entered

upon its work, and in the completeness of all its appliances for the relief of suffering, as well as for medical teaching, it is proving a great boon to suffering humanity as well as to the cause of advanced medical education. But with all this wealth of clinical material, and with a firm determination to utilize it to the very utmost, we must be careful not to let it destroy the proper equilibrium of our curriculum. Too great a preponderance of didactic and descriptive work was a serious evil in the past; let us be careful that the educational balance does not oscillate too far in the opposite direction. In a properly adjusted system, theory and practice should go hand in hand, and the principles which are to guide us in practice are quite as important as the practice which is to be founded upon them. Without a thorough knowledge of the principles, a man becomes a mere empiric or handicraftsman, just as without adequate instruction in practical work, he is likely to become a mere theorist and a visionary; but with careful practical training, built upon sound principles intelligently applied, we may reasonably look for such a degree of harmonious completeness in a man's medical education, as shall fit him safely to undertake the onerous and responsible work which is before him.

Such an education, according to our opportunities, it has always been our aim to give, and with our greatly enlarged facilities it must still be our aim to maintain the normal equilibrium, that our graduates may not tend to become mere theorists on the one hand, nor mere empirics on the other, but thoughtful, intelligent and skilful men, to whom human life and health may safely be entrusted.

Of the changes in the personnel of the Faculty since last convocation it is only necessary to say, that they are such as were rendered necessary by the lamented death of our

late Vice-Dean and Professor of Medicine, Dr. Ross, and by the increased clinical ground to be covered by the opening of the Royal Victoria Hospital. Our well-tried friend, Professor Stewart, was promoted to the Chair of Systematic Medicine, but was allowed to retain also the Chair of Clinical Medicine. A new Chair of Laryngology was also created, and Dr. George W. Major, one of our own graduates, both in Arts and Medicine, who has acquired considerable distinction in that specialty, was appointed to fill it. The following gentlemen were appointed Lecturers in the Faculty:—Dr. Alloway in Gynæcology, Dr. Finley in Clinical Medicine, Dr. Birkett in Laryngology, Dr. Lafleur in Clinical Medicine, Dr. Armstrong in Surgery and Clinical Surgery, and Dr. Burgess on Mental Diseases. The following gentlemen also were appointed Demonstrators and Assistant Demonstrators— Dr. Sutherland, Demonstrator in Surgery; Dr. Johnston, Demonstrator in Bacteriology; Dr. Elder, Assistant Demonstrator in Anatomy; Dr. McCarthy, Assistant Demonstrator in Anatomy; Dr. Evans, Assistant Demonstrator in Obstetrics; Dr. Gunn, Assistant Demonstrator in Histology; Dr. Morrow, Assistant Demonstrator in Physiology; Dr. Kirkpatrick, Assistant Demonstrator in Surgery, and Dr. Martin, Assistant Demonstrator in Bacteriology. Of all these gentlemen I may say that they have shown ability and interest in their work, and have added very considerably to the efficiency of the Faculty.

The princely gifts of our Chancellor, Sir Donald A. Smith, and our Senior Governor, Mr. John H. R. Molson, which it was my happiness to announce at last Convocation, have already borne good fruit in the housing and equipment of our department of Practical Pathology, in a manner which leaves little to be desired. The substantial stone building

on the property acquired for us by Mr. Molson has been converted into a convenient and efficient Pathological Laboratory, and under the able management of Prof. Adami, with competent assistants, that department may be considered firmly established on a satisfactory basis. The proposed extension of our other buildings, rendered necessary by the increasing number of our students, has also been provided for, and we hope that before the beginning of another session the new buildings will be ready for occupation.

With reference to Hygiene and Public Health, which heretofore may be said to have been absolutely without equipment of any kind, comparatively little has yet been accomplished; but, thanks to the generous endowment of the chair last year by our Chancellor, a beginning has been made, and in the meantime the whole of the revenue from the endowment is being set aside for the thorough equipment of the department in the new building, on the most modern and scientific principles.

It has been our good fortune this year, as on some former occasions, to have received substantial proofs of the good-will and active interest in the welfare of the Faculty at the hands of persons not directly connected with the University. The late Miss Jane Learmont, of 793 Sherbrooke Street, whose death took place in May last, bequeathed to the Faculty the sum of three thousand dollars, to be added to its permanent fund, and to be free of legacy duty. To myself, personally, this bequest is specially gratifying, for it has rarely been my good fortune to enjoy the personal friendship of one so patient and cheerful under great and protracted suffering, or one so unselfish in seeking in every way to secure the happiness and welfare of others rather than her own.

Another gift which we value most highly, but which is of a more æsthetic and sentimental kind, has come to us from a source and in a way which are peculiarly gratifying. It is no less than a portrait in oil of the founder of our medical school, the late Dr. William Robertson, of this city, presented to the Faculty in loving remembrance by his family and descendants. He was the chief of the four "good men and true," Drs. Robertson, Holmes, Stephenson and Caldwell, who founded the nucleus of our Medical Faculty in what was then called the Medical Institution, in 1824, exactly three score and ten years ago. Dr. Robertson was born on his father's estate of Kindrochet, in Perthshire, Scotland, in 1774, and came to this country as an army surgeon in 1806. He married the daughter of Chief Justice Sir William Campbell, and after retiring from the service, established himself in practice in Montreal, and continued at the head of the Medical Profession in this city until his death in 1844. Three of his daughters still reside in Montreal, Mrs. Macculloch, Mrs. Hooper and Mrs. Pangman, and his eldest daughter, Lady Cunynghame, still lives at her late husband's estate in Ayrshire, Scotland. His only son, the late Mr. Duncan Robertson, of this city, died a few years ago, leaving a daughter and three sons to perpetuate the name. The Faculty had already begun to establish a portrait gallery of those who have been prominently connected with it. It has excellent portraits of Drs. Holmes, Sutherland, Campbell, Howard and Ross, but this portrait of the Founder of our school shall by right have the post of honor.

What associations are called up by the sight of this portrait to-day! Is it possible that Dr. Robertson, when he planted the seeds of our Medical School seventy years ago, foresaw what was to be the result of such a small

beginning; or is it possible that any one looking now at our prosperous Medical Faculty could predict, with any degree of probability, what may be in store for it in the seventy years that are to come? Most assuredly not; but, with the example of Dr. Robertson's energy and perseverance ever before us, with the encouragement that comes to us with difficulties successfully overcome, with the hearty good-will of the community, and the material help which has been given to us with such unstinting hands, we should be unworthy of the trust that has been placed in us, did we fail to strain every nerve to place our Medical Faculty, and the University of which it forms a part, in the very van of progress and prosperity.



OPENING ADDRESS DELIVERED TO STUDENTS
OF MEDICAL FACULTY

OCTOBER 2ND, 1894.

GENTLEMEN,

It gives me much pleasure on behalf of the University, and of the Medical Faculty in particular, to welcome you within these walls at this, the beginning of our sixty-second session. It was our intention, as announced in the Calendar, to open the session with an introductory lecture to-day, but the incomplete condition of some portions of our new buildings has induced us to postpone the formal opening until the first day of November next, and in the meantime to proceed with the work of the session in the ordinary way. I shall have to ask you therefore to be good enough to accept the few informal remarks which I have to offer to-day as a somewhat remote preface to that which we hope to offer you a month hence. We have invited Dr. Osler, our own distinguished graduate, to deliver the Introductory Lecture, and I trust you will have the pleasure of seeing and hearing him on that occasion.

Those of you who have been with us in former sessions we welcome again, with the hope that your vacation has been fruitful of good to you, both in body and mind, and that you return to your work refreshed and invigorated, ready to grapple successfully with those problems and difficulties which to the fagged and weary student seem so unsolvable, but which melt away before the vigorous onset

of the student refreshed and strengthened in nature's great, open laboratory of sunshine and pure air.

You will find your surroundings,—I suppose I should say your environment,—somewhat changed since last session. Much in the old buildings has been remodelled, and extensive new buildings have been erected. We regret that in the limited time at our disposal these alterations have not all been completed in every detail, but they are sufficiently complete to be utilized, and to enable you to judge of the additional accommodation and facilities for work which they will afford. Our aim has been to make all parts of our buildings not only larger and more commodious, but more efficient and more comfortable as well as more wholesome. For most of these improvements we are indebted to our good friend, Mr. John H. R. Molson, Senior Governor of the University, whose munificent gift of sixty thousand dollars to the Faculty has defrayed the greatest part of our expenditure.

You have no doubt all of you become aware of the change in the length of the session from six to nine months.

This change, although it may appear rather startling at first, is really not so great or radical as it seems. The four six months sessions have been seen for many years to be inadequate to the requirements of anything like a complete modern medical education. Summer sessions have therefore had to be resorted to; first one, and latterly in reality two, and many classes and departments were still most inconveniently and injuriously cramped and overcrowded. More time for college teaching therefore had to be provided, either by extending our curriculum to five sessions instead of four, giving an aggregate of thirty months of academical teaching, or by doing as we have done, extending the

length of each session to nine months, making an aggregate of thirty-six months of academical teaching, and that within four years instead of five.

There were other reasons also which helped to make the change desirable. A better distribution of the work can be made with the longer session. The objectionable night work in the dissecting room can be practically discontinued, and students can have their evenings for rest, recreation and study. The Saturdays also can be left more free, and altogether, more breathing time will be given to the student, and he will be able to do more and better work.

It is to be remembered, of course, that the changes involved in the nine months' session only apply to students of the first year, and are not retroactive. Those whose names were in the Register last year, or in previous years, will be allowed to continue under the old regulations until they have completed their full course, but it will be competent for any of them to conform to the new arrangement, if they so desire it, in so far as it may be possible to harmonize the two courses. Some little difficulties will no doubt crop up from time to time in dovetailing the two systems into each other, but a little patience and a spirit of reasonable concession on all sides will soon smooth over all such difficulties.

To those of you who come to us this year for the first time we extend a welcome, no less warm than to those who have been with us before. We receive you into our family as worthy younger sons, who in your turn will become seniors, and who will be followed by still others junior to yourselves. You are beginning under better auspices than your seniors. The new and improved conditions are yours from the beginning, and it is to be expected of you

that with your better environment there will also be a better and more perfect development, keeping pace with the steady progress of medical science, which is ever onward, and like your predecessors becoming worthy members of a noble profession, and worthy sons of a proud Alma Mater, who always rejoices in the joys of her children.

ADDRESS AT THE OFFICIAL OPENING OF THE
NEW BUILDINGS OF THE MEDICAL FACULTY
OF MCGILL UNIVERSITY

JANUARY 8TH, 1895.

YOUR EXCELLENCIES, GOVERNORS, VICE-PRINCIPAL, FELLOWS OF CORPORATION, PROFESSORS, GRADUATES. UNDERGRADUATES, LADIES AND GENTLEMEN :

It is with a feeling of pleasure, amounting almost to exultation, that I rise, as the Representative of the Faculty of Medicine of McGill University, to welcome you as friends come to rejoice with us at the completion and opening of our new and enlarged buildings. To you, my Lord, and to Her Excellency the Countess of Aberdeen, we would beg to offer a special and a grateful welcome, inasmuch as you have been graciously pleased to honor us by your presence. We recognize in this act of kindness another proof of that large-hearted sympathy which has caused Your Excellencies to interest yourselves in so many phases of Canadian life, and which has won for you the love and respect of a loyal Canadian people.

And this is an occasion on which it is fitting that we should rejoice. It is cause for gladness, that the progress of our Faculty has been such as to make enlargement of our buildings an absolute necessity; and it is no less a cause for gladness, that, when the necessity for increased accommodation was actually barring our further advance, the barrier has been removed and our onward progress again made possible.

There is much in the history and progress of a school or university which may not inaptly be compared to

the life of an individual. There is a period of comparatively helpless infancy in both; and if this period be survived, it is likely to be followed by one of growth and development, leading, under favorable conditions, to a more or less vigorous maturity, and to a long career of activity and usefulness. But there is also a reverse side to the picture. The institution, like the individual, may die in its infancy from inherent weakness, from injury or from neglect; or it may drag on for a time a feeble existence, till it ultimately dies from continued stress of circumstances, or from the habitual neglect or ignorance of the laws of life and health, which apply no less to institutions than to living men and women. Let us see how far the picture will serve to illustrate the history and progress of our own School.

Soon after the opening of the old Montreal General Hospital in 1822, more than seventy years ago, four of its attending physicians, Drs. Robertson, Caldwell, Holmes and Stephenson, all of the graduates of Edinburgh University, being impressed with the necessity for providing medical instruction in this country for students who might find it impossible to seek their education abroad, took steps to establish a Medical School in Montreal, after the model of the Medical Department of the University of Edinburgh, and bearing the same relation to the Montreal General Hospital in its clinical work as that of the Edinburgh Medical School to its Royal Infirmary.

After negotiations continued through 1822 and 1823, the School was successfully organized under the name of the "Montreal Medical Institution," and in the autumn of 1824, it commenced its active work, in a small wooden building then standing on Fortification lane, near what is now

the site of the Bank of Montreal. The number of students during the first session was 25, and the whole of the work of teaching was done by the four men whose names I have already mentioned; the departments of Anatomy, Physiology, Chemistry, Pharmacy, Practice of Physic, Midwifery and Diseases of Women and Children, Materia Medica, Surgery and Botany being divided as evenly as possible among them. The name of Dr. Loedel was at first associated with the others as Lecturer on Materia Medica, succeeded after a few years by that of Dr. Lyons, but neither of these gentlemen seems to have taken any active part in the work.

But the arduous and responsible work was not only done by the other four men, but it was well done; so well that it received official recognition at Edinburgh, two of its sessions counting for one, but giving it, nevertheless, a status as one of the publicly recognized Medical Schools of the day.

The work of the School thus begun in 1824 was continued until 1828 with scarcely any change; the establishment of a French School of Medicine in the interval having drawn away a number of students and prevented the anticipated increase. The average attendance for the first five years was barely 26, or only one more than in the opening year. This result was disappointing and discouraging, and, with less resolute men at its head, the Montreal Medical Institution would probably have died and been forgotten. But it did not die, and it has not been forgotten. Not only did it continue to live, though under another name, but it was instrumental in preserving the life of its future foster mother, the University of McGill College, which was then in imminent danger of being strangled, almost at its birth, by adverse litigation.

It had become necessary that the University should assume active teaching functions within a certain date, then fast approaching, in order to secure its McGill endowment; and being unable to provide the necessary staff of teachers in the other Faculties, the struggling Medical Institution was asked, and gladly consented, to join the University as its Faculty of Medicine, and the crisis in the life of the University was thus successfully tided over.

The session of 1829-30 was the first under the new conditions, and it opened with 30 students. Its material resources, however, were not in any way increased, and for the next ten years its condition was, if anything, worse than before; but it was now the Faculty of Medicine of a University, acting by authority of a Royal Charter, and its battles were afterwards to be fought under its banner. This was no mean advantage. It gave prestige and courage to men who must otherwise have been worn out in a hopeless struggle; and gave distinction to the results of their labors by enabling them to procure for their successful students the honor of a University Degree.

The political troubles which culminated in the Rebellion of 1837-39 had at that time begun to disturb the community, and interfered considerably with the progress of the School. It was obliged to close its doors from 1836 to 1839, until the political storm had blown over; reopening its classes in 1839-40 with an attendance of 28, a number actually less by 2 than when its connection with the University began ten years before.

Other changes soon followed the joining of the School to the University. Edinburgh at once accepted the Certificates of the Faculty on their face value at par, and the other British Schools almost immediately followed its lead.

In 1833 the first break in the ranks of the four veteran

leaders occurred, by the death of Dr. Caldwell from fever. The gap was temporarily filled by the appointment of Dr. Racey, and on his removal to Quebec in 1835, the late Drs. George W. Campbell and Archibald Hall were added to the staff, the former Lecturing on Surgery and Midwifery, and the latter on *Materia Medica*.

It was not until the session of 1841-42 that the real growth of the School began, when it opened with 39 students; and it is gratifying to know that three out of the four original founders had the satisfaction of realizing it; for before the beginning of another session, two more of them had fallen in the struggle. Dr. Stephenson died in 1842, and Dr. Robertson's health gave way to such a degree as to necessitate his retirement from active duty, his death occurring in 1844.

The filling of these vacancies in 1842 led to extensive changes in the Faculty, with a redistribution of Lectureships, amounting almost to a reorganization. Dr. Holmes took Practice of Physic and Dr. Hall took Chemistry, while there were brought into the Faculty, Dr. McCulloch in Midwifery, Dr. Bruneau in Anatomy, and Dr. Sewell in Physiology and *Materia Medica*. In 1845 Dr. R. L. MacDonnell was brought in, to preside over the new department of Institutes of Medicine; Dr. Fraser to take charge of the new department of Medical Jurisprudence; and Dr. Crawford to assume the duties of still another new department, Clinical Medicine and Surgery. Dr. Papineau was also brought in to relieve Dr. Holmes in Botany. In or about this year also, Dr. Scott was appointed Demonstrator of Practical Anatomy. Further extensions were made in 1849, when Clinical Surgery was separated from Clinical Medicine, Dr. Crawford retaining the former, while Dr. MacDonnell assumed charge of the latter, only to be

replaced, on his removal to Toronto in 1850, by Dr. Sewell.

I have dwelt somewhat in detail upon these changes, not so much on account of the personnel of the appointments, but because they serve to mark the growth and development of the Faculty, in its efforts to keep abreast, and even in advance, of the progress of Medical Education on this continent.

But the growth and development of the School was not only in the direction of the increase in the number of teachers, or of the subjects taught; but also in the additional time devoted to the preparation of the students. Almost from the beginning, the sessions were made six months' sessions, instead of sessions of four and a half months; and almost, also, from the beginning, the obligatory course of study was changed to four years instead of three; and in this way the Faculty succeeded in establishing a reputation for thoroughness, which has stood it in good stead up to the present day.

I have already stated, that, at the opening of the Medical Institution in 1824, the Lectures were delivered in a wooden building near the site of the present Bank of Montreal. Some time afterwards, the School was removed to a brick building, still standing, on St. George street near the corner of Craig. In or about 1845, the Faculty took possession of quarters in the Central Building of the University, now occupied by the Faculty of Arts, and continued to occupy these premises until its removal to Cote street in 1851. Of the precise dates of the removals to St. George street and to the University Buildings, I am not as yet, in a position to speak with certainty, for the early records of the School and Faculty are not as complete in detail as they might have been; but the dates of the appointments and other changes, as I have given

them, are from the records, and may, I think, be relied upon. Of the dates and changes after 1850 I can speak with confidence from personal knowledge, for my connection with the Faculty began, as a student, in that year, and has continued almost without interruption, until the present time.

Up to 1850, the increase in the number of students had not been great. Commencing in 1824-25 with 25 students, the number, after twenty-five years, in 1849-50, was only 44, an increase of less than one in each year. From this time, however, the reorganized and strengthened departments began to attract more students, and the session of 1850-51 opened with 53.

In 1851, the St. Lawrence School of Medicine was started, in opposition to our Medical Faculty. It had a strong staff of teachers, and its class-rooms were in the heart of the city. As the University Buildings were at that time,—more than forty-three years ago,—thought to be rather remote from the centre of the city, it was feared that the more central position of the new School would place our Faculty at a disadvantage; and, after careful consideration, it was decided to move the classes once more back to the city. As no University funds were available to assist in this matter, three members of the Faculty, themselves advanced the money; and a substantial brick building was erected in Coté street, in time for the session of 1851-52, where the classes opened with 64 students.

This building, which is still standing in Coté street, served the purposes of the Faculty for twenty-one years; and in it occurred many of the changes and much of the progress which have left their mark upon the history of the Faculty. It was here that, in 1852, all the Lecturers in the Faculty were promoted to the rank of

Professors, Dr. Holmes alone having previously, I believe in 1843, been appointed the sole Professor. It was here also that, in 1854, Dr. Holmes was made Dean, the first in connection with the Faculty. Here also we had the happiness of receiving amongst us, as Professor of Botany and Zoology, our much loved and gifted Principal, Sir William Dawson, now retired, to whose great ability, zeal and untiring industry, the University, in all its departments, owes so much. Here, in 1854, it was made optional with the student to divide his examinations into Primary and Final, and here, also, a department of Practical Chemistry, under Dr Girdwood, was established in 1870, though it was not for some years later, that a Faculty Chemical Laboratory was provided. Here also, in 1870, an optional Summer Session of three months was established, and in 1871 an optional course in Hygiene and Public Health, under the late Dr. George Ross, which was converted into a Professorship under Dr. Godfrey in 1875. During the twenty-one years of the occupancy of the Coté street building, the number of students increased from 64 in 1851-52 to 139 in 1871-72; but the attendance in several of the years had been above 170, and in one year, 1866-67, it had reached 184.

But time will not permit me to dwell with as much of detail, upon the remaining years of the history of the Faculty; and I must content myself by referring only to the more important changes and occurrences of the last twenty-two years.

Owing to the increased number of students and the extension of the Curriculum, as well as to the growth of the Museum and Library, the building on Coté street had for many years been inconveniently crowded; and the Faculty had been casting about for means of acquiring better

accommodation. The opposition of the St. Lawrence School of Medicine had long since come to an end; indeed, the School itself could scarcely be said to have been born before it began to die; and the last vestiges of it had disappeared after a few years. Moreover, the city had spread greatly in the direction of the University Buildings; and, influenced chiefly by the advice of Sir William Dawson, the Faculty, in or about 1870, applied to the Board of Governors to be received again within the precincts of the College Grounds. There was at that time no available buildings on the College Grounds, of sufficient size to accommodate our growing Faculty; but the Governors generously offered to erect and place at our disposal a building suitable to our needs; and their offer being gladly accepted, the substantial stone building forming the front portion of the present block was erected by them in 1871 and 1872, at a cost of \$27,000, and placed at the disposal of the Faculty. The building was unfurnished, and without equipment of any kind; but, nothing daunted, the members of the Faculty proceeded to furnish and equip it with their own individual resources, at an expense of several thousand dollars; and our classes were opened in it in the autumn of 1872 with an attendance of 154.

Dr. Fraser, Professor of Institutes of Medicine, died in 1872, and Professor Drake, who had occupied the Chair of Clinical Medicine since 1868, was transferred to the Chair of Institutes of Medicine; a position which he filled with eminent ability. In 1874, owing to the failure of the health of Professor Drake, the position of Lecturer on Institutes of Medicine was conferred upon Dr. William Osler, one of our own graduates, then just returned from a two years' sojourn among the great Schools and Laboratories of Europe; and in 1875, on the permanent retirement of Pro-

fessor Drake, Dr. Osler was promoted to the vacant Chair. The assumption, by Dr. Osler, of the duties of the department of Institutes of Medicine was immediately followed by active laboratory work in Physiology, Histology and Pathology; and it is due to Professor Osler to say, that to the contagious influence of his example, together with his great ability and enthusiasm, is largely due the greatly increased proportion of practical work in all departments of the Faculty.

But the increase of practical and laboratory work in many departments, though it added greatly to the efficiency of the teaching, added also greatly to our expenditure, and we soon began to find ourselves crippled for means to carry on the work; and to add to our embarrassments, in 1882, we suffered what seemed to be an irreparable loss by the death of our Dean, the late Dr. George W. Campbell, whose great influence and ability, for upwards of forty years, had been the mainstay of the Faculty.

But the darkest hour is often just before the dawn; and while our Chancellor, Sir Donald A. Smith, was listening to a eulogy on his late friend, Dr. Campbell, and a recital of our needs, by the late Dr. Howard, he resolved to come to our rescue in a most effectual way. He offered to confer upon the Faculty no less a sum than \$50,000, on condition that a like sum should be collected from other friends of the University. I need not say with what alacrity we set about the collection of the stipulated sum, nor with what readiness and liberality we were met by many of our citizens; nor need I allude to the liberal contributions given by nearly every member of the Faculty. It is sufficient to say that the amount was soon collected and paid; Sir Donald's contribution was also paid over, and in 1883, the Faculty found itself relieved from its

embarrassments, by a handsome Endowment of \$100,000.

But our troubles were not ended, if, indeed, in some respects, they can ever be expected to end. Our session opened in 1883 with 200 students; and with the increased space, rendered necessary by the enlargement of our laboratories, our building was full to overflowing. In 1884 the number of students increased to 227; and it became necessary, therefore, to make immediate provision for increased accommodation. The Governors were, unfortunately, without funds to help us, and our only alternative, therefore, was to draw upon our Endowment for the enlargement of our building. This we did, with the consent of the Governors, to the extent of \$23,000; and in the autumn of 1885, we opened our session with greatly increased accommodation, and a class of 234 students.

In 1884, we had the misfortune to lose the valuable services of Professor Osler; the University of Pennsylvania having offered him the Chair of Clinical Medicine. This offer opened up to him so large a field for advancement in his profession in every way, that he was fain to accept it; and we parted with him with good wishes, but with very great regret.

In 1889 the Faculty suffered another great loss in the death of its Dean, the late Dr. R. Palmer Howard. Dr. Howard's marked ability, untiring industry, unwavering integrity and unbounded popularity with all classes, made him a man who could ill be spared; and the loss of his strong personal and professional influence for good, will be felt in the Faculty and in the community until his generation shall have passed away.

Two other lamentable deaths in the Faculty followed that of Dr. Howard in quick succession. Dr. Richard L. MacDonnell, Professor of Clinical Medicine, died in 1891;

and Dr. George Ross, Professor of Medicine, and Vice-Dean of the Faculty, died in 1892. Of these two, it may safely be said, that there have probably never been in the Faculty two men of greater promise or usefulness; and the loss of them, following, as it did, so closely upon that of Dr. Howard, was the cause of great grief and anxiety.

The late Dr. Howard had greatly at heart the establishment of a Chair of Pathology, and lost no opportunity of pressing its claims upon friends of the University. It was not, however, until two or three years after his death, that, in 1892, the Faculty succeeded in obtaining what had been so long desired, by the appointment, by the Governors, of Dr. Adami, from Cambridge University, England, to the newly established Chair of Pathology. With reference to this appointment, it is only necessary to say that it places our Faculty, at least on a par with the best Schools of this continent, in this important department.

Other extensions of the Curriculum were made from time to time. Dr. Frank Buller was made Lecturer on Ophthalmology and Otology in 1878, and was promoted to the rank of Professor in 1883. A Chair of Gynæcology was also established in 1883, with Dr. William Gardner as its first occupant; and a Department of Laryngology, under Dr. George W. Major, was commenced in 1882, and erected into a Chair in 1893, with Dr. Major as its first Professor.

In 1894, Summer Sessions were abolished, and the Ordinary Session of six months was changed to one of nine calendar months.

From 1884 to 1889, the number of students remained nearly the same, the number in 1888-89 being 227. In 1889-90 the number increased to 256; in 1890-91 to 261; in 1891-92 to 291; and in 1892-93 the number reached 312.

We were again face to face with the old difficulty of over-

flowing buildings, and had again to look for the means of providing increased accommodation. Our difficulties in this instance were even greater than in 1885; for to afford room for additional buildings, it would be necessary to purchase the land adjoining the college property, and which was valued at \$25,000. The required new buildings were estimated to cost \$30,000, making a total of \$55,000 required to serve our purpose. We laid our case before the Board of Governors, asking them to acquire the necessary land; and to allow us to borrow from our Endowment Fund the \$30,000 required to erect the necessary buildings. What was our surprise and delight, when Mr. John Henry Molson (now our Senior Governor), with scarcely a moment's hesitation, asked to be allowed to relieve us of the whole burden, by placing at our disposal the munificent sum of \$60,000, a sum greater by \$5,000 than the whole estimated cost?

It is difficult to find words fitly to characterize such princely generosity. To it we owe the erection of the building in which we are now assembled, and the ground upon which it stands; and to it also we owe the comfortable accommodation of the rapidly increasing number of students; for last year the number was 350, and this year it has already reached 400.

It is matter for regret that Mr. Molson is not with us to-day, to receive in person the thanks of the Faculty; but he is well represented by Mrs. Molson,—that part of him which he himself is proud to own as his better half; a lady from whom the University has also in other departments received rich benefactions; and our thanks could not possibly be conveyed to Mr. Molson through a more welcome channel.

It remained only for our Chancellor, Sir Donald Smith, at

the Convocation in 1893, with one of his many acts of magnificent bounty, to fill our cup full to overflowing, by the endowment of the Chairs of Pathology and Hygiene, with the sum of \$50,000 each; thus placing our Faculty, so far as can be foreseen, in a position to carry on and to extend its work without financial anxiety.

I fear that I have wearied my audience by my long and somewhat detailed account of the origin, the struggles, the growth and the ultimate triumph of our Faculty; but I have thought that on an occasion such as this, the history should be made fairly complete; and I shall only ask of you, to bear with me a minute or two longer, while I endeavor to point its moral.

We may be asked, what have been the secrets of our success? There have been no secrets. We have succeeded because we have tried to deserve and to achieve success and when taxed beyond our powers, well-tried friends have helped us; and we have been guided by those principles which should always command success in every worthy enterprise. We have, with honest purpose, taken advantage of such circumstances as were useful and necessary in our work. The large field for clinical work and observation, which our school has enjoyed since its commencement, in the wards of the Montreal General Hospital, has been an important factor in our success; and supplemented, as it now is, by an equally large field in the wards of the Royal Victoria Hospital, our Faculty and students have at their command, resources in this direction which cannot anywhere be excelled. Moreover, the interests of the Faculty have generally been guarded by practical and far-seeing men; men not merely learned in their profession, but endowed with sagacity, administrative ability and business tact; qualities without which, no enterprise, however highly

avored, can long hope to succeed. The Faculty has endeavored, also, to supply to the community that of which it was really in need, and which was, therefore, always in demand; and has striven to make its graduates, sound, sensible, well-trained and well-equipped men; fit to be entrusted with human life and health. It has never allowed itself to lower its standard below that which would test the powers of average men; nor to raise it so high, or to hedge it about with such unreasonable requirements, as to keep out those that, with patient and intelligent help, will often, from dull beginnings, develop into the brightest ornaments of the Profession. And, lastly, we have always had faith in our Faculty and in our University. When we have met with misfortunes, they have not made us unduly despondent; nor when success has smiled upon us, has it made us arrogant; but we have kept steadily in view the time when our Faculty should leave doubt and uncertainty behind, and look forward to an assured and prosperous future. We hope and trust that that time has arrived; and we hope, also, that the future of the Faculty and of the University shall be to the past, as the bright rays of the noonday sun to the feeble and uncertain light of a beclouded moon.

I have now the honor to present to Your Excellency, on behalf of Mr. Molson, and on behalf of the Faculty of Medicine of McGill University, this key. It is only a modest little key, but, in a figurative sense, it may do great things, if it shall serve to open our doors to public confidence and appreciation; and to open them also, in sending out for generations to come able and worthy graduates, to carry health and help to suffering humanity, and to be a source of pride and honor to their Alma Mater.

ADDRESS AT THE CONVOCATION FOR CONFERRING DEGREES IN MEDICINE. MCGILL UNIVERSITY.

APRIL 4TH, 1895.

The interesting ceremony which we have this day witnessed, by which fifty-three gentlemen have received their Degrees in Medicine and have been declared worthy to practice Medicine and Surgery in all their branches, marks the culmination of the sixty-second session in the history of this Faculty.

In its ordinary features this Convocation differs very little from those which have preceded it. We have brought before you a goodly array of worthy graduates, in no sense inferior to those that have gone before them, and, we may fairly hope, even better equipped than they in the most modern ideas and methods, and you, Ladies and Gentlemen, and many warm friends who are not with us to-day, have again helped and encouraged us by your countenance and assistance.

Of the 53 graduates upon whom the Degree of Doctor of Medicine and Master of Surgery has just been conferred, 21, or about 40 per cent., are from the province of Ontario; 16, or 30 per cent., from the province of Quebec, and 16, also about 30 per cent., from other provinces, including New Brunswick, Nova Scotia, Prince Edward Island, Manitoba, the West Indies and the United States.

The number of graduates in successive years varies considerably from time to time, and bears no direct ratio to the number of students in attendance during the same year. The

number of graduates this year is smaller by two than it was last year and greater by seven than the year before; but calculated from a series of years the number is fairly proportionate to the average number of students.

The area also from which our graduates and students are drawn is tolerably constant, and is steadily widening in every direction, bearing a somewhat close relation to the total number of our students. And this total number of our students has been rapidly increasing, particularly during the later years. Twenty years ago the number was 129; ten years ago it had risen to 227; four years ago it was 261; and this year it is 401.

Of the 401 students who have been in attendance this year, 155, or about 39 per cent., were from the province of Quebec; 115, or about 29 per cent., from the province of Ontario; 93, or about 23 per cent. from the Maritime provinces and Newfoundland; 26, or about 6 per cent., from the United States, and 14, or about 3 per cent., from the Northwestern provinces and territories, the West Indies and Ireland.

It will thus be seen that about 61 per cent. of our students, and 70 per cent. of our graduates, have come from homes outside the province of Quebec; and at least an equal percentage of them will eventually establish themselves in practice outside of this province. It is only necessary to state these facts to make it obvious how great would be the misfortune of having our curriculum, or the scope and breadth of our teaching, narrowed and controlled by local and selfish cliques, or by antiquated and anti-academical legislation.

We think we may fairly claim that to this breadth and progressiveness of our teaching, and the earnestness with which it has been carried out, much of the success of our Faculty has been due. Progressive thoroughness has always been our aim, and in order to attain to it, and to maintain it, we have not hesitated to adopt new methods, even when we

could ill afford the expense and the labor, whenever their utility had been well established; nor have we hesitated, on the other hand, to cut off from our educational tree, branches which had become obsolete and useless, and which, if not removed, could only lead to decay and unfruitfulness, blighting, sooner or later, the very life of the tree itself.

In this world, and particularly in this age and in this country, stagnation in educational as in business matters will not long be tolerated. The public is quick to detect, and quick also to condemn everything that is offered to it that is not the best and the freshest of its kind, and the faculty or the firm which offers to the public of to-day, products fashioned after the models or methods of the last century, or even sometimes of the last decade, is apt to meet with neglect and failure. On the other hand, the firm or the faculty which strives to provide for the real wants of the public, and in forms suitable to its tastes, will not long have to complain of neglect or lack of appreciation.

I will not say that our Faculty has always lived up to this ideal; but it has always striven after it. We have made our mistakes, and we have had our shortcomings, but when we have discovered them we have been prompt to remedy them, and we have never hesitated between a present loss and a future failure.

But I would not have it thought that, in thus referring to some of the sources of our success as a Faculty, I have even for a moment been forgetful of the magnificent gifts and endowments which we have received at the hands of our Chancellor, Sir Donald A. Smith, and our Senior Governor, Mr. John Henry Molson, and many other generous friends of the Faculty and of the University.

The present enviable position of our Faculty is largely due to these ample and timely gifts, and the Faculty will

never cease to be grateful for them, but I trust I may be forgiven if I venture to say that these gifts might never have been given if the Faculty had not been doing its utmost to achieve success without them, and that our benefactors, like Providence, take delight in helping those who are striving earnestly to help themselves.

As a natural result of the generous benefactions which have been bestowed upon us, and also of the advanced ideas and methods of Medical Education which we have always striven to maintain, the present session has been carried on under exceptionally favorable circumstances. The students in attendance have increased since last year by no less a number than 51, or nearly 15 per cent. ; the working capacity of our buildings and our laboratories has been nearly doubled, and the Royal Victoria Hospital, with its perfect equipment now in full operation, has more than doubled in extent and completeness our field for clinical instruction.

On the 8th of January last our new buildings and laboratories, erected from the ample fund contributed by Mr. John Henry Molson, were officially declared open in an eloquent address by His Excellency the Governor-General, who was accompanied by Her Excellency the Countess of Aberdeen,—and in the presence of a very distinguished company composed of citizens of Montreal and other friends of the University from every part of Canada and from the United States. We had the pleasure also of listening to an able and learned address from our distinguished graduate and friend, Professor Osler, of Johns Hopkins University, Baltimore, and appropriate addresses were also given by Sir William Dawson and the Acting Principal, Prof. Johnson.

I shall not detain you by a detailed description of the new and commodious buildings and laboratories which were formally opened on that occasion, and which have been in

active use throughout the session, such a description will be found in our Annual Calendar, but I may say that they include a new Lecture Room that will seat comfortably more than 450 students, with adjoining preparation rooms and commodious Laboratories for Physiology, Pathology, Histology, Pharmacology and Practical Hygiene. This increased accommodation in the new buildings has enabled us greatly to improve the departments in the older buildings. The Chemical Laboratory and the Anatomical Rooms have been nearly doubled in extent, a suitable Faculty Room has been established, the Professors and Demonstrators have nearly all been provided with comfortable rooms, the Students' Reading Rooms have been greatly enlarged and improved, and increased space has been given for the enlargement and improvement of the Library and Museum.

But not only has this Faculty been overcrowded for many years, as to space, but owing to the gradual expansion of its curriculum and the greater development of its practical methods of teaching, it has also gradually been becoming overcrowded as to time; for it is no more possible to compress into four sessions of six months each, even with the addition of an extra three months' summer session, work that would fully occupy the time of five or six sessions, than it would be to crowd our 400 students into a space only sufficient for a little over two-thirds their number; and yet that is the very thing that we have been trying to do for many years, and which most medical schools of the better class are still trying to do.

The original medical session only lasted from three to four and a half months in any one year, and our Faculty was among the first, if not the very first, on this continent to increase it to six months. This system, with its long vacations, was the outcome of the apprentice system which was in vogue

even as late as my own student days, and which gave our preceptors and masters the benefit of our private services during a large portion of every year; but since the old system of private instruction and apprenticeship has been superseded by public hospitals and clinical instruction, the long vacations have become useless to students and practitioners alike, and the necessity for their continuance has passed away.

It had been apparent to our Faculty for many years that four six-months' sessions were insufficient for the work that was being crowded into them, and as long ago as 1870 an optional summer session of three months was established for the purpose of relieving the somewhat turgid winter session. A second summer session has been partially introduced for some years, but even this was found to be insufficient, and we found ourselves, therefore, face to face with the problem of either adding another year to our course of study, imposing, of course, an additional burden upon the students and their parents and guardians; or of utilizing to the utmost the long vacations, imposing thereby some additional labor upon our teachers, but giving to the students the benefit of time which has hitherto been largely wasted. It was plain to us that the latter alternative was by far the best, and at the close of the last session, in 1894, with the immediate prospect of largely increased laboratory extension, and the additional clinical field to be covered, the time seemed opportune for giving effect to our ideas and wishes, and the time-honored but seemingly obsolete six-months' session was abolished and an annual session of nine calendar months was established to take its place.

The advantages to be looked for from this change are many and great. Besides those already mentioned it has the great advantage of giving our students thirty-six months of academical instruction, instead of twenty-four, or at most

twenty-seven, as formerly; and when the great superiority of systematic academical teaching in college and hospital over the old vacation system of irregular private instruction, or, more often, no instruction at all, is taken into account, the advantage of the change in this respect must be obvious to all.

The change was made, not without some misgivings as to the effect upon the number of our students, and we were prepared to see diminished classes for a year or two, but, as in the case of most other movements that have been made for the advantage of the students, they were the first to appreciate it, and our numbers, instead of diminishing, have this year been much larger than ever.

The changes in the personnel of the Faculty during the year have only been such as were rendered necessary by our altered conditions. Professor Roddick asked to be relieved from the duties of the Chair of Clinical Surgery, retaining only the General Chair of Surgery. Associate Professor James Bell was made Professor of Clinical Surgery, and Dr. George Armstrong was made Assistant Professor in the same department. Dr. F. G. Finley was made Assistant Professor of Medicine and Clinical Medicine, and Dr. Henry A. Lafleur became Assistant Professor of Medicine and Lecturer in Clinical Medicine. Dr. Wyatt Johnston was also made Lecturer in Bacteriology. In addition to the foregoing, which were University appointments made by the Board of Governors, the Faculty also made some additions to its staff of Demonstrators and Assistant Demonstrators, raising their number to 13, making, with the Professors and Lecturers, a total teaching staff of 36 individuals.

I had the pleasure last year of reporting the gift to the Faculty of a portrait of Dr. Robertson, the original Founder of our School. This year we have had the pleasure of add-

ing to our Collection of Portraits that of the late Professor Archibald Hall, who, from 1835 to the time of his death, in 1868, a period of 33 years, took a prominent part in the work of the Faculty, and contributed to its success in no small degree by his industry and talent both as a writer and a teacher, and for many years in the responsible position of Registrar. The portrait is the gift of his daughter, Mrs. Rebecca Jones, to whom the Faculty takes this opportunity of acknowledging its obligation.

Did time permit, and were this a fitting occasion, there are other matters connected with our Faculty and its work which might well claim our attention, but I have endeavored to confine myself chiefly to such aspects of our work as might serve to show its educational value and the principles upon which it is being carried on.

On behalf of the Faculty, I may say, in conclusion, that while we rejoice in the success that has come to us, and are deeply grateful for the gifts which have contributed to it in so large a degree, we are at the same time fully conscious of the great and continued responsibility which these gifts and this success impose upon us, and we shall leave no effort untried to prove ourselves worthy of the trust.

ADDRESS AT THE ANNUAL CONVOCATION OF
THE FACULTY OF MEDICINE, MCGILL UNI-
VERSITY.

MARCH 31ST, 1896.

It is my duty and my privilege, at our Annual Convocation, to direct attention to the more important features and incidents of the session now drawing to a close, and which is the sixty-third in the history of the Faculty.

Those of you who have done us the honor of being present at our former Convocations can scarcely fail to notice the increased number of our graduates this year. The explanation of this large increase is to be found in the equally large increase, during the last few years, in the number of students in attendance. It must be borne in mind that it requires, at the very least, four years of regular attendance at College to produce a medical graduate; and, taking into account our rapidly expanding curriculum, many students who can afford the time, wisely extend it to five or six years. The number of graduates, therefore, bears no close relation to the number of students in the same year, but rather to the number in attendance in the four or five preceding years. Seven years ago, to-day, the number of students was only 233; in the following year it had risen to 261; two years later it was 291; in two more years it had risen to 350, and this year it was 414! What wonder then that our list of graduates is large? In the near future, it is likely to be still larger, for, of the 414 students in attendance this year, 92 are in their third year, 105 in their second year, and 113

in their first year. But there is also another source of growth. Year by year an increasing number of Primary students come to us from other Universities, at the beginning of their third year. They submit to our examinations in the Primary branches, and graduate with us, after two years study in the Final branches. From these combined causes, our Graduating Class this year is larger than the average, and, of course, larger than ever before; but, in proportion to the number of students, it is not larger than it has been in former years. The percentage this year is 21.7; six years ago it was 21.4, and eight years ago it was 22.5. I have thought it well to give these explanations, lest it should be imagined that the number is abnormally large, or that the stringency of our examinations has, in any way, been relaxed.

The mention of our examinations reminds me that the public can scarcely be expected to understand, or to appreciate, the changes which have taken place, in recent years, in the methods of examination. The old system of *viva voce* examinations, by verbal question and answer, has almost entirely become a thing of the past, and has been replaced by a system of written questions and answers on the principles, theories and rules connected with the different branches of Medicine; while the proper application of these rules and principles is tested by actual demonstration in the different laboratories and at the bedside. Then again, in former times, all the examinations were reserved for the end of the last year, and were undergone by the candidate generally in one day. But such a day! Eight or ten crucial examinations on different subjects, failure in any one of which meant failure in all! Such was the system in vogue in my time, a system that, in these modern days of learning-made-easy, will scarcely bear thinking

about. The examinations now are spread over the whole four or more years, each session having its share, with, in some subjects, mid-session examinations to set the student at liberty for other work. It need scarcely be said that this system is greatly to be preferred to the older one. It fixes the student's responsibility upon him from the very outset, making him a soberer and quieter man, and, by placing the subjects before him gradually and in detail, it enables him to master them more easily and more thoroughly. It enables his examiners also to exact, and they do exact, a higher degree of excellence in his examinations.

It has been objected to this system in medicine, that it allows the student to forget some of the details of his earlier subjects while occupied with those that come later. This is, no doubt, true to some extent, but what of that? The less important details of every branch will be more or less forgotten after he graduates, in any case. It is not what an individual remembers at any given moment that makes up the sum of his useful knowledge, but all that has previously been thoroughly well known, and about which he can, at any time, easily refresh his memory; just as a mathematician, before he can proceed to demonstrate the truth of the 47th proposition of the 1st Book of Euclid, must have mastered all the propositions that go before it and lead up to it, but need not necessarily carry them in his mind in all their details.

Of the 414 students who have been in attendance during the session, including, of course, our 90 graduates, 164, or a little under 40 per cent., are residents of this Province; 121, or a little under 30 per cent., are from Ontario; 85, or rather more than 20 per cent., come from the Maritime Provinces, including Newfoundland; 27, or 6½ per cent., from the United States; 13, or rather more than 3 per cent.,

from the North West Provinces and Territories, and 4, or nearly 1 per cent., from the West Indies and South America. Our School has, therefore, far outgrown its original provincial character; it attracts students from a wider area, and is more thoroughly cosmopolitan in character than any other medical school on this Continent.

On the students and graduates of this year, I have nothing but praise to bestow. They have given us no trouble, and they have been earnest and attentive in their work. They have helped greatly to live down the old-time prejudice against medical students, and when they leave us, they will carry with them our respect and esteem, and our good wishes for their future welfare.

Of the Faculty itself, and its officers, not much need be said on such an occasion as this; but, one circumstance stands out in bold relief. I allude to the welcome advent among us of our distinguished Principal, Dr. Peterson, who is, by his office, a member of this Faculty. He comes to us with a high reputation for ripe learning and great administrative ability, and his leadership cannot fail to be of great advantage to the Faculty, and to broaden and strengthen the reputation of the University as a whole. Assisted greatly by the munificent gifts and endowments of our Chancellor, Sir Donald A. Smith, and of our Senior Governor, Mr. John H. R. Molson, we have endeavored to consolidate our resources, and to meet the rapidly increasing demands upon us, without confusion, and without embarrassment. We cannot claim that we have, as yet, been entirely successful, for no doubt there have been delays and inconveniences, but we have endeavored to correct them as soon as they became known to us, and shall continue to do so, to the utmost of our power.

More students require more teachers, and to offset the

rapidly increasing number of students within the last few years, it has been necessary to increase, in an equal ratio, the number of professors and teachers. Seven years ago, the number was 23; this year it is 42, an increase of upwards of 82 per cent., and yet the number has been none too great.

During the year, the Faculty has had to lament the untimely death of one of its most valued officers,—Dr. E. P. Williams, Demonstrator of Pathology, and Assistant Curator of the Museum. His abilities were of a high order, and he gave promise of a brilliant career; but while leading in the line of his duty, in the battle against disease and death, he himself received a poisonous and fatal wound. He died the death of a hero, as truly and as nobly as if the boom of cannons and the blare of trumpets had been sounding in his ears. His widowed mother weeps for her only son, and his comrades mourn him as only the brave and the true are mourned.

Our Faculty has all along been aware that its chief function was the training of students for the practice of their profession; but it has never been unmindful of the fact that the complete functions of a Faculty, or a University, do not by any means stop there. To limit the scope of any branch of study is to court stagnation, and stagnation, or even repose—except, perhaps, for the briefest breathing time—is apt to end in retrogression and decay. Realizing these facts, the Faculty has been laying out work for itself on a higher plane, by making provision in its laboratories for Original Research Work, chiefly in Pathology, Chemistry and Physiology, and by the establishment of a so-called Post-Graduate Course, for practitioners and graduates of our own and other Universities. In these days of rapid progress in Medical and Surgical Science, such instruction

is greatly needed; for practitioners, particularly in country districts, soon find their methods and processes growing old and obsolete; being superseded by others of which they have no practical knowledge, to the disadvantage of themselves and their patients. To supply this want, we have undertaken to give a six-weeks' course of lectures, clinics, and demonstrations in the more advanced work of the profession, for such practitioners as may wish to avail themselves of it. In this country it is a new experiment, but the announcement has been well received by the class for which it was intended, and we shall hope to see it become popular and useful. The original research work in the laboratories has been going on for a year or two, and is steadily increasing. Enough has been done to demonstrate its usefulness, and to give promise of results, in the future, that shall prove valuable to the profession and to the public.

It is scarcely necessary to say that we have hailed with delight the announcement of a new central university building for Chemistry. In this new princely gift, Mr. McDonald is giving fresh evidence of his interest in every department of the University; for, by bringing the students of all the Faculties to a central building for instruction in the central truths and principles of Chemistry, he will relieve the other Faculties of much of their duplicated work, and will help greatly in fostering, among students and Faculties, a true University spirit. That the central building for Chemistry will be followed, in due time, by a central building for Biology, I cannot for a moment allow myself to doubt. In the meantime, while waiting, we shall continue to work with all the means at our command, and endeavor to prove by our good use of the munificent gifts that have already been bestowed upon us, that we are not unworthy of being entrusted with others that are still to come.

ADDRESS AT THE MEDICAL CONVOCATION OF
MCGILL UNIVERSITY.

JUNE 17TH, 1899

MR. CHAIRMAN, MR. VICE-PRINCIPAL, MEMBERS OF CONVOCATION, GRADUATES IN MEDICINE, LADIES AND GENTLEMEN :

Our Convocation to-day brings practically to a close the 70th year of the Medical Faculty of McGill College. It came into existence in June, 1829, and in this month of June, 1899, it completes its full tale of three-score and ten years. It was the earliest working Faculty of the University, and for a considerable time the only one, and by beginning active teaching work within the time stipulated in the McGill bequest, no other Faculty being in a position to do so, it was fortunate enough to save the life of the University. Of the value of the Institution thus rescued from certain death, it would ill become me as a member of the Medical Faculty to speak; still less would it become me to dwell upon the part which the Medical Faculty has since played, in building up, maintaining and adding to the reputation of the University. The community, here and elsewhere, to which the University ministers, and those friends of the University who are familiar with its history, must be the judges in such matters. The Medical Faculty rejoices scarcely less in the growing prosperity of the other Faculties than it does in its own.

The work undertaken by the Faculty seventy years ago, in 1829, turned out to be neither easy, profitable nor encouraging. Beginning with 30 students, the number after ten years, in 1839-40, was only 28; and in the succeeding

ten years, in 1849-50, it had only increased to 44, an increase of fourteen students after twenty years' work. Less resolute men would probably have abandoned the work altogether; but they never faltered, and the survivors of them had the satisfaction, soon after the second ten years had ended, of seeing the real growth and success of the school established beyond all reasonable doubt; for at the end of the third ten years, in 1859-60, the number had reached 108, and was slowly but steadily increasing. In 1869-70, the number was 141; in 1879-80, 166; and in 1889, just ten years ago, it was 233. In the last ten years, ending to-day, the number has increased much more rapidly, being now 447, lacking only nineteen of being double the number in attendance ten years ago.

Of the 447 in attendance this year, 436 were undergraduates proceeding to the degree; the others in attendance being graduates and partial students, following special courses of study.

Of the 436 undergraduates, 129, or 29 1-2 per cent., were from the Province of Quebec; 124, or 28 1-3 per cent., from Ontario; 120, or 27 1-2 per cent., from the Maritime Provinces and Newfoundland; 38, or 8 1-2 per cent., from the United States; 16, or 3 2-3 per cent., from the Northwest Provinces and Territories; 6, or 1 1-3 per cent., from the United Kingdom; and 3, or a little less than 1 per cent., from the West Indies and the Magdalen Islands.

The chief lesson to be learnt from the above figures, is the important one, that only 29 1-2 per cent., or less than one-third of our students, come to us from this Province; and that the other 70 1-2 per cent. come to us from every province and territory in this wide Dominion; from the United States, from the West Indies and other islands of the Atlantic, and perhaps the most significant of all—in

appreciable numbers from the United Kingdom itself. From the whole of this widely-extended area the attendance is yearly increasing, but at a different rate from different localities. The principal increase of late years has been from the Maritime Provinces, including Newfoundland, and notably from New Brunswick; 120 students, or 27 1-2 per cent of the whole, hail this year from these provinces, their number having more than doubled within the last ten years. Edinburgh University and Harvard University, of Boston, formerly received most of the students from these provinces by the sea; and knowing the high reputation of both these institutions, we realize the responsibility as well as the compliment implied in their willingness to trust to us for an efficient medical training. So also, with the increasing number of students from the United Kingdom. Ten years ago there were none; nine years ago one appeared, then two or three, and this year there were six, two of whom are to-day in our graduating class. It would be too soon from these modest beginnings to venture any predictions as to the number in future years. Canadians have long been going to Great Britain for a medical education. We welcome heartily the beginning of a counter tide which has begun to flow in this direction, and particularly the individuals by whom it is represented. And who can say to what it may lead? The number of students from the United States is also steadily increasing. This year the number is 38, or more than 8 1-2 per cent. of the whole.

It is very gratifying to us to be able to receive and to train medical students from countries and places so widely distant from each other, and altogether we cannot as yet claim that our degree carries with it a right to practise in all the provinces and countries from which our students hail; yet where obstacles exist in the way of this desirable

consummation, they are almost entirely political; and there is good reason to hope that they may be susceptible of removal. Our good friend, Professor Roddick, M. P., is exerting himself in this direction, and, so far, with encouraging prospects of success; and in the meantime the courses of medical study followed in this Faculty are accepted at their face value wherever the English language prevails.

Before passing from the subject of our ever-augmenting classes, it is only proper to state that notwithstanding the large additions to our buildings and accommodation so lately as 1894, by the great generosity of the late Mr. John Henry Molson, we are again sadly cramped for room, both in our lecture rooms and laboratories. Additional seats have had to be placed in every available corner of one of our principal lecture rooms; and in some of our laboratories it has been necessary to divide the class into two, three and even four parts, to the great inconvenience of the students and much additional labor to the teachers.

These matters having been mentioned last winter to the Chancellor, Lord Strathcona, the large-hearted and ever faithful friend of our Faculty, he was good enough, unsolicited, at the Medical Students' Dinner in December last, to promise in the name of Lady Strathcona and of his daughter the Hon. Mrs. Howard, to come to our relief in this matter, by two munificent donations of fifty thousand dollars each, to provide for the additional accommodation at present so much needed, and for such other faculty purposes as may in due time be determined upon. No words of mine can fitly express the gratitude of our Faculty and of myself personally, for the princely way in which he has come to the relief of the Faculty time and again, when its needs were greatest, and when his timely assistance would most help its progress. We can only express our hope that

he and his amiable family may long be spared to see the fruits of their generosity, in results which will be a credit to their country, and which will contribute to the relief of suffering all the world over.

Lord Strathcona was good enough to suggest that in the construction of any additions to our buildings, they should be in pursuance of some comprehensive plan, which would admit of still further extension if required in the future, without confusion or incongruity. Plans drawn upon the above lines are now in the hands of Lord Strathcona for his criticism or approval; and the Faculty hopes to proceed with the erection of the building so soon as the necessary conclusions have been arrived at.

While upon the subject of class-rooms and laboratories, it gives me much pleasure to refer to a circumstance which only came to my knowledge within the last two or three days. The Pharmacological Laboratory, under the charge of Professor Blackader, though assisted as far as the Faculty's means would allow, and its efficiency promoted by Dr. Blackader himself by every means in his power, is still sadly deficient in means of equipment necessary to bring it up to the modern standard of Practical Pharmacology and Therapeutics of the highest class. The difficulties of this department becoming known to David Morrice, Esq., of this city, he has signified his desire to place at Dr. Blackader's disposal the sum of three thousand dollars to provide the necessary equipment; and further to provide for a few years an annual sum of several hundred dollars, to assist in getting the whole Department into thorough working order. The Faculty is certainly greatly indebted to Mr. Morrice for his most useful and timely generosity, and it assures him that his gifts shall be dispensed with the greatest care to assure efficiency, and will place the Department

of Pharmacology in a position to be a credit to this country and to the University.

Less fortunate were we in the case of Dr. Webster, Lecturer on Gynecology in the Faculty, and Assistant Gynecologist to the Royal Victoria Hospital. Dr. Webster came to us from Edinburgh University, with an enviable reputation for zeal, industry and ability, and had proved by his work amongst us that his good qualities had been rated none too highly. The wealthy University of Chicago heard of him and set covetous eyes upon him. It offered him the Chair of Obstetrics with an ample salary and "carte blanche" in the way of assistants and equipments of every kind; moreover, he was engaged to be married to an American wife, and the result has been that he has left us and has gone with his wife to Chicago University. But in all seriousness, the loss of Dr. Webster to McGill is no trifling matter. He had the qualities which are required to command success; youth, industry, talent and enthusiasm. But these very qualities were wanted elsewhere, and have been secured by others who had more inducements to offer than we could afford to give.

But is this process to go on for ever? Are we to go on losing our Oslers, our Websters, and possibly others to fill the rapacious maw of our more wealthy neighbors? The process is not likely to come to an end spontaneously. Our neighbors have found out where good and strong men are likely to be found; when they are badly in want of them they seek for them here, and much to our credit, but also much to our loss, they generally find what they are seeking, and having found it, they comply with whatever conditions are necessary to secure it.

To a certain extent this will always be the case. All the world over, wealth often secures what it bids for; but not

always, and least so among scientific men. There are things that men with the true scientific spirit prize more highly than mere money; and among these things are appreciation and opportunities of indulging their scientific tastes and aspirations. Surely we have these to offer to our good men, even now in abundance, and in the future more and more. With our great hospitals, our well-equipped laboratories, our social advantages, and other accessories, surely Montreal offers a field attractive enough to satisfy any reasonable ambition. Nor need we be far behind even in the matter of stipends, for with reasonable care and freedom of action, we should soon be in a position to do justice to every worker, and to satisfy the reasonable demands of all who have claims upon us.

And here it is necessary to point out the essential difference between a Professional Faculty, properly so called, and one which is non-professional or literary in its character. A Professional Faculty should sooner or later be self-supporting, inasmuch as it furnishes to a graduate a valuable asset in the shape of a practical scientific training; by which he is, or ought to be, able to earn a livelihood, and under favorable conditions even a fortune. Such a graduate, therefore, should be, and generally is, willing to pay reasonable compensation for the cost of his education. In a Literary Faculty, particularly in a new country, the case is different. The education given is more or less ornamental, rather than useful, in a commercial sense; and except in a limited number of cases can scarcely be represented as of any distinct monetary value. It is, therefore, less eagerly sought, and less willingly paid for, and hence a purely Literary Faculty in a new country can scarcely be expected to be self-supporting. I have dwelt upon this distinction between Professional and Literary Faculties, not as wishing in any

way to discourage generous endowments to Professional Faculties for specific purposes; but as pointing to what should be the ultimate ambition of all purely Professional Faculties—to look forward to the time when their own earnings shall be sufficient to meet all their legitimate expenses.

Such has been the principle upon which our Medical Faculty has always been conducted. It has no debts. It has never had any; and its most earnest desire is that it may never have any. From first to last, under all circumstances, it has contrived to live within its income; and when endowments have come to it, they have invariably been used to increase the efficiency of its works, and never to enrich its workers.

Seventy years ago, when the Faculty undertook its share of the work of the University, an agreement was entered into by which the fees from Matriculation and Graduation were to be devoted to the maintenance of the Library, Museum and Dissecting Room in connection with the Faculty. This agreement has been in operation ever since, and was re-confirmed and re-enacted by Corporation in 1886. From the proceeds of these fees, supplemented by funds from the members of the Faculty themselves, the present Faculty Library and Museum have been built up and maintained.

This year the arrangement has terminated by the Governors taking over from the Faculty for the benefit of the University, these fees; thereby reducing the annual income of the Faculty by a sum averaging about two thousand dollars.

The Faculty, therefore, is under the necessity of looking elsewhere for a sum sufficient to take the place of that portion of its income which has thus been withdrawn from it; and no other source of revenue being available, it has been

compelled, commencing with next session, to increase the annual fee for tuition from its present rate of one hundred dollars, to a future rate of one hundred and twenty-five dollars. The new rate, of course, will apply only to students entering after the present session; all students already upon the Register being entitled to a continuance of the rate under which they were first enregistered. The Faculty regrets the necessity for this increase in the annual fee; but, after careful consideration, has been unable to find any other way out of the difficulty.

With reference to the events of the past session, so far as its work is concerned, everything has gone on smoothly and well. The attendance has been regular, the duties cheerfully and well performed, and the conduct of the students all that could be desired. Our graduating class, which leaves us to-day, will bear comparison with any that has gone before it. We wish each of its members Godspeed and a long and prosperous career.

I am sorry to be obliged to report an unusual amount of serious illness among our undergraduates during the past session; in two instances the illness ending fatally, and in several others being serious enough to interrupt their studies and to compel them to return home. They have had our earnest sympathy, and such assistance as we have been able to render; and we have reason to hope that the causes have been exceptional, and are not likely to occur again in so serious a form.

Did time serve, there are many other matters in connection with the Faculty which might appropriately be discussed on such an occasion as the present; such as the gymnasium, dining rooms, and residences for the students, etc.; but it would probably serve no good purpose to discuss these subjects now. There are one or two other matters,

however, of such supreme importance to our School and to the success of our system of Medical Education, that I should fail in my solemn duty were I to refrain from calling attention to them.

The most pressing of these is the immediate and urgent need of a thoroughly efficient Maternity, in which our graduates and our nurses in training from our large hospitals may receive proper instruction in a department of our profession which is probably more universally needed than any of the others. Our present means for maternity instruction are painfully insufficient, and the manner in which the work is necessarily carried on, if it is to be carried on at all, is not creditable to a city like Montreal nor to a University like McGill. A movement was lately set on foot to develop and remodel our old Maternity, and for a time success seemed to be in sight; but the movement has languished and matters seem to be settling again into the old groove. Will not our friends rally promptly to our relief in this good work? Bearing in mind the valuable lives that are constantly being lost for want of skilled knowledge and assistance in nature's constantly recurring emergencies; bearing in mind, also, that in such emergencies two lives are at stake instead of one, and realizing this double responsibility, will they not also double their efforts till they have placed our Montreal Maternity on such a footing of efficiency, that it shall be no longer necessary for our nurses and our graduates to go to a foreign country, as they are now obliged to do, to acquire that skill which should be given to them at home.

One other matter and I have done. The English-speaking population of Montreal has no suitable place to which its people when sick with infectious diseases can properly be sent. When, therefore, infectious diseases, like diph-

theria or scarlet fever break out in a household, whether among the servants or among the members of the family, there are no real means of isolating the patient, who is generally allowed to remain in an upper room, if there be such a thing in the house, imperfectly isolated, and exposing the other members of the household to constant danger of infection. Among the poorer classes, scarcely any attempt is made at isolation; and to these conditions, much of the infantile mortality of the city is due, and this preventible mortality is by no means confined to the infantile portion of the community.

A properly equipped and properly managed Hospital for Infectious Diseases would greatly reduce the mortality from these diseases, and would at the same time enable our young doctors and our nurses in training to acquire that experience in the management and treatment of these diseases which would save many a valuable life in their future practice.

It is hopeless at present to look for efficient help in this direction. The large hospitals ought not to be expected to undertake the work, at least in the vicinity of their other patients, for, in spite of every precaution, the infection would constantly find its way from one part of the institution to the other; but it should be undertaken by the English-speaking portion of the community, in an isolated hospital under its own management, or indirectly through the authorities of one or both of the large hospitals. The expense need not be great. Two or three isolated brick buildings, cheaply constructed and plainly furnished, would serve the purpose, and when any one of them was not required, it could be disinfected and closed, until the necessity for reopening it should again arise. That there is a great and pressing need for such

an arrangement, all who have had any experience of infectious diseases will be ready to admit. It would save many lives, and relieve our people from what is often a most painful source of distress and anxiety.

I trust I may live to see both of these much-needed projects carried out. But if I am to see them, the work must be done quickly. The Faculty is now seventy years old, and I was born in the same year. For forty-nine years I have been more or less actively connected with the Faculty, and for more than ten years I have been its official head. During these years I have seen many and great changes and improvements, until McGill's Medical School has become one of the most complete on this continent; but until it has available an enlarged and efficient Maternity and an English Hospital for Infectious Diseases, its organization is sadly defective and its usefulness impaired. With these wants supplied it need fear no competition nor any fair criticism.

Ladies and Gentlemen, will you not try to let me see these wants supplied, and the Medical Faculty of McGill College made complete in all its parts? What matter then when my feeble light goes out? I shall have lived to see my Alma Mater reach a state of perfection and usefulness, of which in my earlier years I scarcely dared to dream.

ADDRESS AT THE MEDICAL CONVOCATION OF
MCGILL UNIVERSITY.

JUNE 16TH, 1900

The Convocation of to-day brings to a close the sixty-eighth working session of the Medical Faculty of McGill University. The Calendar calls it the sixty-seventh, from some miscount of a former editor, and the error has not as yet been eliminated. The Faculty came to life in 1829, when its first session began with thirty students, and with the exception of the three years of the Canadian Rebellion, from 1836 to 1839, during which period no sessions were held, its yearly sessions have been continued without interruption, the session of 1839-40 opening with twenty-eight students. Of these sixty-eight sessions, it has been my good fortune to be more or less actively connected with no fewer than fifty. Fifty years ago the total number of students of all kinds in the Faculty was fifty-three; this year the total number was 478, or rather more than nine times as many, and thirty-one more than last year, when the total number was 447. Of the U.S. names on the Register this year, 457 were those of undergraduates proceeding to the degree; the other twenty-one being graduates and partial students pursuing some special course of study.

The 457 undergraduates have come to us from all parts of North America in about the same proportions as of late years except that the proportion from Ontario is slightly increased, and that from the United States considerably so. The number from the United States this year was fifty-two, or 11 1-3 per cent. of the whole; while

last year the number was only thirty-eight, a percentage of 8½. From the two provinces of Ontario and Quebec, the numbers are exactly equal—134 from each, a percentage of 29 1-3. The number from the Maritime Provinces and Newfoundland was almost exactly the same as last year, a little over twenty-six per cent. The number from the North-west Provinces and Territories was also greater this year, and there were two students from Ireland. The increased number from the United States is particularly gratifying, as showing the estimation in which our Canadian school is held.

As regards the students in their different years, there were 135 in their first year, 126 in their second, 101 in their third, and 95 in their fourth year. It was feared by some, that there would have been a falling off in the numbers in their first year, owing to the increase of 25 per cent. in the fees; rendered necessary by the exigencies of the Faculty, owing to the reversion of the graduation fees from the Faculty, as formerly, to the general funds of the University; and it is a matter for congratulation that the increase of fees, instead of reducing the number of those to whom it applies, has actually been accompanied by an appreciable increase; showing that the community sets a proper value on the advantages offered by our School to those seeking a sound and comprehensive medical education. The number of students in their third and fourth years has also increased considerably, while the number in their second year is exactly the same as in the previous year.

The Faculty has made a new departure this year by the establishment of a new post-graduate qualification, entitled a "Diploma in Public Health," fashioned, with modifications, after the similar qualification given by some of the institutions in Great Britain, and very highly valued. We have

four candidates to-day who have qualified for this Diploma, and are entitled to receive it. They have undergone six months' laboratory training in Hygiene, and have done six months' outside sanitary work; for the facilities in which latter work we are indebted to Dr. Louis Laberge, our courteous and able municipal medical health officer, and to Ald. Ames, chairman of the Civic Health Committee. Mr. Chas. M. Holt, advocate, also kindly assisted us by giving a few lectures on sanitary law; so that the course can scarcely fail to be useful to those who intend to devote themselves wholly or in part to public sanitary or health matters. This is the first course of the kind that has been established on this continent; and as a proof of its usefulness, we already have an application for the services of one of the diplomates. The Faculty work has been done under the able supervision of Professor Wyatt Johnson.

The Faculty is now busily engaged in making extensive additions to its present buildings, for the purpose of giving adequate accommodation to its ever-increasing classes. These additions and enlargements are on a very considerable scale, in accordance with the expressed views of our generous benefactor and Chancellor, Lord Strathcona, who so opportunely announced a little more than a year ago, in the names of Lady Strathcona and the Hon. Mrs. Howard, the munificent donation of one hundred thousand dollars, to provide additional accommodation for the Faculty. The work is now proceeding as rapidly as possible, but owing to our long sessions of nine months, leaving only three months in the year for building operations, the work will require two years for its completion, but when complete, we shall have a set of laboratories in Anatomy, Chemistry, Pharmacology, Histology, Physiology, Pathology, and

Hygiene which will bear comparison, collectively, with those of any medical school now in existence.

I had occasion last year to call attention to the urgent need on behalf of the citizens of Montreal, even more than on behalf of the University and our Faculty, of much more ample and suitable accommodation for Maternity work, and also the most imperative necessity for the establishment of a Hospital for Infectious Diseases among our English-speaking population. The hardships produced by our lack of such an institution are almost unspeakable, and no community should be asked to bear them, for, apart from the distress and suffering involved, it makes it impossible to keep those diseases within reasonable bounds, to the great danger and injury of the community, and a notable increase in its mortality.

I am happy to say that, thanks to the untiring and tactful energy of Mrs. Miller, a large proportion of the funds necessary for the establishment of a new and commodious Maternity on modern lines has been already collected and is now in bank, so that the attainment of this portion of our urgent needs may be said to be fairly in sight.

Even in the other matter of the Infectious Diseases Hospital for English-speaking people, I may say that light has begun to dawn upon us; for Ald. Ames, the able chairman of the Civic Health Committee, has been good enough to say that if, the funds for the erection and management of the necessary buildings can be secured, he is assured that a suitable site will be provided by the city. This is an important point for in all our previous attempts to establish such an institution, the question of a suitable site was always one of the most difficult with which we had to deal. The other part of the problem is not so difficult nor so expensive as might be supposed. Two or three, or, at most, four,

plain brick buildings, plainly furnished, would be sufficient; and of these, seldom more than one or two would require to be in use at the same time, the others being disinfected and closed until again needed. The cost of management, moreover, need not be great; as a large proportion of those using them would be able and willing to pay; and the work could be supervised by the authorities of any of our large general hospitals.

May I not earnestly ask everyone of you to help with all your might in satisfying this crying need of the English-speaking people of this city, before another winter is upon them; that they may no longer be compelled, as hitherto they have been, to cart their sick servants and children all over the city in search of shelter, and finding none; only to bring them back again to their own homes, where adequate isolation is quite impossible, and to spread disease and often death, to their families and to the whole community?

It only remains for me to say, that the work of the Faculty has been carried on throughout the session with zeal and efficiency. Scarcely a ripple has occurred to disturb the perfect smoothness of its working. The students, from juniors to seniors, in their conduct and progress, have given us no cause for anxiety. The Graduating Class is here to speak for itself. We have put our seal upon every member of it, as fit and worthy to be entrusted with the care of human life and health, and to do credit to his Alma Mater.

The great wave of loyal patriotism that passed over the country had no reason to pass us by; it took from us some of our best men, and we parted with them in anxiety; but with every endeavor to minimize to the utmost the sacrifices which the interruption to their studies would

necessarily entail. Most of them are now at the front, maintaining the honor of our Canadian soldiery. One of them, Mr. E. P. O'Reilly, of Hamilton, Ontario, now fills an honored soldier's grave in South Africa. He was a brave and honorable man, a good student, a general favorite, and gave promise of a successful career. We mourn his loss; but we are consoled by the thought that we have contributed such brave and useful men to do battle for our beloved Queen and Empire, of whose subjects there are none more loyal and devoted than those of Canada, of McGill University, and of our Medical Faculty.

ADDRESS AT THE MEDICAL CONVOCATION OF
MCGILL UNIVERSITY.

JUNE 14TH, 1901

The sixty-ninth working session of our Faculty of Medicine closes to-day, and with it the seventy-second year of the existence of the Faculty and of the University. The age of the Faculty has to me not only a historic and professional interest, but also a sentimental interest of a personal kind; inasmuch as I myself first saw the light, in this city of Montreal, in the same year in which the University and the Faculty were born. The Faculty was twenty-one years old when, at the end of its eighteenth working session, I attended my first Convocation; and it has been my privilege and my pleasure to take part in no fewer than fifty-one consecutive Convocations.

When the Faculty first came into existence in 1829, it had in attendance at its first session 30 students. When it was twenty-one years old, in 1850-51, the number of students was only 53. When it was sixty years old, in 1888-89, the number had increased to 227; and now, twelve years later, when it has completed its seventy-second year, the number has reached 490, or within ten units of half a thousand. Of the 490 in attendance during the present session, 467 have been undergraduates, proceeding to the degree; while the remaining 23 were graduates and partial students pursuing special courses of study.

The area from which the students have been drawn has also increased, more particularly of late years, almost

in proportion to their numbers. For many years the provinces of Ontario and Quebec, or Upper and Lower Canada, as they were formerly called, furnished all but a very small minority of our students, and these provinces together still furnish a majority of the whole; but the homes of the others are every year becoming more and more widely distributed, over an area covering the whole Dominion, and stretching out over the whole of this continent, through the United States, Newfoundland and the West Indies, as well as across the Atlantic to Great Britain and Ireland; and this session even across the Pacific ocean, to China and Japan. The number from different provinces and countries are as follows: Ontario, 156, or nearly 32 per cent.; Quebec, 142, or almost 29 per cent.; New Brunswick, 52, or 10½ per cent.; the United States, 47, or 9½ per cent.; Nova Scotia, 29, or nearly 6 per cent.; Prince Edward Island, 27, or 5½ per cent.; British Columbia, 13, or 2½ per cent.; Newfoundland, 9, or nearly 2 per cent.; Manitoba, and the Northwest Territories, 4; the West Indies, 4; Great Britain and Ireland, 4; China, 2; and Japan, 1; all of the last five, less than 1 per cent.

The obvious lesson to be drawn from the foregoing list is, that though situated in the French province of Quebec, our School attracts English-speaking students in increasing numbers from all the other provinces of the Dominion, as well as from other outlying British provinces, such as Newfoundland and the West Indies, and even from the British Islands themselves. More gratifying still is the considerable number—nearly ten per cent.—from the United States, where we have to compete with their great schools; and still more remarkable, the appreciable number from distant China and Japan. Indeed, it seems not too much to claim that the Medical Faculty of McGill University is being

recognized as one of the representative Medical Schools of Anglo-Saxondom.

It is not for me, nor is this the time nor the place, to enter into any details as to how we have endeavored to earn and to maintain this distinction; but it has not been by lowering the standard of medical education, nor by pandering to a taste for cheap degrees or easily earned titles; but rather by striving to increase the value of our degree and the dignity and importance of our profession, by setting a high standard for all our examinations,—entrance, intermediate and final; that our graduates may continue to take a high place, and to receive a cordial welcome, wherever their lots may be cast.

But in demanding from our students a high standard of excellence, both in their work and in their examinations, we have been careful not to overwork them; nor to give any reasonable excuse for cram. The Science of Medicine has undergone such a radical change of late years, both in its practice and in the methods of teaching it, that the old system of book and lecture learning has been largely superseded by bedside and laboratory work, which demands more time and deliberation, and brings the student and the teacher more closely together, to the mutual advantage of both.

I have said that the modern system of medical training consumes more time than the old; and the providing for this additional time is one of the most difficult problems with which we have had to deal; and the problem has by no means as yet been definitely solved. While the old system of medical teaching prevailed, from three to four years, or rather from three to four sessions, were considered sufficient for a complete medical course; and these sessions varied in length from four to six months. Our Faculty was one

of the first, if not the very first, on this continent, to adopt, soon after its establishment, the full four years' course with six months' sessions, making in all twenty-four months of academic teaching. About thirty years ago, one summer session of three months was added, increasing the academic time to twenty-seven months; and seven years ago (in 1894) the summer sessions as such were abolished, and the regular yearly session was extended to nine months instead of six, thus giving an aggregate of thirty-six months of academic teaching. This change, though it entailed much additional labor upon many of the teachers, proved highly advantageous and satisfactory to the students and their parents and guardians, by keeping the former more continuously at their work, instead of losing time and often contracting idle habits, during a needlessly long six months' vacation.

But the necessary full course of medical training in all its branches is so continuously augmenting, that even the four sessions of nine months each are scarcely now sufficient to allow the average student, much less the slow one, to accomplish all that is expected of a first class medical graduate of to-day. It is true that there are many students so gifted by nature as to be able, without much hardship, to take high rank even within the present limit of time. But what about the earnest plodder, without the brilliant natural gifts? He has won his way honestly through the entrance examination, and, given reasonable time, he will win his way creditably through the whole curriculum; but he must make his own pace. Attempt to hurry him, or ask him to keep pace with his brilliant neighbor, and he is hopelessly beaten. But has he been really or fairly beaten? Give him time, and he will probably accomplish as much as his facile competitor. The most useful men in the com-

munity, as in the professions, are by no means always the most brilliant. The honest, plodding, work-horse is quite as useful as the high mettled racer; but we do not pit them against each other, nor attempt to measure their usefulness by the same standard. Fleetness and brilliancy are admirable, but not more so than strength and steadfastness.

It must not be forgotten that in all prominent medical schools, the students, according to their aims in life, may be divided into two important classes: those, by far the most numerous, whose chief aim is to become and to remain medical practitioners; and those, fewer in number, but often the more brilliant, whose ambition is not only to become qualified practitioners, but ultimately teachers and professors. Laudable ambitions both, and both to be well provided for; but not the one to the detriment of the other.

When we adopted in 1894, seven years ago, the nine months' session in our four years' course, making thirty-six calendar months in all, we were in advance in actual teaching time of nearly every School in existence, and for a time it certainly relieved the tension of our sessional teaching; but the ever-increasing amount of matter to be taught has more than kept pace with the increase of time for teaching it, and here and elsewhere the idea of an additional year has been coming unmistakably to the front. The Medical Council of Great Britain has recommended it. So has the Medical Council of Ontario; and if Dr. Roddick's bill for Dominion Registration and Reciprocity throughout the British Empire becomes law, as we hope and believe it will next session, a five years' course will be a necessary condition of such registration.

The present four years' course bears hardest upon the honest hardworking students, with fair ability, but whose mental processes move slowly, and who find it difficult to

take in and to digest new facts and ideas; but once digested and assimilated, the knowledge becomes part of their mental organization, and can scarcely be forgotten. Many such students are constantly, perforce, compelled to take an additional year under most unwelcome circumstances. To them the option of an additional year, without humiliation, would be a boon indeed. And why should not such a boon be accorded to them, if it could be done without injustice to others? With his work and his examinations properly graded, even the dullest student, if he be mentally sound, should be able to master every subject, even in the broadest Curriculum. Nor should such an arrangement be unjust to the brilliant student. All important changes in a College course should, wherever possible, at least at first, be more or less optional. The brilliant student might, as before, be allowed to finish his work and his examinations in the four years; the additional year being spent in foreign travel, special studies, or in such other way as might be considered least onerous and most beneficial. Such arrangements are matters of detail, sometimes difficult indeed, but always capable of adjustment by patient and persistent effort.

It is not our custom to adopt hastily, or without careful consideration, new ideas or theories, however plausible they may be; nor unfinished experiments, however conclusive they may at the time appear. We have ever preferred the guidance of the safe old rule, coming to us with such high authority, to "prove all things," and to "hold fast to that which is good." We have no intention of adopting the five years' course until such time as the public, and particularly all those interested in advanced medical education, shall have had time to weigh carefully the arguments for and against the proposed extension, and with our present very extended course of four full sessions of nine months

each, we can certainly afford to take another year to look at the matter from every point of view, before making up our minds as to the proper course to follow.

The extensive additions to our Medical Buildings, which have been in progress during the last year, have resulted in the completion of a beautiful and commodious new wing, on the western side of the present central building, and a large addition to the northern wing on its eastern side. The workmen are now busy with the remaining wing on the eastern side, to be symmetrical with that on the west; and when completed, early in September, the whole will form a block of Medical Buildings, which, for stately beauty, capaciousness, and completeness of internal arrangements, cannot be excelled by any medical buildings on this continent.

I need not remind you that we owe these beautiful and extensive additions to our Buildings to the munificent generosity of two members of Lord Strathcona's family—Lady Strathcona and the Honorable Mrs. Howard, who gave jointly one hundred thousand dollars to defray the cost of their erection.

It was my sad duty last year, to allude to the death, in South Africa, of Mr. O'Reilly, of Hamilton, Ontario, one of our students, who had gone to fight for his Queen and Empire in that distant land. We have had since then to lament the death, in the same country, of one who should have been in our Graduating Class to-day, Mr. Harold L. Borden, B.A., son of Hon. Frederick William Borden, of Nova Scotia, Minister of Militia and Defence. He was slain on the battlefield while leading his men in deadly conflict with the enemy; and while we mourn his loss, we cannot but admire the courage and the devotion which caused him to sacrifice his brilliant prospects, and to lay

down his life at the call of his country. Courage and steadfastness were the qualities which chiefly distinguished him; and these have been the qualities inherent in Britons everywhere, which have made the Empire what it is, and which will keep the Empire great and powerful, both in peace and in war, while those qualities remain.

The session which is now closing has not differed materially from those which have gone before it. There has been the same steady progress in all directions, the same diligence and faithfulness on the part of the students, and the same high average in the results of the examinations. Our graduates of to-day are before you, and will bear comparison with any that have gone before them. We have no fears for them. We are proud of them--proud of them as Graduates, proud of them as gentlemen, and we send them forth to their life's work, well knowing that they will acquit themselves like honorable men, and that the interests and the good name of their Alma Mater will always be safe in their keeping.

ADDRESS AT THE OPENING OF MCGILL NEW
MEDICAL BUILDINGS, BY H.R.H. THE DUKE
OF CORNWALL AND YORK.

SEPT. 20TH, 1901

May it please Your Royal Highness, and Her Royal Highness, the Duchess of Cornwall and York —

On behalf of McGill University, and more especially on behalf of its Faculty of Medicine, we, as members, teachers, and workers in the Faculty and in the University, beg leave to offer to your Royal Highnesses a most cordial and respectful welcome to our New Medical Buildings; and at the same time to express to your Royal Highness our grateful appreciation of the honor done us, in graciously consenting to assist at the dedication of our Buildings to the eminently humane and humanizing work to which they are to be devoted.

The Medical School connected with our Faculty has been in active operation since 1824, more than three-quarters of a century. For the first five years the school was known as the Montreal Medical Institution; but, in 1829, it was incorporated with McGill University and became its Medical Faculty.

At the opening of the Medical School in 1824, the number of students was only 25, and at the time of its incorporation with the University in 1829, the number had only increased to 30. Twenty years later, in 1849, the number was only 44. In 1889, when the Faculty was in its sixtieth year, the number had grown to 227; while last year—its seventy-second year, the number was 490—within a few units of 500.

But the large influx of students, more particularly in recent years, means much more than a mere increase in

numbers. It means a greatly increased area from which students are being drawn. The Provinces of Quebec and Ontario formerly supplied nine-tenths of all our students; now, 40 per cent. of them come to us from homes outside of these Provinces; from all the other Provinces of the Dominion, from Newfoundland, from the United States (10 per cent. of the whole number), from the West Indies, from the British Islands; and last year, from across the continent, and the Pacific Ocean, two students from China, and one from Japan.

But the growth of our School has not been confined to the number of its students, nor the area from whence they come. The Course of Study, the Curriculum, has undergone a corresponding expansion, and the old methods of teaching by the so-called didactic system have been largely superseded by more practical and demonstrative work in laboratories and at the bedside. These changes, involving more labor, have rendered necessary a corresponding increase in the teaching staff. When the School was opened seventy-seven years ago, the teaching staff consisted of four persons. The number is now over seventy.

So also with the time required for graduation. The old term of three College sessions and an additional year with a private practitioner is no longer sufficient even in second class Schools; while the most advanced Schools and Medical Councils, which have, until recently, been content with a full four years course, are now clamoring for an additional year, to make a complete Medical Course cover at least five years.

The rapid growth of our School in so many directions has made the question of building accommodation one of constantly recurring anxiety, so much so, that this is the seventh time that we have been obliged to change our quarters; from the modest original building on Fortification Lane, near the

site now occupied by the Bank of Montreal, to the stately and commodious Buildings in which we are now assembled, and which, in accordance with Lord Strathcona's expressed wishes, are ample enough to accommodate about double the number of the students now in attendance.

The present New Buildings are a gift to the University, for the uses of the Medical Faculty, from two members of Lord Strathcona's family, Lady Strathcona and the Honorable Mrs. Howard, who, two years ago, announced to the Faculty, through Lord Strathcona, the munificent donation of fifty thousand dollars each, one hundred thousand dollars in all, to assist in providing additional accommodation for the Faculty, and to relieve the overcrowding which was beginning to interfere seriously with the progress of its work.

It is difficult to find words fitly to express our great sense of the benefits conferred upon us by Lord Strathcona and his family. They have been our Good Angels, without whose help we never could have risen much above the struggling level at which His Lordship found us in 1882, when our needs and our struggles first attracted his sympathetic attention.

It would be tedious to recite all the many benefits conferred upon the Faculty by Lord Strathcona and his family. In money alone they have given us upwards of a quarter of a million of dollars, and incidentally His Lordship was instrumental in securing for us the "Campbell Memorial Fund," amounting to upwards of fifty thousand dollars more.

And how may we best hope to repay them for these magnificent gifts? Clearly, by striving earnestly to deserve them, to live up to them by maintaining and advancing the highest ideals and traditions of our Faculty and our Profession; by sending out graduates who shall take high rank among their fellows, mindful at all times of the sacredness of human life and the sanctity of human suffering.

I now have the honor of begging the acceptance by Your Royal Highness of this little casket of labradorite—a native Canadian mineral from Labrador—enclosing a key by which our doors may be opened or closed.

Bearing in mind that this key is in the keeping of our future King, we shall ever be mindful to use its duplicates in the way he would wish them to be used—in closing firmly our doors to everything that is ignoble or mean, and opening them widely to all that is good, pure and honorable

ADDRESS AT THE MEDICAL CONVOCATION OF
MCGILL UNIVERSITY.

JUNE 15TH, 1904

Before the proceedings of this Convocation are brought to a close, I have deemed it expedient to lay before it a brief statement of the relations between the College of Physicians and Surgeons of the Province of Quebec and this University, with its Medical School. I do so, not as the mouthpiece of the University, nor of its Medical Faculty, but as one of the two representatives of McGill University on the Provincial Medical Board, a position which I have held for more than twenty years.

The College of Physicians and Surgeons of the Province of Quebec, with its cumbrous and misleading name—for it does no teaching—is an incorporated body consisting practically of all the licensed practitioners in the province in good standing. It controls the admission to study, the curriculum or course of study, and the right to practice Medicine, Surgery, and Midwifery in every part of the province of Quebec. This it does through an executive board of governors, usually called the Provincial Medical Board, elected every three years in electoral districts by ballot, to the number of thirty-five; and eight additional governors, elected by the four active medical schools in Montreal and Quebec, two for each school, making in all an Executive Board of forty-three members.

This board meets only twice a year; once in Montreal in July, and once in Quebec in September. The sessions of

the board are rarely, if ever, continued beyond the one day of meeting, much of the business, of course, being prepared during the intervals by committees. The English-speaking members are about one-sixth or one-seventh of the whole, and are, of course, permitted to use their own language; and for their benefit motions and explanations are always willingly translated into English when so desired; but, at least, nine-tenths of the proceedings are conducted in the French language. As regards by-laws, rules and regulations, no distinction is made between French and English, Catholics and Protestants. Broadly speaking, nearly all the French-speaking governors are Catholics, and nearly all the English-speaking governors are Protestants. There are, of course, a few exceptions. I use the word Protestant for lack of a better word.

I need scarcely say that in a mixed gathering of this kind, where so large a majority is French, the English minority is treated with the utmost courtesy and consideration, and I gladly bear testimony to that fact; but at the same time, as might naturally be expected, the opinions and the methods of the majority must and do prevail; except in so far as the majority may, occasionally, of its grace, grant some privilege as a special favor.

On professional matters we seldom have any favors to ask. Our own Medical Curriculum more than meets the requirements of the Provincial Board; and the principles of Medical Science, as well as the practice based upon them, are, or ought to be, the same all over the civilized world.

With regard to the Matriculation, or entrance examination, however, the case is entirely different. This examination must be passed before a student can even begin the study of medicine, and there is nothing professional about it. It is purely literary and secular; and here there has always

been difficulty and a divergence of opinion. It is not that the board demands a higher or broader standard of knowledge in its Preliminary examination than we have been willing to submit to, but it is a standard different in kind rather than in degree, in manner rather than in matter, and one with which we find it difficult and sometimes impossible to comply; not from lack of capacity or willingness, but because our English Protestant system of education in this province does not furnish the kind of knowledge or training required, and has few or no residential schools or colleges.

I freely admit that the Preliminary examination of today compares favorably with the same examination a number of years ago, and if there were any certainty of its permanence, it would probably be safer to continue to submit to it, rather than to seek a change. Under present arrangements, however, there seems to be no reasonable assurance of permanency, and the extraordinary, and, indeed, revolutionary changes which have only recently been proposed in the direction of the Cours Classique Complet, with its eight years in residential colleges, and from which we only narrowly escaped, would seem to suggest the necessity for a supreme effort to secure to the English-speaking Protestant inhabitants of the province the same independent control over this examination as our French Catholic fellow-citizens have all along enjoyed.

There is nothing unreasonable in this. It is not a question of nationality or religion. It is simply the difference between the two systems of education, their incompatibility even in a purely secular sense, and the impossibility of the one framing a code for the other without creating more or less dissatisfaction.

This is clearly recognized and provided for by law, in all

the Secular Schools of this province, where the two systems of education are kept entirely separate; and controlled by two separate committees of the Council of Public Instruction, one for the Catholic and the other for the Protestant schools; each carrying out its own system and methods without interference from the other.

It seems obvious, therefore, that the only safe and fair way to deal with this purely Secular Matriculation examination, with perfect justice to the whole population of the province, is to place it where it ought always to have been, under the jurisdiction of the Council of Public Instruction, with its two separate committees; and thus put an end to all suspicion of unfairness, no matter how unfounded the suspicion may be. There is no other remedy that is likely to be effectual or permanent. Moreover, it has the sanction of the law of the land, and it is entirely antecedent to any professional study whatsoever.

Even the partial remedy of a B.A. degree, provided by the so-called Lynch's Bill, but which is only within the reach of a comparatively small number of our students, is no longer secure. During the last session of the Quebec Legislature, Dr. Lacombe introduced a bill providing for its repeal, and although the bill was subsequently withdrawn, its withdrawal was accompanied by a statement, publicly made, that it would be reintroduced in the not distant future.

The only other suggested alternative, although it has never taken definite shape, is in the direction of a complete high school or academy course equivalent to the Cours Classique Complet. Even if such a course were accepted, it would still leave a large majority of our students unprovided for, unless their parents were willing, at great expense, to send their sons at a tender age to live at large in a great

city, without parental care, and exposed to all its temptations and dangers.

In seeking, therefore, a safe and lasting settlement of this chronic and disturbing difficulty, by a reference to the only legitimate tribunal, we feel that we are only asking our friends of the majority to help us to secure our rights, without doing wrong to themselves; to help us to remove from our common path everything that might possibly lead, in however slight a degree, to distrust or discord, and to enable us together to persevere in harmony and mutual confidence, the work of training our young men to be high-minded and earnest members of the noblest of all professions.

ADDRESS AT THE MEDICAL CONVOCATION OF
MCGILL UNIVERSITY

JUNE 9TH, 1906

There are some matters connected with the relations of Universities to their students, and to the general public, from which the students are drawn, which can scarcely be properly omitted on such occasions as these. Take, for example, the subject of the proper housing of the students while in attendance at the university.

This is a matter of such importance that I must crave your indulgence for a few minutes, while I call your attention to this question, as it affects our own University, and our own students at the present time. In doing so, I speak only as an individual member of the University, and not as representing collectively any of its governing bodies.

And, first, let me ask: What has hitherto been done by the University towards the proper housing of its students? Practically nothing; unless keeping a list of their usual boarding-houses, and ascertaining that they were in conformity with the requirements of the Board of Health, might be considered as something.

And what, hitherto, have been the suggestions for improvement in this respect? Nothing really adequate; for unions, associations, restaurants, dormitories and Greek letter societies, however well conducted, and however admirable for their special purposes, cannot supply the real

needs of young men, coming from their parents' homes to a large city, with all its temptations and distractions. Far be it from me to discourage or to speak disparagingly of any of these collateral or subsidiary institutions or undertakings. They are helpers; generous and even noble in some of their aims and proportions; but they are outside of the inner essentials of the University. They belong to the same class as Gymnasia, Athletics, Field Sports and Club life; admirable and highly useful in their way, for those who can afford them; but never to supplant, nor to take the place of the real needs of every student. It should always be possible for an earnest student, if he so desire it, or possibly with limited means, to take a full University course without availing himself of any of them.

What every student really needs is not merely a place in which to eat, another place in which to sleep, and numerous other places for entertainment or recreation; but a place in which to live, under wholesome supervision, and without the necessity of going from house to house, by day or by night, for that which every real home, worthy of the name, should provide. Those students whose parents or near relatives live in the city, or in its immediate neighborhood, have a decided advantage in this respect. They live at home and obtain their education and training under home influences. Not so the students from the country or from other cities or towns. They come to us as strangers among strangers; and are fortunate if they escape the dangers and the pitfalls incident to all large cities.

Students' boarding-houses, which have hitherto been almost their only refuge, even at the best, are but poor substitutes for the home life and influences which they have left behind them; and it is scarcely to be wondered at, that some of them drift away into idle and evil habits; to

the ruin of their careers, and the grief of their families and friends.

Surely it is time that the University, after its three quarters of a century of active work, and after the teaching interests in all its Faculties have been fully organized and provided for, should devote some care and attention to the personal needs of its students, and to their moral as well as to their physical and educational welfare.

The prosperity of the University is seriously dependent upon the proper solution of this question. If we are to continue to attract students, we must win and deserve the confidence of their parents and guardians, who send them to us, and who pay their expenses; and we must retain and preserve also the confidence of our former graduates, scattered all over this broad continent, and who are generally their confidential advisers; and if these parents and guardians, as they undoubtedly and properly do, look to us to see that their sons are properly provided with wholesome food, shelter and supervision, for which they are willing to pay a reasonable price, we should see that these things are forthcoming, or they will be sure to seek for them, and to find them, elsewhere.

The increasing cost of living is becoming more and more an important factor in determining the choice of a University. Parents and guardians are usually well informed in such matters, while of the educational advantages they have by no means always such clear ideas; and in families of limited means, the cost of living often determines the choice. McGill University has already suffered appreciably from this cause; and unless the cost of living can be brought nearer to the level of less expensive places, it is likely to suffer still more in the future.

As regards the students, their cost of living is even

greater than that of other persons of like station; for, being like birds of passage, only present during six or nine months in the year, a higher charge is necessarily made than for those that remain throughout the year; and besides, even at ordinary rates, under present conditions, a reasonable profit must always be allowed for those who cater for them.

How, then, stands the case? I hope I have made it plain that the real needs of the students have hitherto not been fully provided for; and also that the living expenses of students have been greater than they ought to be; and further, that the prosperity of the University has suffered from these causes; and is likely still more to suffer, unless an adequate remedy can be provided.

And what is to be the remedy? To my mind there can be but one proper remedy. The establishment, with as little delay as possible, of College Residences for Students, in connection with the University and under University supervision; where students could live, and have their reasonable wants supplied at cost prices.

There can be no claim for novelty nor priority, in connection with these College Residences, or "Studenthomes" (the name spelt, of course, without a capital H, and without a hyphen). College Residences are nearly as ancient as Colleges themselves; but the latter name applies equally to residences for teachers and for students.

It would of course be premature to attempt to describe in advance, or in any detail, the necessary arrangements for the establishment of these Studenthomes. They should at first be somewhat tentative and experimental; not on too extensive a scale, and above all, not costly. They should be as homelike as possible; and the homelikeness should be that of Canadian homes, rather than of those of other countries; or even of the Mother Country; with

their traditions of feudalism, and their sharply defined class distinctions.

Women's influence should be in every one of them; and the mothers in the University should have much to say in their management, particularly in matters of discipline. Mothers are not usually foolishly indulgent; they are never cruel; and seldom harsh or unfair in their judgments.

And what about religious influences? McGill University has no Theological Faculty, and there should be nothing sectarian nor denomination about them. But they need not, they should not, be godless. The Lord's Prayer as dictated by Our Lord himself should be the foundation of a simple, voluntary daily service; that simple, solemn, universal prayer, which can offend no conscience, which asks the Heavenly Father to supply all the real wants of all his children, should be in every heart; aye, and on every tongue. The students might be asked to lead in it individually, in daily rotation; and all should be invited to join in audible response.

And refinement must be there. Not the superficial affectation of refinement, which shows itself in mere mannerisms, fopperies and exaggerated accents, but the real refinement, in heart and soul, which shows itself in dignified ease of manner, and in uniform courtesy and kindness of speech and action, though the individual may be clad in hodden gray.

FORMAL INAUGURATION OF THE GENERAL HOSPITAL TRAINING SCHOOL FOR NURSES BY HIS EXCELLENCY THE GOVERNOR-GENERAL LORD STANLEY.

DECEMBER 11TH, 1880

It is my pleasing duty, as the representative of the Committee of Management of the Montreal General Hospital, to offer you our warmest thanks for the honor and kindness you have done us, in assisting at this, the inaugural celebration of the opening of the new department of our Hospital, its now fully organized Training School for Nurses. To you, my Lord, and to Lady Stanley, our thanks are more especially due, for having at such personal inconvenience honored us with your presence; and we see in it another example of that warm-hearted interest which your Excellencies have shown on so many occasions, in the social, educational and benevolent institutions of this country, and which has helped in so large a measure to draw towards you the hearts of the whole community.

And I would ask all our friends to believe, that our thanks are not merely empty words to please the ear, but real thanks for real kindness; for we cannot but feel that such a gathering as this, representative as it is of all classes of the community, is a proof of the continued sympathy and good-will of that public, to which the Hospital owes its support, and indeed its very existence.

Our Hospital is not a largely endowed institution, like some of the hospitals of Europe or of this continent. So far as its equipment and maintenance are concerned, it

may be said to be almost entirely unendowed, for such donations and bequests as it has received, and which might be considered of the nature of endowments, have nearly always been in the direction of providing necessary buildings and extensions, and scarcely ever of such a nature as to yield a permanent revenue.

The only semblance of a permanent fund consists of a small sum—derived chiefly from the entrance fees (of one hundred dollars each) from our Life Governors, and even this little fund is not permanent, for it has to be trenched upon every now and then to relieve some pressing need, such as an epidemic outbreak of disease, or necessary repairs and renewals of some of our buildings.

It follows, therefore, that the real maintenance of the Hospital is almost wholly dependent upon the voluntary contributions of the citizens of Montreal from year to year; and it is due to them to say that they have always given willingly and liberally according to their means, from the hundreds of dollars of the rich merchants, to the tens and twenties of professional men and persons of limited income, down to the shillings and sixpences of the artisan and the laborer.

Nor have our buildings been of the expensive or ornamental kind. We have had no imposing façades, no marble steps nor costly internal fittings, but yet our patients have been well housed and cared for, well fed and with comfortable beds to lie upon, and it has been our aim to make up for the lack of luxuries and expensive appliances, by skilful treatment and kindly attention, and we hope we have succeeded. We certainly seem to have won and to have retained the confidence of those upon whom the Hospital is chiefly dependent for support; and although we may be said to be almost in a state of chronic poverty,

and find it difficult year by year to make ends meet, yet our credit has always been good, for we have been careful never to abuse it; and when special needs have arisen,—even for considerable sums,—by taking the public into our confidence, the money has always been forthcoming.

In this way we have tried to make the contributions of our friends go as far as possible in doing good; and realizing our responsibilities as administrators, we have tried to do the greatest good to the greatest number with the means at our disposal, and while we have endeavored to keep pace with the progress of modern discovery and modern science, we have not allowed ourselves to be drawn aside into costly and often fruitless experiments which we could ill afford.

But it may be asked, what has all this to do with the Training School for Nurses? It has had much to do with it. It explains why our Montreal Hospital has seemed to lag behind in this matter of giving to nurses a proper scientific training. It was not that we were indifferent to what was being done in this direction by other Hospitals. Far from it! But because we found by actual experiment, that to carry on a Training School for Nurses in the earlier days of the movement involved an expenditure so great in proportion to its benefits, that the usefulness of the Hospital as a whole would be seriously curtailed, and having no available separate funds to carry on the experiment, we were fain to retrace our steps, and to leave the matter in abeyance till such time as we should see our way to resume it with more assured prospects of permanent success.

And that time has now come. We have watched and waited with unflagging interest, until we have seen the gradual changes and improvements which have taken place in the original system of Training Schools. The

lopping off and the weeding out of useless and expensive excrescences and encumbrances, and the gradual substitution of simpler and less expensive methods, until we have now adopted a system, and have in successful operation a Training School for Nurses, which, for real efficiency, we think will bear comparison with any on this continent, and at a cost which will be scarcely, if at all, greater than that of any ordinary system of unskilled nursing.

And how has this been brought about? Paradoxical as it may seem,—by what appeared to be a series of misfortunes. About a year and a half ago, our then Lady Superintendent, Miss Rimmer, of whose valuable services to the Hospital I cannot speak too highly, became seriously ill from over-work, and we were reluctantly compelled to accept her resignation. About the same time, the little brick building which has been used for several years as a lodging house for the nurses became altogether unfit for the purpose, and accommodation had to be provided for them elsewhere. Also, about the same time, the roof of the main building, part of which had done service for nearly seventy years, was condemned by the authorities, and it became necessary to renew it.

Then it was that, in discussing the ways and means of providing for these contingencies, we at length saw our way to the accomplishment of our desires, in the establishment of a properly organized and equipped Training School for Nurses. The happy thought occurred to some one, that, in the necessary renewal of the roof of the main building, ample accommodation could be provided for a full staff of nurses, by making the roof a "Mansard," and thus converting a useless attic into a commodious flat.

The vacancy, also, in the office of Lady Superintendent made it possible to search for and secure the services of a

thoroughly competent and scientifically trained lady for that position. These changes being decided upon, it was only a question of a little time until they were carried out, and we have now the satisfaction of seeing our School in full and successful operation, with the necessary assistants and teachers and a full staff of nurses, the whole changes having been effected without a moment's interruption to the proper work of the Hospital, and at a cost very little greater than would have been required to make the necessary repairs and alterations for carrying on the work in the old-fashioned way.

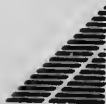
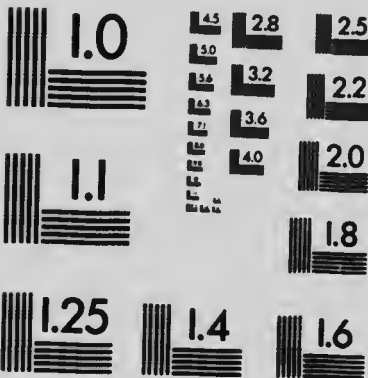
The cost of these repairs and alterations has, of course, been considerable. The estimates for the construction of the additional flat with the mansard roof were somewhere about twelve thousand dollars, and the actual cost was very little above that sum; but the wards themselves, and the buildings generally, required repairs and renovations, and the whole Hospital premises both within and without had to be touched up and made presentable, and these improvements absorbed a thousand or two more. But the result has been well worth the outlay. Our Hospital, instead of being a thing to be ashamed of, is now something to be proud of, and its usefulness has been largely increased. The beneficial results of the changes are already making themselves felt, and will in the future still more make themselves felt, in a gradual increase in the proportion of cures and in a corresponding decrease in the rate of mortality.

One great advantage of the system we have adopted is, that the Training School is part and parcel of the Hospital itself. There is no troublesome line of demarcation between them, and what benefits the one also does good to the other. Our nurses in training, with the few necessary



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head nurses or instructors, do the whole nursing work of the Hospital. And they do it well. Thanks to the wise and skilful management of the Lady Superintendent, Miss Livingstone, and her earnest and efficient deputy, Miss Quaife, they are being thoroughly well trained, and their efforts are well supported and supplemented by our able and enthusiastic Medical Superintendent, Dr. Kirkpatrick.

And these are some of our nurses. They are healthy and they are happy. They are well educated, they have cultivated minds and refined tastes. They have come to us of their own free will, having chosen the nursing of the sick as their life's work, because they have a natural aptitude for it. They have kindly instincts, and they yield ready and willing obedience to those in authority. They love their profession, and they are earnestly anxious to excel in it.

And that is their working dress. It is not costly; it is not made of silk or satin; indeed, it is made of materials that are quite inexpensive. We think it appropriate, and we hope you will think it not unbecoming. Our poor sick patients like it. They say it cheers them. And why should they not be cheered? Why should not the dull eyes of illness be made a little less dull, by having before them something bright and pleasant to look upon? And all the more when, with the dresses, are warm hearts and willing hands. They furnish also to the patients a continual object lesson in cleanliness and personal tidiness, virtues which are often sadly neglected by the class to which they minister.

I might go on to show some of the collateral advantages to be derived from our Training School; how it will be useful not only to the Hospital, but to individuals and private families. How also these nurses, in their turn, will

become trainers of others like themselves, and so become centres of ever widening influence for good to other institutions and communities, and to future generations. But time will not permit, and it remains only for me to call attention for a few moments to the other side of the picture.

I have told you that our Hospital is nearly always in a chronic state of poverty, and the necessary disbursements of the last eighteen months have somewhat aggravated it. What with our usual deficit at this season of the year for working expenses, and some of the items connected with the recent improvements which have not yet been made good, we find ourselves with a very considerable balance on the wrong side of our bank account. We have been trying to reduce it, but it is still in the neighborhood of sixteen thousand dollars. Our bankers have been very good to us, and have charged us a very low rate of interest, but the amount will soon have to be paid, and unless our friends come to the rescue, we shall be obliged to take it from our modest little endowment fund. Surely this can be avoided. Our friends who have so often helped us before will surely help us again, and they will be mindful of the fact, that the Institution which now asks for their help was founded by their forefathers, and has been the mainstay of their sick poor for several generations.

Christmas is close at hand. Will our friends not remember us in their offerings, and will they not also ask their friends and neighbors to remember us?

They will not ask us to spend our little capital, nor to curtail our usefulness, but they will add to our store and give us the means of extending our good work in increasing measure.

And now, my friends, I have said my say. I wish it had been better said, for the cause is a good one. But you will

not allow the good cause to suffer through the shortcomings of its advocate. You will join us, and you will strengthen our hands, in the good work of helping the sick and the dying; and it is a hallowed work, for the Blessed Saviour himself loved to do it.

ADDRESS AT THE FIRST GRADUATION OF
NURSES, ROYAL VICTORIA HOSPITAL

APRIL 28TH, 1896.

MR. CHAIRMAN, LADIES AND GENTLEMEN :

We are here to-day to take part in a most interesting ceremony; a ceremony interesting to all of us, but more particularly to those who have been connected with our Royal Victoria Hospital; for this is the first occasion on which it has been able to do its part, in sending out to the community a goodly array of able and well-trained nurses, well equipped by skilful teaching and training for the important duties which they will be called upon to perform.

That they will well and faithfully perform these duties, we, who have been interested in them, and who, many of us, have assisted in their training, have neither doubts nor misgivings. We send them out into the world with confidence, to join the devoted band whose duty and whose life-work it is to help and to cheer the sick and the dying, and to endeavor to nurse back to health and to usefulness those that are ready to perish.

It is quite unnecessary, and it would be out of place, for me to dwell at any length or in any detail upon the duties and responsibilities of our trained nurses. They themselves, so far as they have gone in their training, no doubt fully realize them. They know that they are ever to be loyal and true helpers to the physicians and surgeons, of whose skill and responsibilities they are to be willing and

efficient instruments. They know that to the sick they must be kind, patient and considerate, making allowance for their weakness and even for their unreasonableness; effacing their own individuality and tastes, and even their comfort, for the good of their patients; pocketing their pride, and stooping to conquer their whims and their prejudices by womanly kindness and skilful management.

Of their relations to the community they as yet know comparatively little, for that is a part of their training of which they can learn but little in the Hospital. The world must in future be their Hospital, and their own good sense and their self-reliance—aided always by the advice of their allies and protectors, the doctors—must be their future trainers. Nor will this part of their training always be easy. The habits, demeanor and surroundings of private patients will often be found to differ widely from those of the Hospital patients to which they have been accustomed, and will require to be met in a very different way. There will be social and other problems also to be dealt with, which will require all their tact and skill for their happy solution; but they will win easily by kindness and forbearance that which would be strenuously resisted if demanded as a right.

There are other duties on which it is unnecessary to dwell,—their duty to themselves, to each other, to this Royal Victoria Hospital, and to the honorable profession to which they now belong. The reputation and the good name of all of these will be safe in their keeping, and we may rest assured that they will never bring disgrace upon their noble profession, by descending to conduct unbecoming Royal Victoria graduates and gentlewomen.

But the obligations must not all be on one side. We, who send them out, and the public to whom they are to minister,

have also obligations and responsibilities which cannot be ignored. To us of the Hospital they are, in one sense, our children; and, as loving parents, we will follow them with warm interest through their future career, rejoicing in their successes and helping them as best we may when in difficulty or distress.

And you, ladies and gentlemen, who represent the general public, will justly be expected to do your part. It is for you that they have undertaken the arduous work of their profession; and are not the faithful workers worthy of their reward? See to it that it is not withheld nor given grudgingly. Cheer them with your sympathy; encourage them with your confidence, and contribute to their success in life by substantial acknowledgments for anxious work faithfully done. Some of them are your own children. Be good to the others for their sake, fulfilling and amplifying on their behalf the precepts of the Golden Rule—Whatever ye would that others should do unto your children, even so, also, do ye unto the children of others.



ADDRESS AT THE GRADUATION OF NURSES,
ROYAL VICTORIA HOSPITAL.

MAY 5TH, 1900

MR. PRESIDENT, LADIES AND GENTLEMEN,—

We meet again this year to congratulate a large Graduating Class of Royal Victoria Nurses on the completion of their course of instruction and training; to certify to our approval of their conduct and progress while they have been with us, and to testify, by the Diplomas and Badges conferred upon them, to our belief in their worthiness to take part in the noble work which their profession implies: the work of helping to heal and to relieve, as far as in them lies, the pain and the distress of the sick, the maimed and the dying.

That they will well and truly discharge these responsible and solemn functions, we, who have been familiar with their work in the hospital, and have assisted in their training and at their examinations, have neither doubt nor misgiving. They are earnest and worthy recruits to an army of workers whose life work it is to wage incessant war against disease and death in every form.

With the details of their work we have at present nothing to do; so far as it has been possible to learn them in the hospital wards, they have become perfectly familiar with them. They have also learned much as to their relations to the medical profession, and to their patients. They know that they are ever to be loyal and true helpers to the

physicians and surgeons, of whose skill and responsibilities they are to be the willing and efficient instruments. They know that to the sick they must be ever kind, patient and considerate, making allowance for their weaknesses, and even for their unreasonableness; forgetting, for the time, their own individual tastes and comforts for the good of their patients; pocketing their pride, and stooping to conquer whims and prejudices by the irresistible force of winsome sympathy and womanly tenderness.

Of their broader relations to the world at large, and to the community, they have as yet much to learn. Such things cannot be practically taught within the walls of a hospital. Henceforth the world must be their Training School, and their own good sense and self-reliance—aided always by the advice and counsel of their friends and allies, the doctors—must be their teachers. Nor will this part of their training always be easy. The habits, demeanor and surroundings of private patients will often be found to differ widely from those of the hospital patients to which they have been accustomed, and will require to be met in a very different way. There will be social and other problems also to be dealt with, which will need all their tact and skill for their happy solution; but they will win easily by gentleness and forbearance that which would be strenuously resisted if demanded as a right.

There are other duties and responsibilities which they will have constantly before them. Their duty to themselves, to each other, to the public, to this Royal Victoria Hospital, and to the honorable profession to which they now belong. The interests and the good name of all of these will be safe in their keeping, and we may rest assured that they will never bring disgrace upon themselves, nor upon their noble profession, by descending to conduct

unbecoming them, either as Royal Victoria graduates, as ladies, or as—highest title of all—true gentlewomen.

But the obligations must not all be on one side. We who send them out, and the public to which they are to minister, have also obligations and responsibilities which cannot be ignored. To us of the Hospital they are, in one sense, our children; and, as loving parents, we will follow them with warm interest through their future career, rejoicing in their success, and helping them, as best we may, in their distresses and difficulties.

And the general public may justly be expected to do its part. It is for the public that they have undertaken the arduous work of their profession, and are not the anxious and earnest workers worthy of their reward? Undoubtedly they are, and a grateful public will see to it that the rewards are neither withheld nor given grudgingly. It will cheer them with its sympathy; it will encourage them with its confidence, and it will contribute to their success in life by substantial acknowledgments for anxious work faithfully performed,

Ladies and gentlemen, I fear that in taking leave of our Nurses to-day, I have unconsciously allowed a note of sadness to mingle with the strains of our leave-taking; but, after all, the note has been one of harmony, not of discord. Let me express the hope that the harmony may ever continue; but let the faintest echo of the sadness be drowned in the full chorus of our good wishes, saying to our Graduating Class of 1898, Be of good cheer, and may God speed you and prosper you on your noble mission.



ADDRESS AT A PUBLIC MEETING OF THE VICTORIAN ORDER OF NURSES AT MONTREAL

APRIL 21ST, 1897

YOUR EXCELLENCIES, MR. MAYOR, LADIES AND GENTLEMEN :—

In endeavoring to assist in my humble way in the objects of this meeting, I would desire it to be understood that what I have to say will be chiefly from a professional or medical point of view, and although I cannot by any means claim to speak as the official mouthpiece of the profession, yet, as one of its oldest members, I may fairly claim to speak with some knowledge of its wants, and also with some knowledge of its views with reference to the proper treatment and the proper tending of the sick.

The time was, not so very long ago, and within the memory of many of us, when the attendance and advice of the doctor, with the kindly but unskilled assistance of friends and neighbors, were all, or nearly all, that sick persons had to rely upon for their comfort or cure; or if nurses, so called, were to be had, they were at best self-taught, and without scientific training of any kind. Even the doctors' ideas about the nature of disease were often misty and indefinite, and the science of Medicine had but little claim to be ranked among the exact sciences. But, thanks to the great progress and discoveries of modern science, all these things have been greatly changed for the better. The causes of disease have become so much better known, and its processes and effects so much better understood, that most diseases are now much more manageable, and the resulting mortality

has been greatly reduced. In short, Medicine—including of course, Surgery—is rapidly establishing its claim to be ranked among the exact sciences.

And how have these changes been brought about? By substituting accurate scientific methods of observation and practice for the crude and indefinite methods of the past. But the doctors themselves would have been powerless in carrying out these changes but for the able and valuable assistance of the modern trained nurse; and for the introduction of this system of skilful, trained nursing, with all its untold benefits, the Profession of Medicine and the world at large must forever remain under a load of obligation to the great founder of the system, Miss Florence Nightingale. The trained nurse has become almost as necessary in the treatment of the sick as the doctor himself, and if in serious or prolonged illness the two go not hand-in-hand, much unnecessary suffering and many preventible deaths must be the inevitable consequence.

But though our larger hospitals and certain classes of the community in this country are being well served by our present system of trained nursing, we can scarcely be said to be much beyond the threshold of our necessities or of our possibilities in this matter. As matters now stand, by far the most numerous classes of our people are quite out of reach of help from our trained nurses, and until this want is supplied they must continue to suffer and to die, much as if no system of trained nursing existed in the country. I say this without imputing blame to any one. It is probably nobody's fault, but it is a national misfortune, and one which should not, and indeed must not, be beyond the reach of remedy. The hospitals have been doing their utmost in training nurses up to the full measure of their capacity and the means at their disposal, but the process is

a slow one, and, so far at least as the nurses themselves are concerned, is attended with considerable expenditure of time, anxiety and money before they find themselves in a position to earn a bare livelihood. Moreover, their duties are arduous and exacting, and their necessary expenses constant and considerable, while their emoluments are fluctuating and uncertain; and to make ends meet, their scale of fees must be such as to place their services beyond the reach of all but persons of ample means, to whom the additional expenditure of a few dollars a day during a lengthened illness causes little or no inconvenience.

But these people of ample means form but a small minority of our whole population, and what is to become of those much more numerous classes, the people with limited incomes, both in the cities and outlying districts, and the poor in their own homes, whose needs in the matter of nursing help are quite as urgent, but whose means are quite inadequate to supply them under existing conditions? Are they to be left to sicken and to die without help, or to look longingly and enviously, or with thoughts that are apt to grow dangerous, upon their more prosperous neighbors? God forbid! It is to supply the needs of such as these that Her Excellency proposes to establish the Victorian Order of Nurses, whose duty and whose privilege it shall be, under skilled direction, and supported as it will be by a generous public when its needs are made known, to extend to every class of the community throughout the length and breadth of our land, those valuable and health-giving services which should be the perquisite of the poor as well as of the rich.

And this is no impossibility. What has been done elsewhere can be done here. Ten years ago the situation in Great Britain was almost exactly the same as it is here to-day. The great hospitals and the well-to-do classes had

their trained nurses, while the great middle classes, with moderate means, and the poor in their homes, were fain to struggle and to suffer, as they had always done, without them. The Jubilee Order of Queen's Nurses, established by Her Majesty in 1887, has supplied this great want, and there are to-day upwards of six hundred of these nurses doing valuable work in every part of the United Kingdom, and their number is constantly increasing.

So let it be, with necessary modifications, in this country. Let not the reproach be cast upon us that we continue to train nurses only for the rich, and that those who are not rich must not hope to be helped in that way even in their direst need. That reproach must not, shall not, rest upon this country. It must be wiped away before it becomes a stain upon our fair escutcheon, and every dweller in the land, whether in the palaces of the rich or in the humblest hovel in the wilderness, must be made to feel that he is within reach of that skilled help in his sore need, which should be the birthright of every citizen of our great Empire.

It is not for me, nor is this the occasion, to enter upon the details of this great scheme. It is in safe hands and the work connected with it will be well and faithfully done, but this much I must needs say, that the aim shall be to make it acceptable to all who take part in it, to the nurses who are to do most of the work, to the doctors and others who will supervise it, to the sick who are to benefit by it, to the friends and benefactors who are to help it to its success, and lastly, to our beloved Queen, whose large and sympathetic heart first suggested the direction which such Jubilee offerings should most fitly take.

It is difficult to imagine any more worthy object for Jubilee gifts, great or small, than this Victorian Order of Nurses, for skilled nursing, even in its present restricted

application, is every day, and perhaps every hour, relieving human pain and saving human life; and bearing in mind the classic dictum that "what you do through others you do also yourselves," it becomes possible for every one to help in this great work, and puts practically no limit to the good that may be done and the valuable lives that may be saved.

But in contemplating the great benefits to our people by the establishment among us of the Victorian Order of Nurses, let us not forget to whom we are indebted for the initiation of this great enterprise. To Her Excellency the Countess of Aberdeen must always belong the merit of having been the first to discern this great need among the masses of our people, and to her, also, we owe the quick perception of the fitting moment at which their wants could be best supplied. It was a happy inspiration, and may Her Excellency live to see the fruits of her benevolent purpose grow and multiply, fifty and even a hundredfold.

If more were needed to press the importance of this good work upon the people of this Christian Country, I could point to an obligation more solemn than all that have gone before. Did not the Divine Author of Christianity say to His followers, "Go ye, heal the sick, cleanse the lepers, raise the dead, cast out devils, freely ye have received, freely give?" This is His command. Shall it not be obeyed? But He gave also a promise, in these words, "And whosoever shall give to drink unto one of these little ones, a cup of cold water only, in the name of a disciple" (and what disciple more worthy than our beloved Queen), "verily I say unto you, he shall in no wise lose his reward." Ladies and gentlemen, citizens throughout this broad Dominion, this promise will be surely kept. See to it, that ye fail not to secure a goodly share in this Sacred Promise.

ADDRESS AT A PUBLIC MEETING AT FRASER
INSTITUTE ON THE ALEXANDRA HOSPITAL
FOR INFECTIOUS DISEASES.

DECEMBER 7TH, 1904

If any apology were needed for adding my feeble voice to the voices of those that are to address you to-day, it would be found in the crying need for the Institution, for whose very existence we are here to-day to plead. Montreal has many noble institutions, educational, industrial, humanitarian, and benevolent in many ways. The fame of its hospitals is world-wide, and the lives that are saved and the sufferings that are relieved within their walls, are matters for just pride to everyone who helps in their work in ever so slight a degree; their doors are wide open at all hours and in all seasons, I had almost said, to every form of suffering, and if I had so said, I would have been very nearly right. But, my dear friends, "very near" is sometimes far amiss, and the rare exception sometimes casts a gloomy shadow over an otherwise bright and wholesome rule. Is it to be believed that while those suffering from almost every kind of disease and mutilation, often the result of wilfulness and self-indulgence, are freely admitted into our hospitals,—the innocent sufferer from diphtheria, erysipelas or scarlet fever has not where to lay his head? And yet this is literally true, and has been true for many years, and will continue to be true for many years to come, at least so far as the English-speaking portion of our community is

concerned, unless such adequate accommodation as that proposed to be afforded by the Alexandra Hospital for Infectious Diseases can be provided, and provided without delay; for the hospital must be ready to receive patients on or before the 1st of September next, or otherwise the contract with the city, on which the success of the hospital so largely depends, will be in great danger of falling through.

It may seem to some that there has been unnecessary delay in dealing with this question of a hospital for infectious diseases. But in reality it has not been so. Those who have not tried it, can scarcely be aware of the great, almost the insuperable, difficulties that are to be met with at every turn. The finding of a suitable site; the overcoming of the objections of timid, unreasoning, and hostile neighbors, armed with legislative and other powers; the securing of the best and most comprehensive plans, both for present and future needs; and, lastly, the collection of sufficient funds to justify the Board in proceeding with so serious an undertaking.

The difficulties connected with the site, and with the plans, have been fairly well overcome. A site on the river bank, at Point St. Charles, has been secured, after we had been driven in succession from two more eligible sites in more suitable localities. Plans have been obtained and approved after competition, which, when carried out, will give us a group of buildings, which, for completeness, efficiency, and adaptation to their required purposes, will bear comparison with any of the kind elsewhere to be found. With regard to the question of funds, there is still much to be desired. An amount somewhere about forty thousand dollars has already been subscribed; but a much larger amount than that will be required to carry the project

through in such a way as to meet the urgent needs of the large and growing community, to whose welfare and safety it is to be devoted.

It is chiefly to help the Board in securing the necessary additional funds that this meeting has been called; as well as to hear the views of its constituents as to the progress that has been already, and still is to be, made.

You all know the cost of labor and of building at the present time; and before the completed buildings have been finished, it is to be feared that the total cost will have considerably exceeded one hundred and fifty thousand dollars. The amount certainly seems large, but the needs also are large, and they are urgent and indeed imperative. Not only the sick with infectious diseases, but also those who are well, must be protected; for the infectious sick are not only a danger to themselves, but also to the whole community; and a well-managed hospital for infectious diseases will often nip an epidemic in the bud, which would otherwise slay its hundreds and its thousands without regard to rank or station. It would be difficult to imagine a more crying need than the one which is now before us. Diphtheria and other infectious diseases are even now on the increase in the city, and money may be required to make even temporary provision for such patients, until such time as the permanent buildings can be completed.

The Christmas holidays are close upon us. Let us not forget, amid our rejoicings and our festivities, the needs and the sufferings of the infectious sick. Let us give what we can to this grand work, and the relish of our feasts will be all the richer, and our slumbers will be all the sweeter and the more refreshing, when we realize that we have done our utmost to guard the homes of our people from pestilence and from disaster.

INTRODUCTORY LECTURE ON HYGIENE, PUBLIC HEALTH AND PREVENTIVE MEDICINE.

NOVEMBER, 1896

In beginning the study of a new subject, it is always well to obtain as clear a view as possible of the field which is to be explored and cultivated; its scope, its limitations, its possibilities and the nature of the work which is to be performed in it; and the more clearly these are understood at the beginning, the more intelligently and successfully will the work be carried on.

In entering, therefore, upon our recognized course of Hygiene, I have thought it well to devote a short lecture to a survey of the ground to be covered, and an outline of the manner in which we propose to utilize it.

It is impossible in a single word or sentence to define what Hygiene is, or what are its scope and its limitations. The word itself means HEALTH, or things pertaining to health, being derived from the name of the Greek Goddess of Health, Hygeia, and in its widest sense, therefore, the study of Hygiene means the study of all things pertaining to health, whether beneficial or detrimental. This, of course, includes the study of disease, which is strictly a department of Hygiene on account of the effect which disease has upon health. But the Science of Medicine has long since claimed as its own particular province the study of disease, and Hygiene has been glad largely to concede the claim, having still an ample territory over which there can be no dispute. But there is also a large area which is common

to both, and over which neither can claim exclusive jurisdiction.

Health and disease may be looked upon as the antithesis of each other, having much the same relations as light and darkness, pleasure and pain, good and evil. But opposite as these things may seem to be, we cannot in our minds dissociate them, for light would scarcely be realized as light if we were ignorant of darkness, pleasure would scarcely be so enjoyable if we had never felt pain, and we could scarcely fix a standard of health, if it were not possible to contrast it with disease.

In this way the study of Medicine and the study of Hygiene meet and overlap each other; the one cannot properly be understood without some knowledge of the other. The physician in studying disease fixes his attention upon those points in which it differs from health, while the hygienist, in adjusting his standard of health, must be able to recognize the signs and symptoms which indicate disease.

This common ground of study between the physician and the hygienist or sanitarian, instead of producing antagonism or divergence, really binds them together, the studies of the one passing imperceptibly into those of the other, so that every physician becomes more or less a hygienist, and nearly every hygienist becomes, or at least qualifies himself to be a physician. Both are working to rid the world as much as possible of disease, but while the Science of Medicine aims both at the prevention and cure of disease, the Science of Hygiene occupies itself almost wholly with its prevention; and inasmuch as prevention is always better than cure, Hygiene as a part of Medicine is assisting in the noblest part of its work.

It may be said, therefore, that the peculiar province of Hygiene is,—the study and practice of all those means that

tend to preserve and to improve health, and to prevent disease.

In its most comprehensive sense it includes all living things, but in its usual restricted sense it applies more particularly to the human race, with its subdivisions into states or nations, provinces, communities, families and individuals; a common subdivision of the subject being into: (a) private or individual Hygiene; (b) public Hygiene and (c) international Hygiene.

In its highest sense also, Hygiene concerns itself not only with the physical health of individuals and communities, but also with their mental, moral and even their political health.

We have seen that the functions of the sanitarian and the physician, though having much in common, differ chiefly in that the one studies health and endeavors to preserve it, while the other studies disease and endeavors to cure it, and their relative spheres of action seem tolerably well defined.

But though in the abstract, health and disease seem to be almost the opposite of each other, in practice they are found often to shade almost insensibly into each other, making it difficult to tell where the one ends and the other begins, and making it impossible to give an exact scientific definition of either of them. Perhaps the simplest definitions are,—that health means that condition in which all the functions are performed naturally, while disease means a condition in which at least some of the functions are more or less unnatural. In these definitions, of course, the whole difference turns upon what is to be understood as natural or unnatural, and how are we to decide as to what is natural?

We shall probably find the nearest approach to it in the average course of existence of individuals in a prosperous

community. They spring from a healthy parentage; they are born at full time; they grow to healthy maturity; they produce healthy off-spring; they gradually fade and wither; they die peacefully and return harmlessly to dust.

But disease may alter all this; parentage may be unwholesome or depraved; birth may be difficult or untimely; growth may be irregular or stunted; progeny may be misshapen or feeble, or may be wanting altogether; age may be laden with infirmities; death may come at any time in a virulent and painful form; and even the lifeless clay by reason of its virulence may spread pestilence and death among thousands of innocent victims. How different the pictures! Health represents peace, happiness and prosperity;—disease represents grief, misery and disaster.

What nobler work, then, than to strive to blot out the latter, and to develop the former to still greater excellence?

But, it may be asked, how far is it possible to exterminate disease and to replace it by health and soundness. Theoretically it ought to be possible to exterminate disease, inasmuch as it is an unnatural condition, and by strict obedience to natural laws, it ought to be made to disappear. But natural laws, like all other laws, are constantly broken; and indeed anything like perfect obedience to them is scarcely to be expected. They are often imperfectly understood, and when understood they are often beyond our control, and only a partial success in our work can therefore ever be looked for.

But though we can never hope to completely eradicate all diseases, we may confidently expect to exterminate a large number of them, and to so modify and control a still greater number as to render them comparatively harmless, thus reducing the sum total of misery and mortality in a very important degree. In proof of this we have only to

think of what vaccination has done for small-pox, what antitoxin is now doing for diphtheria, what improved sanitary measures have done for typhus fever, for scurvy, and for preventing the spread of cholera and other epidemics; and in sanitary science, as in the other sciences, it seems impossible to limit the extent to which progress and improvement are to be carried.

And how have these successes been achieved? By carefully studying the laws of health and the natural (or unnatural) history of disease, and by applying for their elucidation the modern methods of scientific investigation.

Physiology teaches that in an ideal state of health, in adult life, the metabolism of the tissues and organs is perfect: that the processes of waste and regeneration exactly balance each other, and that to maintain this balance, the ingesta and excreta must be in corresponding proportion. Were it possible in a healthy body, and with pure materials, always to maintain this equality, it would seem that the process should go on indefinitely, and that something approaching immortality should result; but with our earthly environment no such perfection is possible; under the most favorable circumstances the metabolism is only approximately perfect, the materials are only approximately pure, and almost from the beginning, a process of gradual deterioration commences, which, aided by other influences, ultimately ends in degeneration and death, and this, without the supervision of what can properly be called disease, but only as the result of processes rendered imperfect by complex disturbing forces which pervade our whole surroundings.

As I have said, this process is not disease. There is nothing unnatural about it; it is common to all living things with which we are acquainted, and when it ends in the usual

way, we say death has resulted from natural causes or from natural decay; indeed we are constrained to accept this result as the nearest approach to perfect health which is attainable in this world. It is in short the natural or normal condition of all earthly living things.

If then we are to accept this as our type of health, what is disease supposed to be? It must at least be something appreciably different either in degree or in quality; something added, something taken away, or something altered and perverted. A change sufficient to convert a natural or normal process into one which is measurably unnatural or abnormal.

It is the function of the sanitarian by all means in his power to prevent these changes. When the changes have occurred, it becomes the function of the physician to endeavor to remove or counteract them, and restore the processes to their natural or normal condition.

But to be in a position to prevent disease, the sanitarian must endeavor to ascertain its causes, and the manner in which these causes react upon the organism in producing disease.

As health is dependent upon the maintenance of a proper balance between all the functions, and an adequate supply of pure materials to repair the constant waste, and maintain the healthy integrity of the tissues and organs, we naturally look for the causes of disease among those circumstances likely to disturb this balance, or to vitiate or destroy this healthy integrity of structure.

The causes of disease, however varied and numerous, may virtually all be said to act by interfering with or vitiating healthy nutrition. Most of them are connected with the ingesta and find entry to the system along with them, being either normal ingredients in improper proportion,

or foreign substances abnormally mingled with them. Such causes are to be met with in the air we breathe, in the food we eat, and in the fluids we drink. Certain other active causes find entrance through wounds or abrasions, and still other causes and influences react upon the body from without, such as changes of temperature or of atmospheric pressure, physical and mental exhaustion, etc.

Among all these causes of disease none have of late years attracted so much attention as those connected with the so-called germ theory. The class of infectious or zymotic diseases, with others, analogous to them, having been shown to depend upon specific organisms or germs for their origin and propagation, the study of these organisms in all their relations to disease has distinctly been brought within the province of sanitary science.

The constantly improving processes of chemical and physical research are also being daily brought more and more into the work of sanitary investigation, more particularly with reference to air and ventilation, water and other beverages, and food with its adulterations. In like manner some knowledge of architecture and engineering, as applied not only to private dwellings, but to hospitals, schools, prisons and other public buildings, as well as to systems of drainage and other matters, is every day becoming more imperative.

There are many other directions in which sanitary science is extending its boundaries, and the area over which it is exercising control is daily widening in all matters in which the health of individuals and communities is concerned.

The hitherto prevailing system of the unification of sanitary science is therefore no longer adequate to its requirements. No single teacher, however versatile and

accomplished, can longer hope to do even moderate justice to so extensive a subject; but thanks to the generous endowment of this Department by our Chancellor, Sir Donald A. Smith, we are at last able to extend the scope of its teaching in a degree commensurate with its importance, and to give to it that composite character which the diversity of its interests demands. We have been able to secure for Hygiene the active co-operation of workers in other Departments of the Faculty. Dr. Ruttan, Professor of Practical Chemistry, who has been associated with me for several years, will still further extend the work in Sanitary Chemistry and Physics, more particularly in connection with water, soil, food and air; while Dr. Adami, Professor of Pathology, and Dr. Wyatt Johnston, Lecturer in Bacteriology and Medico-Legal Pathology, will contribute a very complete course of instruction in Bacteriology in its relations with Preventive Medicine. This part of the course will include the biology of the bacteria, methods of culture, staining and sterilization, bacteriological examination of water, air, soil and animal fluids and secretions, antiseptics of wounds, serum therapy, epidemiology, disinfection, quarantine, etc.

Ample means of illustration, with microscopic and laboratory facilities, will be available in every part of the course; and to make the means of illustration still more effective, an extensive working museum of models, specimens, diagrams and sanitary apparatus of every kind is being prepared, and will add greatly to the efficiency of the course

It is hoped also that a portion of the lectures on Architecture and Engineering in the Faculty of Applied Science may, by suitable reciprocal arrangements, soon be made available for students in Hygiene.

In thus expanding the course and providing for additional study in many directions, care has been taken in the interest of the students, not unnecessarily nor unduly to increase their labor; for much of the additional work will be utilized in other Departments, chiefly in Pathology and Practical Chemistry, so that unnecessary repetition and duplication may be avoided.

The course of Hygiene, Public Health, and Preventive Medicine as thus remodelled and extended, will henceforth take rank as a full course, becoming one of the most prominent of the third year, a position to which it is fully entitled by its constantly increasing importance.

In concluding this short address, let me remind you, that we do not expect, even with our extended course and facilities, to make you expert specialists in sanitary science, or to qualify you without further preparation to undertake the duties of public officers of health; but we do expect of you that you will acquire a sufficient knowledge of the principles of the science, and a sufficient knowledge of its details, to become intelligent critics and safe advisers in all matters connected with sanitary work.



ADDRESS AT THE OPENING OF THE ROYAL VICTORIA HOSPITAL BY HIS EXCELLENCY THE GOVERNOR-GENERAL, LORD ABERDEEN.

DECEMBER 2ND, 1893.

On such an occasion as this, which marks the inauguration of a new centre of charitable and humanitarian work, it would seem to be fitting that a few words should be said as representing our Medical Board, and all those who are to be more immediately concerned in the care and welfare of the sick. As one of their number, I would wish to say that we fully recognize and appreciate the importance, and even the solemnity, of the duties which are to be committed to our care. Our mission is to save and prolong human lives, to relieve and to mitigate human sufferings, to cure disease, and, as far as possible, to restore the sick and the maimed to health and to usefulness. All these are our solemn duties, never under any circumstances to be lost sight of, and all others must necessarily be subordinate to them. If, in carrying them out, we can be instrumental in promoting the cause of sound medical education, or in giving to our nurses a good practical and scientific training, it will be our privilege and our pleasure to do so; but these and all other objects must be secondary to the great object of ministering to the sick.

But onerous though our duties must necessarily be, it is our good fortune to be able to enter upon them with a degree of cheerfulness, and even light-heartedness, not given to many. All that wealth and open-handed liberality could do to lighten our labors, has been done by our

generous founders, and no expense has been spared to make the Royal Victoria Hospital as complete and perfect in all its appointments as any hospital at home or abroad.

Such generosity on the part of our benefactors makes it incumbent upon us to show to the world that their gifts have been well bestowed, and to see to it that the best possible use shall be made of them. And how are we to make the best possible use of these gifts? By so applying them that they shall do the greatest good to the greatest number of those whose needs are the greatest. It seems to me that this is the principle upon which all charitable and benevolent institutions should be administered, for while it gives free scope to the most unbounded generosity, it also calls for the practice of the truest economy, for true generosity is neither wasteful nor extravagant, nor is true economy either parsimonious or mean. It should, therefore, and it shall be our care to treat our patients generously, but at the same time with true economy, letting them want for nothing that will conduce to their speedy and complete recovery, but being careful not to waste upon a few what, under better management, would be sufficient for the needs of two or three times their number.

The idea has in some way got abroad in certain quarters that the Royal Victoria Hospital is to be in some sense a show hospital, and that in its management, expense is to be a secondary consideration. I am sure that I am expressing the sentiments of the founders when I say that nothing could be further from their intentions. Advanced and enlightened efficiency has been their aim from the first, and anything like useless display has always met with their unqualified disapproval. If the stately and well-appointed buildings occupy one of the most beautiful and salubrious sites on the southerly slope of our mountain, it is because

it is free from the dust and the din of the great city, and will give to the patients the priceless boons of fresh air and abundant sunshine. And to what better use can these advantages be put than to benefit the sick? What class stands so much in need of them, and what class is likely so much to profit by them?

But if money has been freely spent in the building and equipment of the hospital, it has been on the principle that money well applied at the commencement of a great undertaking is generally the truest economy, and renders the subsequent management much easier and less costly.

The expenditure for building and equipment may now be said to be practically at an end, and the expenditures for management and maintenance to have just been begun, and we must now be mindful of the fact that from this time forward our expenditures must be from revenue and not from capital, and as our income is, so only must be our expenditure.

It is not for me, nor is this the time, to enter into any detail as to our future revenue. Suffice it for the present to say, that the same generous benefactors who have reared this stately edifice, have also provided for the immediate wants of those for whom its doors have this day been declared open. And what means the opening of these doors to-day? It means the advent among us of another institution for the relief of suffering, and it also means that our city, growing rapidly as it is in a commercial, in a social, and in an educational sense, is also growing in a humanitarian sense. Montreal has seen the opening of many institutions for the relief of suffering. The old Hotel Dieu, the old Montreal General Hospital and the newer Hospital of Notre Dame, and many others of lesser note, all of them doing good and noble work.

But, ladies and gentlemen, this Royal Victoria Hospital now comes to you as your latest born. Let it be none the less welcome on that account. It does not seek to supplant in your affections those other institutions of which you are so proud. It does not ask you to take from them what is necessary for their sustenance; but it does ask you to keep for it a warm corner in your hearts, to welcome it with hearty good will and to accept it as a worthy addition to your family. It will endeavor not to be burdensome to you, and will push its way in the world as well as it can, and will endeavor in every way to be a credit to you. But if at any time in the future in helping others, it should itself be in need of a helping hand, it feels assured that you will not send it empty away.

May we not, then, fairly hope that the Royal Victoria Hospital, starting to-day upon its mission of mercy, may go on from generation to generation, ever increasing in usefulness and ever growing in the affectionate good-will of the community; and that it may become a legitimate source of pride to its generous founders, a public benefit to the city of Montreal and to Canada, an honor to our Most Gracious Sovereign Queen Victoria, whose name it bears, and who is so worthily and welcome represented by our illustrious visitors, their Excellencies the Earl and Countess of Aberdeen, and last, though by no means least, an evidence that this great and growing young northern country, with its hardy and self-reliant population, will not willingly be behind either in works of benevolence or in those more practical and utilitarian qualities, all of which tend to make a nation great, prosperous and happy.

ADDRESS DELIVERED AT THE UNIVERSITY
BANQUET, WINDSOR HOTEL.

JANUARY 24TH, 1896

SIR CHANCELLOR, LADIES AND GENTLEMEN :

I shall not weary you, nor waste valuable time in insisting at any length upon my unfitness for the task of replying to the toast of the Graduates of McGill University. If you please, we will take it for granted, and I shall rely upon your indulgence and the indulgence of the many graduates who are not with us to-night, and ask you to overlook many shortcomings in my attempt at the shortest of notices to do justice to what must be one of the important toasts of the evening. In a University celebration such as this, the toast of the graduates must always take a prominent place, inasmuch as the graduates of a University bear a very close and important relation to the University itself. If we may be allowed to take the family as the type of University life, the graduates will represent the grown up children, the sons and in our case also the daughters, whose minds, if not their bodies, have received from their University parents that nurture and training which are required to fit them for the higher duties of life.

But the graduates of a University not only represent the grown up children of the family at home but they represent them more especially after they have left the parental roof, and have set out to fight the battle of life for themselves, each in his or her own way; nor does the parallel end here, for as the children of a family, wherever

they may go, carry with them a certain family likeness which is often sufficient to distinguish them from other families, so the graduates of a University scattered all over the world will in many cases be found to possess certain qualities in common which serve to distinguish them from the graduates of other Universities. What father or mother is not quick to discern differences between his or her children and those of others, and is not fain also to interpret those differences in favor of his or her own offspring? We may not always agree with them, but we are apt to think less of parents who fail to exhibit such natural and amiable partialities.

I may hope, therefore, to be forgiven if I venture to express my belief that there are some qualities, in degree at least if not in kind, which serve to distinguish our graduates from those of many other Universities and that the differences are not to the disadvantage of our own graduates or our own University.

I think I may fairly claim for our graduates that the titles which they bear in nearly every instance fairly represent the full amount of work done and examinations fairly passed which have led to the title which has been conferred. Honorary and ad eundem degrees have been very sparingly distributed, and never without sufficient reasons and after careful investigation.

I think it will be admitted also that our graduates are workers. They are seldom or never drones. The system of education which has produced them is one of steady hard work, not drudgery, but work so arranged as to keep them steadily and continuously employed, and to foster in them habits of industry which will cling to them through all their after lives.

We are proud to know also that our graduates are think-

ers as well as workers. They are not mere machines, to be wound up and set going for good or ill as chance may determine, but they have been taught and trained to think and to investigate for themselves, and to that end have had at their disposal equipments and fields for observation which have enabled them to pursue their investigations with profit and precision.

These qualities of thinking and working have also been stimulated and developed by the circumstances under which many of our graduates have achieved their education. Many of them have been sadly lacking in early advantages, and have been obliged to pursue their studies under disadvantages that would have brought despair to less resolute minds, but the result has generally been to foster in them a persistency of purpose and a fertility of resource which have proved valuable factors in their ultimate success.

The qualities to which I have alluded, together with other obvious qualities, enhance greatly the influence exerted by University graduates upon the community at large. Not only in our institutions of learning and in the so-called learned professions is this influence to be seen and felt, but in all other pursuits, whether in commerce, politics or even the humbler walks of life, their influence can easily be traced, and in this young and growing country, the almost unconscious influence of University graduates scattered far and wide even among the humblest of the people has tended greatly to their mental and moral elevation.

But perhaps the most highly prized qualities which the University has been proud to recognize in its graduates are those of loyalty and love for their University. The University is every day receiving fresh evidences of the warm attachment exhibited by the graduates to their

Alma Mater in the formation of Graduates' Societies and Associations in different parts of Canada, and even in the United States and in Great Britain, and I need scarcely say that the University prizes very highly these tokens of love and esteem, knowing well that the interests of the University will always be safe in the hands of such true and loyal Alumni. I thank you therefore for the honor you have done the University and its graduates in drinking their healths, and may I not fittingly close my remarks with the expression of the hope, that the success and harmony of the past may only be an earnest of the future, and that in the generations to come, when Canada shall have grown, as grow she must, into a great and prosperous nation, or, better still, into an integral part of a still greater Empire, McGill University may continue to grow and to flourish and have reason more and more to be proud of her graduates; and though the graduates of the future may excel those of the present in many things, I may safely say that our graduates of to-day can never be outdone in their loyalty to, and their love for, their University, their Country and their Queen

ADDRESS DELIVERED AT THE FIRST DINNER
OF THE CANADIAN BANKERS' ASSOCIATION,
AT THE WINDSOR HOTEL, MONTREAL.

MAY 19TH, 1909

MR. PRESIDENT AND GENTLEMEN:—

It is with peculiar pleasure that I rise to say a few words on behalf of the Profession of Medicine in response to the toast which you have been good enough to drink to the health of the "Learned Professions," and which has been so ably responded to by such eminent members of the Profession of Law.

The title of "Learned," which has so long been used to designate the Professions of Law, Physic and Divinity, though still, we believe, as well deserved as it ever was, no longer possesses the exclusive significance which it once did. Thanks to the modern extensions and expansions of liberal education, the so-called Learned Professions no longer attempt to claim a monopoly of learning. They are glad to see the other professions treading closely upon their heels in this respect, and far from feeling jealous of their success they rejoice in it, and they recognize in it that highest of all compliments, the sincere flattery of imitation. It is not for me to say, of course, to what stage of development the Profession of Banking, or should I say the Profession of Finance, has already attained, but if I have been able rightly to interpret the significance of our gathering here to-night, it would seem

to indicate the attainment of a stage when local and individual action is to be harmonized and to some extent regulated by a more general and concerted action.

I think this a matter for sincere congratulation, not only so far as the Banking interests of the country are concerned, but also as it affects the country itself and the community at large.

I may perhaps be pardoned if I endeavor to point out the strong analogy which exists between the functions of our Profession of Medicine and the Profession of Banking or Finance, and more particularly in a new country like our own. To our Profession belongs the care of the physical welfare of the community, both individually and collectively, and in proportion as that care is wisely and skilfully exercised will be the growth of our community into a hardy, vigorous and self-reliant race.

To your Profession in like manner is intrusted, to a large extent, the financial health of the community, and it is not too much to say that the enterprise, the progress, the development of our Canadian nationality and the ultimate position which Canada is to occupy among nations will depend greatly upon the influence for good which your Profession may be able to exercise upon the financial health of our people.

In young communities, as in young individuals, it is important to begin aright, and to form habits and principles which will tend to success rather than to failure. In our young country, then, how important is it that wholesome business and financial habits should be inculcated and encouraged; that our young men should be taught to be enterprising without being rash, to be cautious without being timid, and to be able to distinguish clearly between sound and legitimate business principles and operations and those more dazzling but dangerous schemes which are purely

speculative, and which so often lead to disaster and even disgrace.

It would be easy to point out still further the analogy between the profession of Medicine and Finance; to show how the diseases with which each has to deal bear a close resemblance to each other, and how the same rules and principles may be applied in their prevention or detection and cure in the one case as in the other. Banks have to deal with fevers and epidemics quite as real as those that fill our Hospitals, and the questions of treatment, of recovery or of dissolution are discussed much in the same way in the Board Room of the Bank as in the Consultation Room of the Hospital.

But tempting as it is to pursue the parallel still further, it could serve no useful purpose, and I shall content myself therefore by simply pointing out some of the advantages to be looked for from the Association whose advent among us is being celebrated to-night. Associations of the same kind have done great good in our Profession and ought to be equally beneficial in yours. They constitute a kind of Higher Court, or Court of Appeal—if I may be allowed to borrow a simile from the sister profession of the Law—in which may be tried questions of a debatable kind in which there is room for individual difference of opinion, but in which there is yet a necessity for some authoritative decision. They tend also to produce greater harmony of action throughout the Profession, giving to it a higher tone and a greater influence for good, and perhaps the climax of their usefulness is to be found in the establishment of a high standard of excellence, which in the case before us might most fitly be expressed as conduct becoming a banker and a gentleman.

Gentlemen, you have the cordial sympathy and the good wishes of our Profession in the forward step which you have taken, for we see in it great possibilities for good; and carried

out and followed up, as it will be, by talented and careful men, we look confidently for results which cannot fail to be useful in many directions: useful to the Banks themselves, their officers and employees; useful to their clients, with whom they have to deal; and more than all, useful in the broadest and most patriotic sense to this great, young and growing Northern Country, which, like most hardy Northern Countries, has, we all confidently believe, begun to work out for itself a destiny of which even the greatest might be proud.

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