Inter-department Correspondence

McGILL UNIVERSITY

Department of Physiology
December 13, 1935

Mrs. MacMurray,
Secretary to the Principal,
McGill University.

Dear Mrs. MacMurray,

I am returning the enclosed copies of Dr. Babkin's correspondence from your files. Dr. Babkin asks me to thank you very much for kindly allowing him to see them.

Yours sincerely,

J. F. Oswald

Secretary.

Encls.

Copy.

DALHOUSIE UNIVERSITY.
Halifax, N.S.

Jan. 11, 1928.

PERSONAL.

Dear Dr. Martin,

Under a separate cover I am sending you to-day my "Official Letter". I have tried to word it as clearly as possible, and think have incorporated most of the points we have discussed together with you and Professor Tait. I hope you will find it satisfactory.

Only one new question arises, and that is concerning a laboratory boy (technical assistant), which I forgot to mention before. Although not a point of great importance at the moment, it would appear not only better for me, but also for the boy to be definitely attached to my service.

With reference to the budget question: Professor Tait proposed to include it as an item in his accounts, providing that it appears as a separate item for which I alone am responsible.

Other points concerning my letter may suggest themselves to you, which I shall be most happy to discuss.

Once again I must thank you and Mrs. Martin for your charming hospitality, which has greatly intensified the excellent impression I have received of Montreal, its people and the University. I sincerely hope that I may have the opportunity of proving myself worthy of a position in your midst.

With kind regards to Mrs. Martin amd yourself,

Yours very sincerely,

(Signed) B. P. BABKIN.

P.S. Just received your letter of Jan. 8, 1928. I am very sorry to hear about the illness of your brother-in-law.

Copy.

DALHOUSIE UNIVERSITY
Halifax, N.S.

Jan. 11, 1928.

Dr. C. F. Martin,
Dean of the Medical Faculty,
McGill University, Montreal.

Dear Dr. Martin,

With reference to our recent interview concerning the possibility of creating a chair of Research Physiology as part of the Department of Physiology.

As you will well appreciate, research of any kind can only be well conducted in a suitable environment, which above all should offer as few disturbing factors as possible. For the real success of such a chair, therefore, I personally feel that a clear mutual arrangement should be arrived at between the authorities of the University and the prospective holder, in which are suggested the following conditions.-

(1) The chair of Research Physiology, although appertaining to the Department of Physiology, shall be independent, the holder thereof being responsible directly to the University authorities not only in academic matters, but also for his laboratory budget. The title of the holder is "Research Professor of Physiology."

(2) He should have at his disposal rooms specially set apart for that purpose, containing his own appropriate equipment.

(3) He shall have authority to appoint at least two

full-time assistants. One to be qualified, and one for general laboratory purposes. The salary to be fixed by the authorities.

(4) The special equipment of the Department of Physiology (and the technical assistants) shall be, if necessary, at his disposal, by arrangement, however, with the Professor of Physiology.

(5) He shall take a limited part in the general teaching, lecturing, say, 2 hours per week, by mutual arrangement with the Professor of Physiology. He shall assist in preparation and correction of examinations, again by mutual arrangement.

(6) The minimum salary is suggested as $5 000.00 per year, and the appointment shall be considered permanent on the usual conditions.

(7) It is naturally hoped that should good occasion arise to increase the staff for this branch, that the Research Professor should feel that such proposal will be sympathetically received by the authorities, for if sufficiently attractive opportunities presented themselves to a good student, it would be the natural policy of the Research Professor to attempt to retain him in order to enlarge the scope of the work of the Department. In this connection, it is suggested that with the consent of the Professor of Physiology, the Research Professor may have the opportunity of visiting the practical class in order that he too may become acquainted with promising research students.

Very sincerely yours,

(Signed) B. P. Babkin, M.D., D.Sc., Professor of Physiology, Dalhousie University, Halifax, N.S.

C o p y.

DALHOUSIE UNIVERSITY
Halifax, N.S.

Jan. 13, 1928.

Professor John Tait,
Department of Physiology
McGill University, Montreal.

Dear Professor Tait,

Your letter of Jan. 9, 1928, received yesterday.

You will find enclosed my opinion concerning Hou's papers. I find them quite good, and I shall be very glad if my report helps him to receive a research prize.

I sent two days ago to Dean Martin a scheme of my agreement with the University. I have included in it everything that we have talked over with you and Dr. Martin, and I hope that the University authorities will accept it. If so, then I accept the invitation and look forward with pleasure to cooperation with you. I sincerely hope that it will be a very happy combination, and each of us being relieved of a part of teaching duties can do more research work.

With kind personal regards,

Very sincerely yours,

(Signed) B. P. BABKIN.

P.S. I return Hou's papers and the regulations.

COPY

APSG:C

June
Seventh
1928.

Professor B.P. Babkin,
Department of Physiology,
Dalhousie University,
Halifax, N.S.

Dear Professor Babkin,

I have pleasure in informing you that the Board of Governors, at a meeting held on May 31st, appointed you Research Professor of Physiology in our Faculty of Medicine.

Yours faithfully,

Secretary.

COPY

DALHOUSIE UNIVERSITY

Halifax, N. S.

Department of Physiology
Medical Science Building.

Sir Arthur W. Currie,
Principal and Vice-Chancellor,
McGill University,
Montreal.

Dear Sir Arthur,

I beg to acknowledge the receipt of your letter of Jan. 17, 1928.

I higly appreciate your confidence in me in connection with the proposal of a chair of Research Professor of Physiology at McGill University. With great pleasure I accept this post, and will do my best to aid McGill University in developing its research work.

Yours faithfully,

(Signed) B.P. Babkin

B.P. Babkin, M.D., D.Sc.
Professor of Physiology,
Dalhousie University,
Halifax, N.S.

COPY

January 17th, 1928.

Professor B.P. Babkin,
Department of Physiology,
Dalhousie University,
Halifax, N.S.

Dear Professor Babkin:-

The Dean of the Medical Faculty has applied to me for permission to bring you to McGill University as Research Professor of Physiology, and I need not say how pleased we would be to welcome you here, We are, as you can well understand, very anxious to cultivate a greater spirit of research and to do our share in the development and advancement of scientific medicine.

I may say that, as far as the University is concerned, we shall be glad to establish a Chair of Research Physiology, which, while pertaining to the Department of Physiology, shall be independent, the holder thereof being responsible directly to the University authorities, not only in academic matters, but also for his laboratory budget. The title of the holder shall be Research Professor of Physiology.

We shall be pleased to place at your disposal rooms specially set apart for the purpose, containing appropriate equipment within our means. We shall be quite willing to have you appoint at least two full-time Assistants, though I am afraid that our funds for their maintenance are not very large. I think we can afford to give one such man $1,000.00 a year, which, I believe, would be adequate for many of our graduates who are already interested in Physiology and who would be eager to work under your guidance for that sum. From other funds in the University, I think we could give a small amount for a second Assistant, who would be willing to work on a more or less full-time basis; this would be the more readily achieved if he would be allowed to participate in the teaching.

COPY

I shall be glad to arrange further that a laboratory boy (Technical Assistant) would be attached to your own service. I can quite see that would be a necessary part of your laboratory service.

I should like to feel that you would take a certain limited part in the general teaching, the average being about two hours per week throughout the term. This, I am sure, you can arrange with the Professor of Physiology in a way that would be mutually satisfactory. I need not add that he will be delighted to welcome you on all occasions to the practical classes and will be glad to facilitate your becoming acquainted with any promising students for research.

I understand, too, that you would be willing to assist in the examinations.

The minumum salary for this position will be $5,000. a year and the appointment may be considered permanent in the same way as our other university appointments. I can assure you that as the Department develops and as our resources become more adequate, we shall be delighted to consider sympathetically in every way any proposal you make with reference to an increase in your staff or any enlargement in your policy.

Should you decide to accept the propositions contained in this letter, I need not say that we shall be only too pleased to try in other ways to make your stay in Montreal a pleasant one, from the social as well as from the academic standpoint.

Hoping to hear from you in the near future, and with all good wishes, I am,

Yours faithfully,

(Signed) Arthur W. Currie

Principal.

REPORT TO THE DEAN OF THE MEDICAL FACULTY
ON WORK PERFORMED DURING 1931-32 IN THE
DEPARTMENT OF PHYSIOLOGY UNDER THE
DIRECTION OF Dr. B. P. BABKIN.

Read at the Faculty Meeting, Dec. 7, 1932.

In the section of the Physiological Laboratory which is under my direction, experimental research work was conducted during the session 1931-1932 on the same lines as before. We continued the investigation of the mechanism of the activity of the gastro-intestinal tract, that is, its secretory and motor functions. The gastro-intestinal tract presents great opportunities for physiological research. The study of the work of the digestive glands and of the muscles of the alimentary canal is very interesting in itself, but at the same time this complicated organ permits us to investigate the fine mechanism of the nervous system and of humoral agents, as well as the influence of circulatory changes and of the "internal medium" on the secretory and motor elements.

The study of glandular function gives the investigator another and rare advantage. Secretory activity is manifested by definite visible microscopical changes of the glandular elements. Therefore the physiologist has an exceptional opportunity of checking his findings by histological investigation. Thanks to the kindness of Professor Simpson and his staff and to their interest in our work, we have had the advantage of their co-operation in our research.

We /

We particularly appreciate this team work, because the very fine histological part of some of our problems has been worked out by qualified specialists. This gave us the assurance that the interpretation of our data was correct. Moreover the joint work of the two laboratories permitted the discovery of new facts which could not have been established by either of them separately. As an example may be mentioned the work of Dr. Rawlinson on the innervation of the mixed salivary glands.

There is another advantage afforded by the investigation of the function of the alimentary canal. That physiology is the basis of experimental pathology and experimental surgery needs no proof, and the physiology of the gastro-intestinal tract opens up an exceptionally wide field for those interested in experimental pathological and surgical problems. This opportunity was not missed by us either, and some of my surgical co-workers and I investigated certain pathological problems, such as the phenomena of high intestinal obstruction, and so on.

The work conducted along these different lines produced some satisfactory results. Among the more important findings during last session may be mentioned the following:-

(1) It was demonstrated that gastric mucin not only combines with free acid but also inhibits peptic digestion.

(2) It was shown that the vagus is the secretory nerve to the oesophageal glands.

(3) The fact of humoral transmission of the chorda tympani effect from one submaxillary gland to the other was established.

(4) /

(4) It was definitely established that pyloric obstruction produces neither alkalosis nor a hypersecretion of gastric juice, provided that a proper balance is maintained in the animal's bodily output and intake of material.

(5) It was found that the splanchnic nerves are the secretory nerves for the mucus-producing elements of the gastric mucosa.

(6) By means of a combined histo-physiological investigation it was proved that the vagus exerts a true trophic effect on the pancreas in the cat.

Since January, 1932, thirteen papers have been published in different journals, and several are now in press or in the course of preparation.

Ten research students were attached to the laboratory during the session 1931-1932. Three of them (Dr. S. Baxter, Dr. D. R. Webster and Dr. S. A. Komarov) were full-time workers under the Rockefeller Experimental Surgery Scheme, and three others (Dr. A. Vineberg, Dr. G. Stavraky and Dr. J. Armour) were part-time workers. One student (Miss A. Alley) received a grant from the Banting Research Foundation. Three students (Dr. H. Baxter, Dr. C. J. Tidmarsh, and Mr. D. O. Hebb) were voluntary workers. One of our students (Dr. S. Baxter) received a Ph.D. degree in Physiology. Three others took courses towards the Ph.D. degree and one towards the M.Sc. degree, and continued their experimental work for their theses.

Two /

Two elective and post-graduate courses, on the "Physiology of the Autonomic System" and "Conditioned Reflexes", were given by me in 1931-1932.

It should also be mentioned that, working jointly for the department of Biochemistry and our department, Dr. L. A. Andreeff, one of Pavlov's most distinguished pupils, is studying problems related to oto-sclerosis. He is investigating some of the fundamental problems of hearing by the method of conditioned reflexes, and the results obtained are very satisfactory. These will be reported separately to the Dean of the Medical Faculty.

The last point to which it is necessary to refer is the activity of the Animal House. The supervision of this institution was entrusted by the Dean of the Medical Faculty to me, with Dr. D. R. Webster as my assistant. The magnitude of the work performed in the Animal House during one year and the complicated problems with which we are continually confronted, may be gathered from the following figures:-

Total sterile operations performed, Dec. 1, 1931 - Dec. 1, 1932: 502.

" " injections " " " " " " " : 597.

These were performed by members of the following departments:-

Anatomy
Biochemistry
Experimental Medicine
Experimental Surgery
Physiology
Pharmacology
Neurology
Ophthalmology
Bacteriology
Special departments, e.g. Oto-sclerosis.

The /

The following figures from the Animal House report for the week December 4th-10th, 1932, show how large is the number of animals housed there:-

Dogs	69
Cats	57
Rabbits	22
Guinea Pigs	24
Monkeys	63
Pigs	2
Woodchucks	9

Total: 246.

Many animals are kept alive after operation for a long time (sometimes for years) and require special care and treatment.

A laboratory has been set up for the use of surgical workers.

The x-ray machine has been used by several of the departments, e.g. Pharmacology, Physiology, Histology, etc.

From these data it is clear that the Animal House plays an important part in the research activity of the University.

B. P. Babkin.

Research Professor of Physiology.

DALHOUSIE UNIVERSITY
HALIFAX, N. S.

DEPARTMENT OF PHYSIOLOGY
MEDICAL SCIENCE BUILDING

Feb. 22, 1928.

Sir Arthur W. Currie,
Principal and Vice-Chancellor,
McGill University,
Montreal.

Dear Sir Arthur,

Dean Martin informed me that you consented to appoint me July 1 instead of Sept. 1.

I greatly appreciate your kindness in this matter, espesially because the early date of my resignation from Dalhousie was unexpected by me.

Very sincerely yours,

B. P. Babkin.

B.P.Babkin.

February 1st, 1928.

President A. Stanley Mackenzie,
Dalhousie University,
Halifax, N. S.

My dear President Mackenzie:-

I feel almost ashamed of myself for McGill having taken your Professor of Physiology away from Dalhousie. I know the difficulty you had in filling the position and almost immediately you have to start all over again.

For the last five years we have been looking for a Research Professor in Physiology, and upon it being intimated to us that Professor Babkin was willing to consider the position, the matter was taken up with him with the result that he is coming some time during the summer. You, of course, know that Dr. Collip is coming from Edmonton to succeed Professor Macallum, while Dr. Penfield of New York is coming as Professor of Neurological Surgery. We are looking forward to considerable activity in the medical sciences next year.

With all good wishes to you personally, I am,

Yours faithfully,

Principal.

DALHOUSIE UNIVERSITY
HALIFAX, N.S.

OFFICE OF THE PRESIDENT

February 15, 1928.

Sir Arthur W. Currie,
Principal, McGill University,
Montreal.

My dear Sir Arthur:

As I wrote to Dean Martin the other day, it is difficult to have a forgiving spirit when in two bites you take away our whole department of Physiology; Dreyer last year and now Babkin. As you say, I now have to start all over again to find someone capable of heading up that department here, and I know that men are not plentiful. We are very sorry to lose Dr. Babkin from the University. In addition to his ability as a scholar, he is a very fine fellow personally, and I am sure he will be a success at McGill.

There is one point which I would like you to allow me to bring to your attention. When we appointed Dr. Babkin here in the fall of 1924, he was practically penniless, having had all his goods and chattels taken away from him by the Bolshevists and driven out of Russia in the clothes he stood in. We, therefore, had to help him financially to get a start, and, though he did not come to us until September, yet we put him on our pay list as from July 1st. As a result, he will receive his last monthly cheque from us on June 30th next. I understand from Dr. Babkin that he did not think of making this clear to you when he was discussing his appointment at McGill. I asked him for permission to bring it to your attention, and feel sure that you will want to treat him as we did and will wish to put him on your appointment list as of July 1st. Otherwise, I do not know what the poor fellow will do, as he has not yet been able to save anything.

I was glad to learn the last time I saw Macallum that Collip was to succeed him. I think he is one of the men who will bring great credit to McGill. With Babkin, Collip and Penfield on your staff, you will have added decided strength to Medical research at McGill.

With kindest regards, I remain,

Sincerely yours,

President.

ASM/R.

February 20th, 1928.

Dr. A. Stanley Mackenzie,
President, Dalhousie University,
Halifax, N. S.

My dear President Mackenzie:-

Thank you very much for your courteous note of February 15th. In view of what you say we shall put Dr. Babkin on the pay list from July 1st next.

I most sincerely hope that you will be able to complete your staff with satisfaction to yourself.

With all good wishes,

I am,

Yours faithfully,

Principal.

DALHOUSIE UNIVERSITY
HALIFAX, N.S.

OFFICE OF THE PRESIDENT

February 23, 1928.

Sir Arthur W. Currie, G.C.M.G.,K.C.B.,
Principal, McGill University,
Montreal, P. Q.

My dear Sir Arthur:

I was very glad indeed to learn from your letter of the 20th inst., which I just received this morning, that you were able to put Dr. Babkin on your pay list as from July 1st next. I know this will be a great relief to him, as he has been worrying about the problem of financing himself for the summer, particularly as I believe he wishes to run across to the other side to get a little freshening up.

With kindest regards, I remain,

Sincerely yours,

A. Stanley Mackenzie
President.

ASM/R.

January 31st, 1928.

Dr. B. P. Babkin,
Professor of Physiology,
Dalhousie University,
Halifax, N. S.

Dear Professor Babkin:-

This will acknowledge your letter of recent date in which you accept the chair of Research Professor of Physiology at McGill University.

We are all delighted that you are coming.

Yours faithfully,

Principal.

January 3rd, 1927.

Dr. C. F. Martin,
Dean, Faculty of Medicine,
McGill University.

My dear Dean Martin:-

I have yours of the 30th with reference to Professor Babkin of Dalhousie University.

When an application comes from him I shall at once take the matter up with you.

Yours faithfully,

Principal.

McGILL UNIVERSITY
MONTREAL

FACULTY OF MEDICINE
OFFICE OF THE DEAN

30th December, 1927.

Sir Arthur Currie, G.C.M.G.
Principal - McGill University,
M o n t r e a l.

Dear Sir Arthur,

Professor Babkin, of Dalhousie University, has, in accordance with your permission, visited us to look over the Department of Physiology with a view to taking on a position as Associate Professor. I should like to report the result of this visit.

Dr. Babkin spent two days with us. He met members of the staff in Chemistry, Physiology and Pharmacology, as well as of the University Medical Clinic. They have all been very enthusiastic about the possibilities of getting Babkin for McGill. He and Professor Tait have agreed upon a policy by which he will, if he comes, help with the teaching to Dr. Tait's satisfaction, and will be engaged in independent research during the remainder of his working hours. His title, as agreed by Professor Tait, would be "Research Professor in Physiology." The funds therefor are adequate, or almost adequate, without any material increase in the Budget.

While our discussions and conversations have all been entirely informal, I gathered the impression that Professor Babkin is very much impressed with the opportunities for a career here, and that he will soon make overtures for the position.

One of the most important features of this arrangement is this - he is anxious to be a Research Professor: he has no ambition to be the head of the Department of Physiology. He is determined to make this move his last, so that we are likely to have him with us for many years as a contented second in the Department. If at any time, then, we should require a new head of the Department of Physiology, the presence of Babkin would make it a more desirable post than ever, for Babkin will lend an added prestige to Physiology at McGill.

Faithfully yours,

C F Martin

DEAN.

From Dr. Martin's Annual Report, 1930-31

A P P E N D I X.

Department of Physiology:

The organization of this Department still leaves much to be desired. There is really no advance in the organization in the past ten years, in fact, in some ways it is not so good. I do not believe that the teaching is as forceful and as inspiring as such an important department should afford. The routine lectures that are carried out chiefly by Professor Tait and Professor Giblin doubtless give the students an average course, but the Department is not adequately staffed to place it on a satisfactory basis.

The advent of Professor Babkin has, of course, strengthened the Department in such a way that we have every reason to be proud of the research that is being carried on, but in other respects much remains to be done.

Inter-department Correspondence

McGILL UNIVERSITY

Department of Physiology,
May 2, 1933.

Principal Sir Arthur Currie,
McGill University.

Dear Sir Arthur,

In compliance with your secretary's request, I send you the following particulars concerning members of my department who are of Russian extraction.

Dr. L. A. Andreeff is a Lecturer in the Medical Faculty of the University of Leningrad and assistant to Professor Pavlov. He is a very noted specialist on the physiology and diseases of the ear, and was specially invited here to work on the problem of otosclerosis. His grant from the American Otological Society expires in January 1934, when he expects to return to his native country.

Dr. S. A. Komarov is a citizen of Latvia (which is an independent state) and not a citizen of Soviet Russia. He came here in January 1930 and is working under the Rockefeller Grant. He is a biochemist.

I myself have been a British subject since 1928.

Yours very truly,

B. P. Babkin.

Professor of Physiology.

McGILL UNIVERSITY
MONTREAL

LABORATORY OF PHYSIOLOGY
AND OF EXPERIMENTAL MEDICINE,

30th January, 1928.

Dear Sir Arthur,

I wish to thank you for the opportunity of reading the memorandum on diplomas as granted in British universities which you have been at the trouble to prepare and to send.

I think I am probably in a minority of one in my viewpoint as to assuming responsibility for the instruction in anatomy and physiology of the Graduate Nurses under existing conditions. At the same time I cannot but feel that the standpoint is right and not counter to the higher interests of the University. I know well how causelessly obstructive my action is apt to appear, and if you should care to discuss it at any time, I should be only too glad to hear the issue expounded from your side as it strikes you, who administer the University in its entirety.

Yours very sincerely,

John Tait.

CONDITIONS UNDER WHICH DIPLOMAS ARE GRANTED

IN

BRITISH UNIVERSITIES

The information gathered in this connection is given under the head of each University as follows:-

OXFORD UNIVERSITY:

For the Diploma in Education a candidate must have had certain professional qualifications and must have passed what is called the First Public examination which cannot be taken in the University under a year after entrance. For the Diploma in Geography candidates must have had a good general education - apparently no strict requirements for admission to study for this diploma. For the Diploma in Forestry the course is a post-graduate one for outside graduates, but the diploma can be obtained by Oxford students, along with the degree, provided they have passed in certain specified subjects. Diploma in Classical Archaeology - to be eligible for this diploma a candidate must have passed what is called classical moderations, which examination cannot be taken until one year after admission. Diploma in Rural Economy - the conditions are practically the same as for the Diploma in Forestry.

Seven diplomas are granted by Oxford, but in no case, so far as I can make out, is the degree from Oxford required for admission to any of them. They do not seem to insist on any very high standard as a qualification for the year's work which they require.

UNIVERSITY OF CAMBRIDGE:

For diplomas in such subjects as Agricultural Science, Forestry, Anthropology the qualifications for entrance on the special course are not particularly high. In some other cases, however, they are, - for instance in Archaeology candidates must have obtained honours in the Classical Tripos, which means study for three years at least; for the Diploma in Geography the same standing must be obtained, only that the honours must be in the Geography Tripos; the same standing is also required for the Diploma in Coal Mining except that honours in this case must be in the Mechanical Science Tripos.

In Cambridge thirteen different kinds of

diplomas are granted including such subjects as Hygiene and Public Health which are post-graduate.

UNIVERSITY COLLEGE, LONDON:

Diploma in Geography - requirements are at least one year in Arts followed by another year specializing in Geography; Diploma in Journalism- two years University course followed by another for the diploma; Diploma in Fine Art - three sessions of the undergraduate course followed by a fourth year for the diploma; Diploma in Architecture - the course for this diploma covers five years, the same length of time being required as for the course for the degree of Bachelor of Architecture. The difference between the degree and the diploma courses simply consists in a difference in subjects, there being more specialization in the case of that for the diploma. Other diplomas granted are in Town Planning, Civic Architectureand in Librarianship, but the standard for admission to these courses is not so high as in the case of the others. The latter course covers two years but the admission requirements are low, candidates may even enter without Matriculation.

UNIVERSITY OF LEEDS:

A great variety of diplomas are issued by the University of Leeds, there being quite over twenty. Those which can be called post-graduate are - for the Diploma of Commerce, Gas Engineering, Fuel and Metallurgy and Textiles, although in all these cases the degree regulations can be satisfied by special work. For the other diplomas the necessary qualifications are various. In some cases like that in Mining Engineering three years of college work is required during which time special work is done along the line of Mining in the last year. The Diploma course in Dyeing and Colour Chemistry is of the same length of time as that in Mining Engineering. The Diploma in Nursing can be obtained after a four year' course of training as a nurse and at least three months attendance at the University. The Diploma in Dental Surgery, carrying with it the title Licentiate in Dental Surgery, is given after four years' study. The degree in Dentistry can be obtained after five years' study. For the Diploma in Social Organization and Public Service two years' work is required in the University and candidates must, before admission, pass the Matriculation examination.

BRISTOL UNIVERSITY:

Diploma in Dental Surgery (L.D.S.) - four-year course, two years of which are devoted exclusively to Dentistry. Courses for the Diplomas of Education, Public Health and Veterinary State Medicine are post-graduate.

LIVERPOOL UNIVERSITY:

Courses for diplomas in Geography, Civic Design, Social Science, Education, Public Health, Tropical Hygiene and Veterinary Hygiene are all post-graduate. For the Diploma in Architecture candidates must take the full course for the Bachelor of Architecture degree (five years) but need not pass the Matriculation examination. For the Diploma in Commerce a candidate must take three years of the degree course but need not pass the Matriculation examination. For the Diploma in Engineering candidates must have taken what appears to be the greater part of the work for the degree in Engineering.

GLASGOW UNIVERSITY:

Courses for the Diplomas of Greek History and Archaeology, Roman History and Archaeology, Comparative Philology and Psychology are all post-graduate. The course for the Diploma of Public Health is, so far as I can make out, the same as that for the degree of Bachelor of Science in Public Health. The Diploma of Education can be obtained by persons who failed to receive the degree and who have passed what is called the first examination.

EDINBURGH UNIVERSITY:

Courses for the Diplomas in Geography and in Social Study are post-graduate; that for the Diploma in Actuarial Mathematics is one of two years following Matriculation.

It will be seen that the regulations for granting diplomas in British Universities vary very considerably. In most cases the course for the diploma follows the course for the degree and covers the same time, the only difference being that there is more specialization for the diploma than there is for the degree. In many cases these diplomas are awarded after a year's study along special lines following graduation. The diploma course proper in every instance covers an academic year (three terms) although in two or three cases two terms are sufficient.

In the case of most of those diplomas which are granted in what I have called post-graduate courses other qualifications than a degree are accepted, but the work done is practically the same as that covered for a degree although along somewhat different lines.

It is difficult sometimes to make out just how

much undergraduate work must be done before the diploma course can be entered upon, but generally speaking it varies from at least one year to three, the latter being the more common period.

Diplomas in Great Britain seem to be granted by Universities more as a qualification for the practice of a certain profession or for the carrying on of a certain kind of work and in some instances these diplomas would seem to be of more value than the degree. It is difficult indeed to distinguish sometimes between the course for the degree and the course for the diploma in the case of those which are taken by undergraduates.

To Dr John Dair

For your information and return please.

A W Burrows

26/1/28.

Inter-department Correspondence

McGILL UNIVERSITY

Department of Physiology,
February 20, 1933.

Sir Arthur Currie, G.C.M.G., K.C.B., LL.D.,
Principal,
McGill University.

Dear Sir Arthur,

As it happens, I am engaged to give a lecture on the evening of Thursday, February 23rd, at Cornell University, Ithaca, N.Y. Consequently I shall be unable to meet the Governor General when you bring him round the Biological Building on Friday.

Dr. Norris Giblin, M.C., will however represent me and will, I know, give any requisite information just as well as I could. The work of our laboratory centres mainly round problems of hearing and of deafness, and one of our most generally interesting exhibits is the rattlesnakes.

Yours respectfully,

John Tait

Did you read this?

REPORT TO THE DEAN OF THE FACULTY OF MEDICINE ON THE PHYSIOLOGY DEPARTMENT.

March 1931.

During the past decade the Physiology Department of McGill has undergone very substantial development.

Throughout a period of years ranging both before and after 1900 physiology had not been keeping pace with the splendid clinical facilities of the medical school, and the backward condition of the department had begun to react unfavourably upon the development of the clinical branches themselves. Shortly before the war steps had been taken to secure improvement, but owing to a succession of accidents, in the course of which the control of the department repeatedly changed, the subject had still failed to draw level with the other departments of the Faculty.

Though in status and organization it was the most backward of the purely scientific departments, physiology was not the only one of these subjects that had experienced the rubs of fortune. When the Medical Faculty, reunited on the conclusion of the war, set out to examine its assets and to sketch plans for the future, it resolved as its first duty to aid and strengthen its primary departments, particularly physiology. Consequently the opportunity for marked betterment began just about ten years ago.

Teaching /

Teaching Equipment. - At that time the department was still poorly equipped for teaching as well as for research. A capital sum of 30,000 dollars was voted by the Governors for the purchase of laboratory and other teaching plant. Like some other branches of experimental science, physiology is dependent upon the provision of rather elaborate and expensive instruments and recording apparatus. By careful expenditure of the capital money grant, it proved possible not only to make up for the purchasing neglect of the past but to place the undergraduate teaching laboratories in the very forefront of institutional quarters of the kind. Because of the abundant and well organized laboratory facilities the medical student at McGill has at the present time better opportunities of obtaining first-hand acquaintance with the outstanding facts of physiology than does his fellow in most other medical colleges.

Graduate Teaching. - The arrangements for giving adequate undergraduate facilities were soon in operation. Next, came the question of graduate teaching. This commenced in 1922 and has been regularly conducted ever since. The graduate courses led towards the degree M.Sc. and Ph.D. in Physiology. Up to the present time 25 Master and 4 Doctor degrees have been conferred. The accession of Dr. Boris P. Babkin (appointed Research Professor of Physiology in 1928) to the graduate teaching strength greatly increased its range and value. Dr. Babkin brought to the department not only a ripe professorial experience but a world-recognised acquaintance with important fields of physiology altogether novel to our repertoire. Possessed of high university ideals, he has thrown himself with great effect /

effect into the work of graduate preparation.

Staffing and Production of Staff. - No university department can be said to be in healthy condition until it attains to the level of producing academic staff of its own. While free interchange and free importation is of the life of universities, to rely at every turn upon adopted progeny indicates weakness of some kind or origin. A department that acts as a source of supply not only for itself but for outside colleges is a golden asset to the parent institution. When many departments of one and the same university contrive to forge into this position of production, the alma mater comes to acquire new rank. It is for this reason that great universities lay inordinate stress upon steady exportation of academic teachers, any commencing sign of short-coming here implying decrease of vitality and prestige.

This in turn raises a crucial point in the present report. As the class of students drawn to McGill Medical Faculty is intellectually equal to that of any university on the continent, it seemed likely that, with the renovation of the teaching, men of academic potentiality might be attracted to the subject, and that eventually the department might begin to send out academic teachers. While this surmise proved in a measure correct (three out of four of the present full-time assistant staff being products of the department, and one assistant having attained to an outside chair) recruiting was nevertheless disappointingly slow. The truth is that after a long and costly medical course even the men of best aptitude are reluctant to adopt a career relatively so inferior in the way of financial /

financial reward. Since the war it has everywhere become harder to recruit for the primary scientific subjects among medical graduates. For local reasons, too, and notwithstanding early and oft-renewed representations on the matter, the department was limited for supply of students to the Faculties of Medicine and of Dentistry. Physiology has now at length become an open university subject at McGill. While this will distinctly help in facilitating the problem of staffing and of eventual exportation of trained teachers, it involves other important issues to which we shall immediately return.

Difficulties notwithstanding, the quality of the assistant staff has steadily and progressively improved, the difference within the space of ten years being hard to express. By now the whole department is staffed with men who look to physiology as their career. Considering how quick the students are to recognise and to respond to efficiency and heart-felt absorption on the part of their teachers, one might say that the undergraduates now find twice the interest in our laboratories and practical demonstrations that they used to. The whole spirit of the assistant teaching has altered.

Research. - An active department means a department that is productive in more respects than one. The preliminary staffing, equipping and teaching organization was a necessary task, and in the ultimate issue university salaries are paid largely in return for instructional work. Research work had next to be instituted. The erection of the Biological Building in 1922 gave to physiology an excellent suite of research quarters, but this still awaited

occupation /

occupation by the class of people for whom it was laid out. Finally the Dean came to the rescue by allocating to the department for a period of two years most of the annual income from the James Cooper Fund. With this money scholarships could be provided and research aspirants set to work.

It was the confident hope of the Dean that this aid might likewise settle the difficulty of staffing the department. All of the several scholars appointed elected in the end, however, to leave physiological for clinical work. Apart from the fact of the better education afforded to these young clinical aspirants, the temporary accession of the Cooper scholars had this important departmental effect, namely, that organized investigation of physiological problems took its beginning and the department could now for the first time send abroad annual collections of its published reprints. By this means it was able not only to announce its existence to other physiological schools throughout the world, but to receive from them in return their corresponding contributions. Up to the present time 57 communications have thus been sent out. If one adds to this 13 communications from Dr. Babkin's department, the total from physiology is 70.

The Importance of Scholarship Help. - One could not hope indefinitely to retain this special scholarship help, for other departments were equally in need of assistance. As an illustration of the value to the university of a scholarship fund of this kind, one might however mention that as a direct result of this temporary apportionment /

apportionment of some 7,000 dollars to physiology, the department has already drawn to itself for research purposes two and a half times that amount from outside sources. The outside money has taken the form either of fellowships to workers in the department and to outsiders who have been sent to work in the department, or of grants in aid of material supplies. In view of occasional references in Faculty to our policy of admitting American students to the McGill curriculum, it is worthy of mention that all of this money has come from the United States, and, furthermore, that (with the exception of one 1,200 dollar scholarship) it has come unsolicited. In other words, we have been asked to undertake the work and have frequently been furnished with considerable supplies for the purpose.

Technical Staff. - The technical staff of the laboratory is good. This is important, because the organization necessary for conduct of the laboratory teaching is rather elaborate, each member of the staff having his own appointed duties in connection therewith. Our laboratory mechanic has made a name for himself, not only in McGill but among distant physiological laboratories, as a skilled workman and as a designer. A larger part of the teaching and research apparatus in use has been made in the workshop. Special designs of physiological instruments, too, have been published from the workshop, and many laboratories in Canada, in the United States and in Europe have ordered different types of apparatus thus conceived and produced in the department.

Library /

Library. - A feature of our department is the possession of a small but effective, fully catalogued library of past and recent physiological literature. The library room is in almost constant use, for any accredited worker in the Biological Building may consult the books, which however are not allowed out on loan, because they are for the most part privately owned. The collection is moderately rich in text-books. It contains some of the most useful current journals and, what is very important, a rather full set of recent exchange reprints emanating from other physiological laboratories. These last represent our direct return for the expense incurred in sending abroad our own published literature. Hitherto it has been possible by one means or another to bind the reprints as they accumulate, but there is no recognized fund for the purpose.

Physiological Society of Montreal. - Nothing perhaps is more indicative of the general advance on the primary side of the Medical Faculty of our University than the recent formation, at the instigation of Professor Stehle, of a Montreal Physiological Society. Constituted this winter, and including a few teachers of the Université de Montréal, the Society is chiefly composed of younger McGill graduates, primary and clinical, all of whom are actively engaged in research. The membership stands at present at
At its crowded meetings, which have been of an inspiring kind, one is inevitably constrained to think ten years backwards, when at McGill there was no chair either of Pharmacology, of Biochemistry or of Experimental Medicine and no "Research Professor" of Physiology, when /

when physiological investigation was totally in abeyance, and when the teaching professor of Physiology stood alone in his department without assistants and without for the moment even a laboratory boy.

Summary. - Taken all in all, the departmental arrangements for giving instruction to undergraduates are sound and good. As a proof that the courses are reasonably well conducted one might instance the fact that average McGill students appearing for State Board examinations in physiology in the United States take a relatively high place in the list. As a more severe test one might also cite the fact that no candidate from McGill who has elected to try the Primary Fellowship examination (now conducted annually in Canada) of the College of Surgeons of England has as yet failed to pass in physiology. The most outstanding candidate in physiology, too, as privately reported by the examiners, was a McGill man. Our graduate teaching is also well organized, but we could accommodate many more graduate students.

Research work is in active operation, and the department has thereby been placed, as it were, on the map. Because of the investigations carried out within the last few years, the McGill department is now known to every physiological laboratory from Japan across southern Asia to Europe and the Americas. From all quarters of the globe individual requests also arrive for copies of communications dealing with one or another of our subjects of investigation.

The weakest side of the department, notwithstanding marked advance during recent years, is the qualified assistant staff. Considering the work it is required to do and the importance of keeping this /

this work up to high standard,it is absolutely necessary that a better budget provision be made for assistant staff. The recent advance that I have spoken of in the quality of the staff has been achieved notwithstanding an actual reduction in the budget for the purpose. It was only by securing outside scholarship help that I was able last year to bring Dr. Dworkin back to the department. Last year, too, because of budget difficulty we failed to secure as assistant an outstanding physiologist, who was himself willing, even anxious to come. A great primary subject like physiology, and one in which so much laboratory teaching is carried out, should have a secure and adequate budget for payment and, what is equally important, for promotion of good assistants. The request for library help is a small and trivial thing.

Almost all research departments of the University experience the need of special scholarships or fellowships for the purpose of trying out and of educating its graduates in investigation - and perhaps this is the greatest common need of the institution at large. I have already shown how scholarship expenditure stands to be reimbursed in overflowing measure. Physiology is in acute need of such assistance.

OUTLOOK FOR THE MORE IMMEDIATE FUTURE.

While this report is prepared more particularly for the Head of the Medical Faculty, and while another report is being sent to the Faculty of Graduate Studies and Research, it is necessary to take even wider scope in discussing physiology in its relation to the /

the future of our University. I have here to speak in a more comprehensive way.

McGill has two successive goals to strive for:-

(1) It has to improve its place as one of the two higher universities of Canada. The other English-speaking universities of the country should be able to turn with confidence to McGill departments for all higher instruction of its graduates, for personnel for its chairs and for general direction and leadership. Within a reasonable time, McGill should be in a position fully to fulfil this national demand. It can best do so in fair and open rivalry with Toronto. The one way in which our university will succeed in attracting the best type of Canadian undergraduate is by setting and achieving this higher aim, the discussion of which therefore includes or covers the whole undergraduate-drawing problem.

It is all to the good of Canada to have its provincial universities. The relatively cheaper curricula and cheaper living conditions prevailing at these institutions will ever tend to bring to them local students. Nor is there any reason why the instruction given in the provincial universities should not be sound and dependable. So far as the art of their individual teachers goes, they may often compete on even terms with the greater schools. Where they will long remain at a disadvantage is in the possibility of securing at any one time a sufficient group of superior teachers to give the university that they serve independent prestige and distinction. The outlook of the provincial universities is condemned to remain local.

Notwithstanding /

Notwithstanding the greater expense, aspiring students will ever tend to flow to an institution that possesses acknowledged superiority of staff and of scholarly attainment. (The material facilities of our university for medicine are well known throughout the country.) The aim should be, with undeviating eye, to strive to place McGill in this position. If this is once attained, all concern regarding supply of Canadian students vanishes. Wherever a really superior university is knwon to exist, parents and unsupported students alike find means of putting its facilities to profit.

In the present connection, too, one cannot overstress the importance of seeking to produce trained teachers to staff the provincial universities. As concerns our hold over the rest of Canada, this is alpha and omega.

(2) World position. This, the greatest of all, is not beyond our compass. Once the university begins to move as it has been doing in the Faculty of Medicine, it can attract (assuming that the requisite salaries are also there) the best quality of occupants for its chairs. An elementary business wrinkle, largely overlooked by universities, is adoption and open proclamation of the principle that higher academic service and intellectual attainment, which are things quite distinct from social or mixing qualities, are to be rewarded by advance of pay. The adoption of such a principle combined with skilled and informed adherence thereto, would in due course make certain that the best obtainable men would look with favour on the offer /

offer of a McGill appointment. The output of the whole existing staff would also be improved. Apart from individual sense of duty and loyalty, what inducement at present exists for the mass of our established teachers to put forth each his utmost scholarly effort?

Now, to return to physiology, which in McGill has hitherto played a restricted and purely professional rôle.

Broader Aspects of Physiology. It has been a serious mistake to count this subject as adapted exclusively to the preliminary preparation of medical and of dental students. As one of the great biological sciences, and at that the principal representative of the experimental side of biology, it holds a cultural or intellectual position equal to that of chemistry or of physics. Why should disinterested experimental investigation of Nature limit itself, as in this University it has long appeared to do, to inquiries into the inanimate alone? We are just as concerned with, just as intrinsically interested in the manifold mechanism of animate creatures at large, not to speak of the working of our own bodies, as we are in modern astronomy, in the periodic law, or in the constitution of the atom. Compared with chemistry and physics, it is true that physiology is a youngster, but it is a youngster of striking qualities and promise. It can be no longer be relegated to the private nursery of the medical faculty, for people everywhere wish to see it and to know about it. In the daily newspapers, in popular magazines, in public addresses, in general and in philosophical literature, one can observe the great and steady growth of interest in the subject-matter of physiology.

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The reason is obvious. It is partly because of its novel relations often of direct practical significance, but very largely because of the bearing of these revelations on some of the major problems of conduct, of philosophy and of existence.

One may say, without either error or exaggeration, that the two greatest contributions of biology to modern thought - and the biological contributions rank level with, if they do not actually surpass, any other scientific contributions whatsoever - are (1) the evolutionary doctrine, successfully enunciated by Darwin in 1858, and (2) the general outcome of (more rigorously pursued) physiological investigation. This last has made it possible to construct modern experimental psychology, has reanimated and reoriented philosophy, and has provided at once the most suggestive and most secure basis of reference (whether analogical or actual) for theoretical examination not only of certain legal but of many different social and civic phenomena. Hitherto many of the wider applications of physiological fact and of physiological conception have been left to outsiders to point out or to develop. Physiologists themselves are just awakening to the supreme significance of their science in these broader regards.

By way of illustration, let us cite one or two examples. The old issue of free-will <u>versus</u> predestination, which troubled Europe for so many centuries, is debateable now only under strict reference to contemporary physiological teaching and discovery. In his elaborate "History of European Thought during the Nineteenth Century" John Theodore Merz found it necessary to devote a large proportion /

portion of space to the pronouncements of physiological workers and thinkers. His book stops just at the point where physiology began to exploit the vivifying and far-reaching conception of regulation or of organization. Pavlov's conditioned reflexes, with its bearing upon education and educational psychology, is an affair of the twentieth century. So, too, in the main is the doctrine of endocrine influence, with its particular bearings upon conduct and responsibility. The sense organs, through the medium of which the inner 'ego' derives its whole knowledge of external Nature, are understood only through physiology - this alone would suffice to indicate the profound theoretical importance of the subject. Whereas the doctrine of natural selection and of evolution previously monopolized the attention of biological thinkers, some of the most actively vital biological discussions now centre around the revelations of physiology. Even when one deals specifically with organic evolution, it is now conceded that physiology holds the key to any further understanding of the process or mechanism thereof.

At Cornell University, Ithaca, there is no regular medical school. With classes in the preliminary medical subjects, the institution serves as a feeder for Cornell Medical College in New York City. Finding himself debarred from any possibility of bringing back as research workers the students who had begun their medical studies in Ithaca, the late Sutherland Simpson, professor of physiology there, developed the plan of opening his classes to all and sundry. Although his Arts lecture course was anything but a perfunctory "credit" /

"credit" one, the numbers in attendance kept steadily increasing until eventually he lectured annually to some three hundred Arts students. The course was valued, not only because of the varied practical applications of the subject, but because of its broad educational bearing. So, too, when the writer was a student at Göttingen, the most densely attended evening discourses at the Georgia Augusta were those of Max Verworn, professor of physiology, who there in open session dealt with the wider implications of physiological research and discovery. In the subject-matter covered, these lectures corresponded on the whole to an equally popular, and equally crowded, contemporaneous series at Leipzig by Wilhelm Ostwald. Notwithstanding Ostwald's merit for the task, an acknowledged disability in his case was the second-hand nature of his repeated citations from the field of physiology.

The very features that so recommend physiology as a subject for Arts students should not be forgotten in considering its relation also to the medical curriculum. In view, say, of the insulin discovery, an impression is apt to prevail that one of the more immediate, one of the major tasks of physiology is to search out and provide ready-made or convenient "cures" for diseases. Nothing could be more misleading. In its medical relations physiology is analogous to anatomy and pathology rather than to pharmacology and serology. Its strength as a medical subject lies almost exclusiively in the flood of general light that it throws over the bodily mechanism, and only contingently in its possibilities for providing antidotes against specific disorder. As the science progresses, this light, it is true, becomes

more /

more intense, and it may always happen (as now in the case of endocrine investigation) that substances of medical value may emerge from physiology, and more likely still from biochemistry. Yet the impulse to both these sciences derives essentially from the disinterested desire to understand or to elucidate the bewilderingly complex normal happenings of the body. Had physiological investigation been consistently guided with an eye to its immediate applications to medicine, it would never have come to exercise on clinical practice the enormous and all-pervading influence that it does. To seek to restrict its course to the territory mapped on the existing charts of clinicians, is to forget that the best science has the spirit of Vasco da Gama and of Columbus. Were it not so, all physicists would elect to be engineers, and all physiologists to be clinicians.

Needs at McGill. Having seen that physiology, with lessons of universal significance and of universal appeal, cannot afford to be kept in a cupboard, let us consider what might be done at McGill. To one Arts subject physiology bears much the same relation as it does to pathology or to clinical medicine. For psychology it is almost a sine qua non, and the professor of this subject has repeatedly put to us a request for a suitable and not too extensive course in physiology for his students. From pressure of existing didactic and research duties we have hitherto been unable to accommodate him. Apart from this particular relation, one might say that if some of the more active or original school-teachers-in-training in the Arts Faculty were to attend physiology, they could scarcely fail to overhaul and to rewrite the /

the material that is at present served out to every Protestant school child of the Province under the name of "School Hygiene". The place of physiology in relation to students of biology is so important that we shall deal with it separately. Finally, any student of philosophy, of agriculture, of physics or of chemistry, should, if appropriate classes were available, have free opportunity of sampling or of utilizing physiology.

Suggested Change. - The present introductory lecture course, designed for medicals but now open to Arts students as well, is held from February to the end of April. In its distribution of work and time, it is badly adapted to the Arts curriculum. Short of holding a special lecture course for Arts students, for which we are insufficiently manned, it would be advisable to rearrange and re-distribute this introductory course, so that it would suit both medicals and Arts men. If it were spread over the winter, obtaining a greater total allowance of time (the medical students would probably welcome more lecture exposition than they have at present), it could be made effective for both parties. The existing laboratory courses are ill-adapted for ordinary Arts students (they would however suit students of zoology). With our present staff we could, though with difficulty, arrange a special laboratory course, which, while involving some experiment, would also act in offsetting deficiencies of anatomical and histological experience. In order that these adjustments however should meet with full success, it is necessary to raise again the subject of staffing, for it would be hard indeed if each new development were /

were to be achieved only through additional demands upon the time and energy of the teaching head.

Physiology in Relation to Biology. McGill has long been handicapped by inadequate affiliation of biological teachers in the outlying Canadian universities. This affects our supply not only of Arts graduate but of medical students, for biology teachers are in a particularly favourable position to influence men in their choice of a larger university. It is our business to seek to train young men as potential teachers of biology for the rest of Canada.

It so happens that biology, from being predominantly comparative and morphological, has turned definitively into experimental paths. Even if it should be true that the comparative method as ordinarily pursued was the discovery of, and remains one of the most valued assets of biology, no modern biologist can afford to be ignorant of the experimental method of handling problems. It was the working combination of two biological teachers, W. K. Brooks (zoologist) and Newell Martin (physiologist) at Johns Hopkins in the latter part of last century that stocked America with its present senior teachers of zoology and that enabled the United States to capture from Germany its present leading position in experimental biology. Every Ph.D. in zoology of the Hopkins school - they were many and most of them achieved distinction - had passed through the hands of Newell Martin, physiologist. Martin himself, who also trained many professional physiologists of American medical schools, had come from a university where physiology is cultivated on the broadest biological lines. Had he emerged from

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a wholly medical environment, he would have been less able to work in conjunction with Brooks.

The particular variety of union of which these men gave such a striking demonstration, is followed at the present time only in rare cases. The lamentable result is that their descendants at second remove have become split into two camps. One party, the experimental zoologists, ignoring their essential relations with the comparative group, seek to handle their own training in the technique of experiment. Their present didactic work is characterised by narrowness. Meantime the comparative group, albeit with greater range of material, has been all but driven to sever its teaching relations with the experimentalists The mistake arose because the Americans failed to note two things, (1) the difference between broad physiological and mere special training in particular experimental problems, (2) the fact that both Brooks and Martin held the comparative viewpoint.

It so happens that we have the opportunity at McGill of repeating the type of collaboration that once occurred at Johns Hopkins. One is prompted to ask, "Why has it not already been set in operation?" For one thing, physiology was here considered as having relations only to the Medical Faculty - and in any case the medical teaching had first to be set on its feet. Then again, we had not fully realised the complexity of university organisation, the action and interaction whereby the welfare of one Faculty, or of one department, endlessly involves the strength and welfare of the others. One of the most inspiriting recent signs in our University has been the subsidence of a desire, once markedly manifest, to administer in terms of the isolated needs

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or demands of individual departments. A department that persists in viewing itself as in budget or expansion competition with the others is an element of disturbance rather than of stability. The fable of the bundle of faggots, construed inversely, is nowhere more relevant than in its application to university management.

What is more, a limited number of tough sticks well chosen makes a better and more resistant bundle than a bulkier agglomeration of faggots and trivial reeds. The experienced are not liable to be impressed by the presence of the latter.

In one respect it is unfortunate that the name "biology" should bear the restricted meaning that mid-nineteenth century convention conferred upon it. Botanists and zoologists acquired the habit of identifying biology with their particular range of subject-matter, and some real misapprehension still arises from this limitation of the meaning of the word. In McGill we succeeded in breaking with this tradition when the Biological Building was named. The favourable comment so frequently expressed by visiting strangers on our baptismal selection, derives from the unexpected discovery that biochemistry, physiology and pharmacology find their quarters there. As yet our full facilities as indicated in the composition of the institute have not been drawn upon for the deliberate and methodical training of biologists for export as well as for future service in McGill. We have at the present moment easily the most competent staff in Canada for the purpose.

Physiology is only too willing and anxious to do its part in this connexion. The anomalous feature is that in proportion to its potentialities of service it is of all the relevant departments decidedly /

decidedly the most poorly provided with staffing budget. The truth is, physiology has reached a stage at which timeous and decisive action in this respect would be one of the best possible investments. As may have appeared from the remarks on present-day American methods of training biologists, men of the proper kind are more difficult to find on this side of the water than when the Brooks-Martin combination was in action. During last summer we had an opportunity of engaging a rare type of physiological assistant, a medical graduate and an expositor and investigator of distinction, whose upbringing as the son of an eminent zoologist, head of a great European marine laboratory, sufficiently speaks for plasticity and breadth of view. If still available, I should earnestly recommend that he be forthwith secured. With the accession of one competent man of this kind, we could at once begin to handle the Arts (and biological) instruction as we have hitherto been handling the medical. The details respecting interlocking of the different departmental courses are easily adjusted, provided one only knew that the budget difficulty had been resolved, and that the proper type of assistant was in the offing.

At the risk of being censured for introduction of the personal, the writer would venture here to say that on first assuming duty at McGill he had two major objects in view, (1) refashioning the physiology curriculum for medical students and making the subject felt among the clinical fraternity, (2) establishing with zoology the same type of partnership as Newell Martin did at Hopkins. At that time the former was decidedly the more necessary. Moreover, any undue show of general biological interest would then have engendered misgiving. While /

While the medical side of things has suffered from no neglect, it is only right to say that one of the writer's cherished objects is , in a book written for the purpose, to expound some of the fundamental principles underlying animal structure and animal function. Few needs are greater than for a thorough handling of this subject, on which a course of lectures used to be given to the (medical) graduate students. As they lacked the requisite backgroundk the course was discontinued. Though work on the book has been held up over and over again (with the commencement of each winter semester it has to be laid wholly aside), the plan and mode of attack are now perfectly clear and all the more important chapters have been drafted. It is the new outlook therein set forth that one wishes to lay before the proper recipients. To ask under present circumstances for some modicum of leisure to complete this work would be Utopian. At the same time the fact of this special line of activity, with its intimate bearing upon the whole question under discussion, provides an additional reason why the University should move promptly in the matter of a good assistant to offset the extra responsibility of Arts teaching.

Given the proper adjustments and collaboration with the departments of botany and of zoology, our University is in an astonishingly strong position to handle the training of biological workers and teachers. While this growth of biological teaching strength has not escaped the notice of the other universities of the country, its full potentialities are as yet suspected by few. When once we have been organised and have tested our organisation, an obvious /

obvious programme is to issue for the information of these institutions a circular containing a statement of our teaching resources and of our (biological) educational policy. The same circular might similarly go to American universities, where at least the rehabilitation of the Brooks-Martin plan could not fail to arouse widespread interest. It might in due course go likewise to the Rockefeller Foundation. In these matters it is better to move slowly than to act precipitately or promissorily. The best recommendation is the reality. Nevertheless, our present strength is undoubted, and, were some of these plans in effective operation, the Biological Board of Canada without full McGill participation would become an anachronism.

Summary. The time has come to enlarge the sphere of physiology at McGill, to make it serve not simply the Faculties of Medicine and of Dentistry, but the University at large. It can be of direct assistance to psychology, it can play an important part in the general training of biologists of various types and categories. As giving orientation on outstanding problems of philosophy and of social science, physiology has an important university rôle before it. It can attract, profitably engage and provide careers for trained students whether of physics or of physical chemistry (one of the most promising members of our present staff came to us directly from physical chemistry) Needless to say, any invasion of physiology into Arts also stands to improve the recruiting for our medical school.

Through its extension into the Arts department the obstinate difficulty hitherto encountered from within the field of medical graduates of attracting permanent staff, may cease.

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To enable the subject to render these larger services, at least one thoroughly qualified (and consequently expensive) assistant is necessary. The provision for this man should be considered as a thing over and above the already existing necessity for better payment of the medical-teaching staff (our budget for which is at the moment on a definitely lower level than it has previously been).

Because of our existing departmental arrangements - facilities for graduate teaching, accommodation, equipment and money provision for materials and laboratory supplies - an accession of Arts students to our laboratories would mean very little extra in the way of total laboratory expenses. Owing to the concurrent laboratory classes for medicals, whose discarded materials can be largely employed in the instruction of (at least the non-zoological) Arts students, it is confidently estimated that great economies of material would occur. In other words, the added expense for laboratory teaching (service and instruments), per man, of the Arts students would work out as trivial compared with the corresponding expenditure per man in the corresponding case of medicals. This, of course, is on the assumption that our Arts laboratory classes would stay in proper proportion of minority as compared with the present medical classes. So far as laboratory instruction goes, there is no intention of seeking to emulate Sutherland Simpson's expansion into the Arts Faculty of Cornell University.

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Before concluding I would venture once again to emphasise the importance, if at all possible, of securing as assistant the particular physiologist of whom I have spoken.

(signed) John Tait

Fronte capillata est, post est occasio calva.

March 18, 1927.

Dr. E.W. Archibald,
Department of Surgery,
Faculty of Medicine,
McGill University.

Dear Dr. Archibald:-

I am only too happy to comply with your request to introduce Professor John Tait at the public function to be held in the Moyse Hall from ten to eleven in the forenoon of April 5th next, to celebrate the Centenary of Lister's birthday.

Yours faithfully,

Principal.

McGILL UNIVERSITY
MONTREAL

FACULTY OF MEDICINE
DEPARTMENT OF SURGERY

March 17th,
1927.

Sir Arthur Currie,
Principal's Office,
McGill University,
Montreal, P.Q

My dear Sir Arthur:

The Medical Faculty is organizing a public function in celebration of the Centenary of Lister's birthday, on April 5th. Dean Mackay has kindly granted permission to use the Moyse Hall from ten to eleven on that morning. The Committee in charge, of which I am Chairman, decided yesterday afternoon to ask if you would be so kind as to act as Chairman at that meeting. Your particular duty would be to introduce Professor John Tait, who has been elected to give the oration, the title of which is "Lister as Physiologist". Tait has done special work in this direction. He says that Lister's reputation as a physiologist has received scant attention in history, and he proposes to rectify this. I think his address will create extremely favourable comment, especially in England, and that it will add to the prestige of our University. His part of it will occupy three-quarters of an hour, and if you occupy ten minutes we shall be comfortably out of the Hall before eleven o'clock, at which hour Dean Mackay informs me the Hall is needed for somebody else. We do hope that you will be able to accept.

In addition I might say that is is likely that the function will be recommended by our Committee as an annual one,

McGILL UNIVERSITY
MONTREAL

FACULTY OF MEDICINE
DEPARTMENT OF SURGERY

and we hope it will become quite an institution in the medical life of the University.

With kind regards, believe me,

Yours sincerely,

Edward Archibald.

McGILL UNIVERSITY,
MONTREAL.

PHYSIOLOGICAL LABORATORY.

Biological Building.

12th March 1927.

Dear Sir Arthur,

I wish to thank you for sending the pamphlet containing the Evidence of Lord Justice Fletcher Moulton before the Royal Commission on Vivisection, 1907. I have forwarded it to Bishop Farthing, with the request that he return it when he has had an opportunity of looking it over. So soon as I get it back, I shall send it down to you.

Yours sincerely,

John Tait.
per D.M.

Sir Arthur Currie, K.C.M.G.,
Principal, McGill University.

McGILL UNIVERSITY,
MONTREAL.

PHYSIOLOGICAL LABORATORY.

Biological Building. 20th January 1927.

Dear Sir Arthur,

You expressed a wish on Tuesday to see the evidence of Lord Justice Fletcher Moulton given before the Royal Commission on Vivisection in 1907. With his superior experience and ability Moulton was in a position to deal with the question in an unusually comprehensive way. I wish we had a number of copies of this Evidence to distribute (I have only three), for such is the influence of incessantly pushed and strongly financed propaganda that men like our very kind friends, Dawes and Ogilvie, would welcome an opportunity of having clear and convincing reasons for taking the stand they do in face of what they feel to be prejudice and misrepresentation. I am sending them one each to read, and I enclose one for you to look over.

I am sending you at the same time the two hippo teeth. The best thing to make of them, I think, is coat pegs.

Yours sincerely,

John Tait.
per D.D.C.

Principal Sir Arthur Currie, G.C.M.G., K.C.B., LL.D.

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McGILL UNIVERSITY
MONTREAL

Physiology

FACULTY OF MEDICINE
OFFICE OF THE DEAN

December
Third
1923.

Sir Arthur Currie,
Principal, McGill University.

Dear Sir Arthur:-

date?

With reference to the prospective visit of Doctor Leonard S. Hill to Montreal for the purpose of giving a lecture before the Medical profession and Teaching Staff of the Faculty, I have learned that Doctor Hill is a member of the International Research Council of England, a Lecturer of the first rank, a world-renowned physiologist and is an outstanding authority on the subject of ventilation.

I am assured that in every way it would be desirable for McGill to hear him, and for that purpose I feel justified in asking that a grant of $100.00 be set aside.

Respectfully yours,

C. J. Martin.

Dean

To Mr Glassco
Irecommend
A Currie

November
Twenty-second
1919.

Prof. John Tait,
Department of Physiology,
New Medical Building.

Dear Professor Tait:-

Please accept my best thanks for your paper entitled "The Cultural Value of a University Medical Curriculum", as well as for your letter of November 21st enclosing a copy of the proposed announcement to Medical students of the University of Toronto, with your critical notes.

I have read these with much interest and will keep them on file in view of the discussion that is to take place with reference to the six-year curriculum.

With best wishes,

Yours very sincerely,

FDA/MC.

Acting Principal