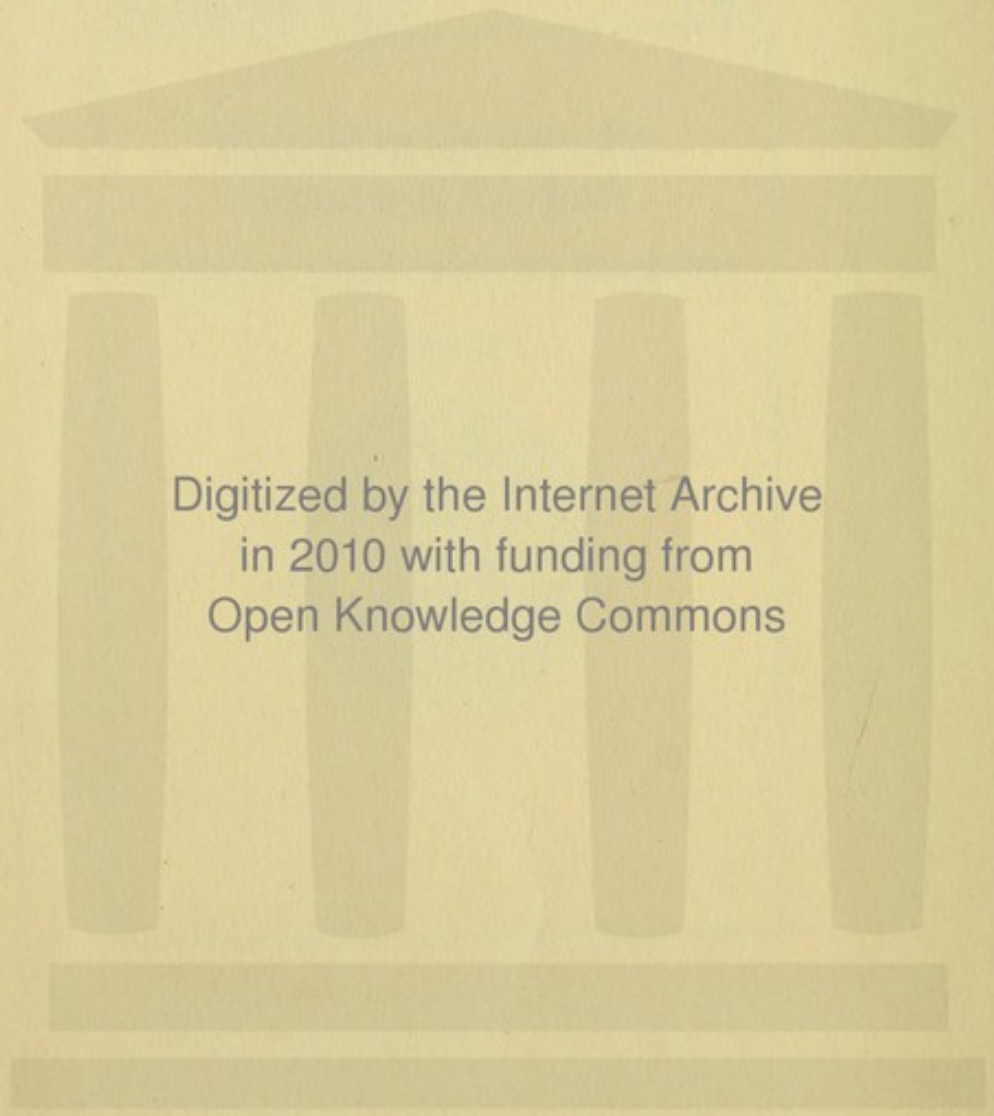
**A letter on the future location of the College of Physicians and Surgeons and the University Hospital / by Frederic S. Lee and Frank H. Pike.**

Letter on the Future Location of

the College of Physicians and Surgeons.



[CONFIDENTIAL

# Columbia University in the City of New York

# A LETTER

ON THE

# FUTURE LOCATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS AND THE UNIVERSITY HOSPITAL


BY

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## in the City of New York

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COLUMBIA UNIVERSITY,
April 9, 1913.

NICHOLAS MURRAY BUTLER, LL.D., *President,*

DEAR SIR: The alliance of Columbia University and the Presbyterian Hospital and the consideration of plans for the organization and building of the hospital have brought prominently into the foreground the whole subject of the future of the Columbia School of Medicine. As members of the teaching staffs of medicine and pure science, we are much interested in the general subject and its discussion, and believing that it has not yet been viewed in all its aspects, we beg to present the following considerations.

Most of the schools of medicine in this country have begun their existence as independent proprietary institutions. As such they naturally acquired the habit of formulating and solving their own problems. In the course of time, however, and under the influence of both American and German universities, they have come to realize that entire independence is not the ideal condition and they have sought or accepted university connections, a relation which has existed in Italy for several centuries. In some cases these connections are nominal; in others the schools have become integral parts of the universities. But however intimate such connections may be, there are few schools if any that have wholly resigned their independent habits and accepted university ideals to the extent that schools of pure science, law and political science have accepted them. In other words, American medical schools have not yet come to realize what a university affiliation really means. Nor on the other hand have universities fully appreciated their duties to their adopted children.

This is the situation in Columbia. In the discussion of the problems of the future of the Columbia School of Medicine stress has been laid heretofore almost exclusively upon the school and the hospital in their mutual relations. It seems to have been overlooked that three elements are involved: the medical school, the hospital, and the rest of the university. But if the ideal of development is to be attained all of these elements must be taken into account: the functions of the medical school are not properly limited to itself and the hospital, nor are those of the university limited to itself and the school; the university neither does its whole duty nor receives its whole benefit by simply lending the weight of its authority to an adjustment of relations between the two other institutions. A medical school of the broad type ought not to exist alone for the training of young men to be doctors,—it falls short of one of its highest functions if it does not serve as a means of training men of science. A hospital of the broad type ought not to exist alone for the immediate care and possible cure of the sick, —a higher function is the scientific study of diseased organisms and the discovery of means, better than now exist, of maintaining organisms in a condition of health. A university ought to inspire both medical school and hospital with its largeness of view, and in turn it should receive from both a new conception of the breadth of its opportunities for culture.

**Medical School, Hospital and University**

It is customary to classify the various branches of study with which a medical school has to deal into the medical sciences, which include anatomy, histology, embryology, physiology, physiological chemistry, pathology, bacteriology and pharmacology; and the clinical subjects, which comprise medicine and surgery not only in their general aspects but in their many subdivisions or specialties. In the customary division of the time of the medical student's four years, the medical sciences are usually allotted the first two years, or nearly the whole of them, and the clinical subjects the last two years. The position of the medical sciences

**Medical Sciences and Clinical Subjects**

in the university at the present time is peculiar. Many of them were born and have passed through their periods of infancy and adolescence in the protecting arms of medicine. They have thus acquired ineradicable medical relations. But they are now mature and have gone far beyond medical boundaries; while their medical relations still exist and are of great importance both to themselves and to medicine, medicine is no longer their chief sphere. This is eminently true of anatomy, histology, embryology, physiology and physiological chemistry, which have broadly biological affiliations far transcending their medical bearings. The same is true, though in slightly less degree, of bacteriology; while of pathology and pharmacology, though their general biological relations are still less obvious, these exist and are bound to become more prominent as time goes on. For the purposes of the school of medicine all of these sciences are medical sciences; for the purposes of the rest of the university they are both medical and pure sciences. The departments to which they belong thus have a two-fold educational function to perform in the university: they must provide instruction both in applied science to students of medicine and, unless their expensive equipments are to be duplicated, in pure science to students of science. It is sometimes difficult for men of medicine to realize that the medical sciences are no longer preëminently medical in their relations, and by many clinicians they are merely tolerated in the medical school as affording a supposedly necessary preparation for, but as strictly subordinate to, the real business of medical life. While their followers are expected to engage in scientific research as well as to teach, their investigations are expected to be more or less "practical" in that they should have some immediate relation to clinical medicine. This is a wholly anomalous condition. It is, however, plain that the position of the so-called medical sciences in the university is different from that of the clinical subjects. The proper status of the former ought to be recognized by the university, and they should be given opportunities for broad development. This should be given due weight in solving the problem of the location of the future school of medicine of Columbia.

There are various localities in which the future school of medicine may conceivably be housed. It may remain indefinitely, without a hospital, in West 59th Street; the medical sciences, with the exception of pathology, may remain in 59th Street or may be removed to Morningside Heights in case medicine, surgery and pathology are removed, as has been suggested, to the proposed new Presbyterian Hospital on the East River; the entire school may be located at the site of the Presbyterian Hospital on the East River; the entire school and an adequate hospital may be situated, as was once contemplated, at Morningside Heights. These possibilities may now be considered *seriatim*.

**Possible Locations of Medical School**

FIRST. *The school of medicine may remain indefinitely, without a hospital, in West 59th Street.* This proposition need not detain us. The obvious facts that the school has outgrown its present buildings and that it requires a hospital for its proper future development, are sufficient reasons for the termination of the present conditions and removal to a new site. Even the acquisition of the Roosevelt Hospital, long regarded as a possibility, would not properly solve the problem. Our reasons for this opinion may be learned by a perusal of the discussion of the third and fourth propositions, for the points there raised apply with almost equal force to a continuance of the school, with a hospital alliance, in 59th St.

**Continuation of School in 59th Street**

SECOND. *The medical sciences, with the exception of pathology, may remain in 59th Street, or may be removed to Morningside Heights in case medicine, surgery and pathology are removed, as has been suggested, to the proposed new Presbyterian Hospital on the East River.* This proposition deserves serious consideration, for it involves a fundamental change of policy on the part of the university, namely: the geographical separation of the medical sciences and the clinical subjects and a complete change of academic residence of the student of

**Separation of Medical Sciences from Clinical Subjects**

medicine in the middle of his four years. In various American universities such a condition exists, notably at Bowdoin, California, Chicago, Indiana, Kansas, Leland Stanford, Mississippi and Nebraska. In all of these institutions the instruction of the whole, or nearly the whole, of the first two years is given at the main site of the universities, while the clinical work is performed at the more or less distant medical schools. The same is true in part for Cornell University, since some of its students are allowed to take their first two years at Ithaca, while all students must take the final two years in New York. Moreover, the medical schools of Wake Forest, and the universities of Missouri, North Carolina, South Dakota, Utah, West Virginia and Wisconsin are so-called half schools, offering instruction in the medical sciences only and obliging their graduates to seek clinical instruction in other institutions.

The effects of such geographical separation may be considered from the point of view, first, of the students and, secondly, of the faculty.

**Separation from Point of View of Students**

If the first two years of the course are to be spent in physical separation of the student from both the university and the site of the clinical instruction, there is little if anything to be said in favor of the plan. It is thoroughly bad. If the first two years are spent in a reputable university, certain advantages from the point of view of the student of those years are possible. Such a plan would mean an added two years' contact with the university beyond the preparatory two years of college work which all the better medical schools of the country now require. These added years would tend to give the student a broader view of science and would imbue him more thoroughly with academic ideals. He would mingle not only with his fellow medical students, but with others who would be studying the same subjects because of their academic interest without reference to their future application in a technical career, and such intercourse, if these latter associates were serious scientific students, would afford a distinct advantage. The student of medicine would have his time free

for the study of the laboratory subjects without being tempted to attend medical and surgical clinics and experience the thrill of procedures which he could not comprehend. He would be urged to acquire a broad knowledge of his subjects, so that he might have a basis for their more rational application when he undertook clinical work. The amount of such knowledge which is susceptible of clinical application is of course very much greater than the student's capacity of acquisition in two years. Nevertheless, he would be far removed from the notion that everything he learned must have some immediate application in clinical medicine or surgery without the intervention of further mental processes.

But whatever advantages from association with the university might accrue to the student of the first two years, the effect of geographical separation from the university upon the student of the third and fourth years would be distinctly disadvantageous. Cut off from communication with the laboratories and the laboratory workers of the earlier period and subjected to a purely clinical atmosphere, he would be in great danger of acquiring the mental narrowness which too often characterizes the graduates of the purely technical school. Too often the main fear of the purely technical school is that the art, rather than the science, may be lost. This fear is especially likely to arise in the mind of the isolated medical student, and for Columbia deliberately to isolate its medical students for the last two years from all except the purely clinical environment, would be equivalent to saying to those students that they were entitled only to whatever prestige might accrue to them from association with the name of the university, but that the benefits arising from the closest possible association with the best that the university has to offer should be denied to them, except at the cost of much time and great labor.

In considering the question of physical separation from the point of view of the faculty, we may inquire into the relations of those members of the faculty who represent the medical sciences, both to the representatives of the other sciences of the university and to the clinical instructors.

The instructors in the medical sciences constitute a body of men who are devoted partly to the discovery and the teaching of the facts and principles of pure science, and partly to the application of such facts and principles. In physiology, as an example, the chief task of the investigator is the explanation of the processes in living matter on the basis of known facts in physics and chemistry. The nature of matter and the structure of the carbon atom are not of primary interest to him as subjects for investigation, but are of interest as a basis for the explanation of the deportment of living matter. The progress of physiological science in certain directions is limited by the state of advancement in the fundamental physical sciences. The closest contact with physicists and chemists is necessary if the physiologist is to keep his ideas clear with reference to developments in these sciences. Without such clarity of fundamental ideas, no proper or correct extension of them to the phenomena of living matter is possible. Again, the physiologist may search for new relationships of the parts of the organism to each other, or of organisms to their environment. All this knowledge may tend toward the enlightenment of the clinician, affording him a better basis for the explanation of diseased conditions and occasionally suggesting a means of treatment. The laboratory worker may also desire to test his experimental results, obtained for the most part from the study of animals, by the observation of human patients, and to this extent he becomes a worker in applied science.

**Separation from Point of View of Faculty**

The clinician is, or should be, the chief worker in the application of experimental types and methods to diseased conditions. From the nature of his occupation, he is more or less completely excluded from the pursuit of pure science and is dependent upon the laboratory worker for his knowledge of the fundamental facts without which their clinical application is impossible. Thus intelligent or rational progress in clinical medicine is dependent upon progress in the experimental medical sciences. The clinician who prides himself upon being thoroughly practical often thinks he has attained his goal when he is able to

diagnose the conditions existing in his patients and to prescribe for them according to the accepted methods of the day. But if the restoration of the patient to health be the standard by which the practicability of the results is judged, the high death rate in early life and the frequent occurrence of incurable disease testify to the inefficiency of existing clinical methods and compel the reluctant admission that the so-called practical medicine of to-day is grossly impractical. The really practical man in any line of human endeavor is he who is able not only to do things as well as any one else, but to apply his theoretical knowledge in the development of new methods and the acquisition of new results in his particular field. The great body of scientific knowledge acquired by laboratory workers constantly affords discerning clinicians points capable of practical application. The more thoughtful clinicians, indeed, are now seeking the laboratory in ever increasing numbers. The real problem of the man of medicine—the successful treatment of diseased conditions and the restoration of the patient to health—is one of surpassing difficulty. In the development of preventive medicine has there been the greatest and most uniform success, and here knowledge of the biology of the disease-producing agents gained from a laboratory study has clearly been indispensable. The growing tendency of clinicians to return to the laboratory indicates a recognition by them of the kind of knowledge that is of most worth in the really constructive work of the practitioner of medicine.

With the growth of the laboratory subjects and the refinement of laboratory methods of examination, the clinician's capacity for assimilation becomes exceeded, and even now the frequent necessity is upon us of the examination of patients by trained workers not primarily clinicians, who have acquired skill and knowledge of their subjects by long and careful laboratory study. This necessity will steadily increase in the future, and must be met if medicine is to attain its highest usefulness as a curative art.

Thus contact with laboratory workers is a *sine qua non* for the modern clinician, twice removed as he is from the funda-

mental sciences. The laboratory worker on the other hand may survive without actual contact with human patients, although his efficiency will be impaired; but the progress of medicine will surely be impeded by the physical separation of the two clinical years from the two laboratory years, or the indifference of the clinician to progress in the laboratory subjects, which is likely to grow out of such a physical separation. In short, the physical separation of the laboratory and clinical years is an almost impassable barrier to clinical progress.

Other considerations based on any scheme that involves the geographical separation of the medical sciences and the other scientific departments of the university will be presented under the third and fourth propositions below.

THIRD. *The entire school of medicine may be located at the site of the Presbyterian Hospital on the East River.* The one great advantage to the medical school of this location at the site of the Presbyterian Hospital would be that the school would thus obtain for its exclusive use an adequate hospital. But the existing union of the university with the hospital is merely an alliance, and not an amalgamation. When two separate corporations exist and the personnel of the governing board of each is distinct from that of the other, it is inevitable that even with the best of intentions serious differences of opinion as to policy and procedure will arise. Such an association is far from ideal. The ideal relation can only be one in which the university is able to exercise absolute control in the administration of the hospital, and it is this ideal relation alone to which the university ought to look forward.

**Hospital Alliance not Ideal**

In advocacy of the site on the East River emphasis has often been laid on the advantages that would accrue to the school from proximity to the Rockefeller Institute. We believe that these supposed advantages are over-estimated. There is no reason to believe that the school could ever form an alliance of any kind with or obtain any special privileges from the institute. A certain amount of helpfulness doubtless

**Medical School and Rockefeller Institute**

would come to the investigators in the school from association with their fellow investigators in the next block. But the two groups, both working in scientific medicine, would be in a certain sense rivals, if only unconsciously so; and it is a question whether the prestige of the institute as a purely research institution would not overshadow that of the school and place it in a position of inferiority and dependency.

**Dean Lambert's Objections**

In his "Memorandum on the Ideal Development of Hospital and Medical School," Dean Lambert has presented three objections to the proposed site on the East River, namely: (1) "The present comparative inaccessibility of this East River site both for patients and for the friends and patrons who are the sources of the hospital's financial support"—an objection the weight of which has not been sufficiently appreciated and which there is no reason to believe would ever be removed; (2) the new site of the Presbyterian Hospital "is not in its present limited ambulance district and it has no guarantee of having any ambulance service at all,"—a serious objection; (3) the existing restrictions against the erection of a building sufficiently high to satisfy the needs of the future hospital, and the impossibility of securing land north of the site except at a prohibitive cost. These three objections have not yet been satisfactorily answered.

**Medical Sciences and School of Pure Science**

We can foresee one lamentable result which would, we believe, inevitably follow from the removal of the entire medical school to the East River site. We have pointed out that the so-called medical sciences, while medical for the purposes of medicine, are at the same time pure sciences for the rest of the university. In accordance with this latter aspect the departments representing them provide instruction and opportunities for research for graduates in the School of Pure Science who are studying toward the degrees of A.M. and Ph.D. This is true of anatomy, physiology, physiological chemistry, pathology, bacteriology and pharmacology. Most of the students working along these

purely scientific lines give a portion of their time to other scientific work at Morningside Heights. The distance between 59th Street and 116th Street has always proved a serious obstacle to this coöperative work and has cut off from the great opportunities presented in the one place a body of young men whose primary interests lie in the sciences represented in the other. Thus, students in zoology may wish to take certain courses in anatomy or physiology or physiological chemistry, or vice versa; students in physiology certain courses in physics or psychology, or vice versa; students in botany certain courses in bacteriology, or vice versa. The present distance of three miles separating the respective schools has often proved the decisive factor in nullifying the student's desires. This has constantly been a source of complaint, and there has been a constant wish on the part of the instructors in the science departments at Morningside Heights for a closer proximity of the laboratories of the medical sciences. Evidence of this wish is presented in a subsequent portion of the present communication. The removal of these laboratories to the East River site would make coöperation still more difficult, and would probably put an end to the ambitions of the departments of the medical sciences toward an honorable standing in the school of pure science. From the time of removal anatomy, physiology, physiological chemistry, pathology, bacteriology and pharmacology would stand for naught in the scientific councils of the university. This would be seriously detrimental not only to the best interests of the departments immediately concerned, both those in the medical school and those at 116th Street, but to the university as a whole. It is not possible for us to look with complacence upon such a destruction of our hopes of seeing these departments university departments in something more than name. They ought to be in a position to share in directing the scientific policies of the university and not be merely appendages to clinical medicine.

That, however, if removed to the East River, they with the exception of pathology, would be little more than appendages to clinical medicine is evident from the plan of organization of the new Presbyterian Hospital on university lines which has been

proposed by a committee appointed for this purpose. This committee, consisting of Dean Lambert and Professors Blake, Janeway, MacCallum and Longcope, representing the departments of medicine, surgery and pathology, presented a report dated March 29, 1912, in which was outlined an elaborate plan of organization. This plan pertains to "the physical conditions which will exist during the continuance of the school, together with the Sloane Hospital and the Vanderbilt Clinic, at its present location," and from the standpoint of routine clinical medicine, surgery and pathology leaves little to be desired. If, however, it represents substantially the plan of the ultimate university hospital beside which the school is to be situated, it has defects which from the standpoint of the university departments of the medical sciences are most serious, for none of these departments, with the exception of pathology, is given any real standing in the hospital. The plan does permit, it is true, that "the professors of chemistry and bacteriology should become respectively consulting chemist and consulting bacteriologist to the hospital; and if they so desire may have facilities for carrying on investigation in conjunction with the director of the medical or surgical clinic" —a plan which recognizes the departments in question only in the most formal way and treats them as accessory, not essential, parts of the hospital scheme. The entire omission of the other scientific departments is most striking in the case of physiology. The plan provides for separate physiological laboratories and an assistant physician in charge of physiological work. This officer is to be nominated after consultation with the head of the department of physiology of the College, and may also hold a position in that department, but must give his entire time to the hospital and must be responsible to his superiors in the department of medicine only. Not only is it not proposed to make use of the rich resources of the department of physiology, which must in the nature of the case always surpass the physiological resources of the department of medicine, but there is no provision by which the former department is allowed access to the

**Organization of Presbyterian Hospital**

many interesting cases in the hospital, which will constantly supply invaluable topics of research. Physiological science is coming more and more to need human beings for observation, and as the medical school is now situated in 59th Street, the Vanderbilt Clinic and Roosevelt Hospital provide for the department of physiology abundant cases for one important variety of human observation, namely, electrocardiographic study. According to the new plan, this supply of patients would be cut off, and this important phase of the work of the department, for which one of the most complete equipments of apparatus existing in any laboratory of the world has been provided, would be seriously crippled. The necessity for the coöperation of the clinical and laboratory staffs is well shown also in the study of cases of nervous and mental disease. The problem of localization of function is one of the most important lines of work on the nervous system at the present time. The approach to the problem lies through the various fields of anatomy, comparative and embryological, psychology, both animal and human, physiological experimentation on all forms of animals, and the study of the action of drugs on the central nervous system. It is self-evident that the acquisition of a working knowledge of all these subjects lies beyond the mental capacity of any one man. That a clinician is not prepared to diagnose and treat a case of nervous or mental disease in the best possible way without the aid of investigators in all these lines of work is equally apparent.

**Organization of Other Hospitals**

Any plan which does not allow the close coöperation of the university departments of the medical sciences and the clinical work of the hospital is not in accord with the practice of certain of the most enlightened modern hospitals. Thus in the city of Cleveland, the director of the H. K. Cushing Laboratory of Experimental Medicine of the Western Reserve University, who is one of the leading American physiologists, has a regular official position on the staff of the Lakeside Hospital, has the right of access to the wards, and is constantly engaged in legitimate physiological research on the

hospital patients. The Peter Bent Brigham Hospital of Boston, which is closely affiliated with the Harvard Medical School, represents the latest phase of hospital construction and administration. "The entire relation between the Hospital and the Medical School," writes Dr. Henry A. Christian, the physician-in-chief of the Hospital, "is one of mutual coöperation, each realizing the value of the one to the other." Not only have the present heads of the departments of pathology and biochemistry of the Medical School been appointed as consulting pathologist and chemist of the Hospital, but the head of the department of physiology has become consulting physiologist, and "presumably the professor of pharmacology when he is appointed in the School will hold a similar relation." Dr. Harvey Cushing, the surgeon-in-chief of the Hospital writes of the university representatives of the medical sciences:

"I should myself be glad to see these men have posts exactly equivalent to those commonly held by the pathologist, and also to receive salaries and to have their residents like the rest of us. Anything to bring the school and clinic near together—this is what we should like to see brought about."

Of the nature of the hospital position, Dr. Christian writes as follows:

"Dr. Cannon in his position as consulting physiologist is a member of the Hospital Staff, and it is our wish that he should have general oversight of the routine physiological methods of studying patients. He is not to receive a salary for his work, but in our general plan of organization it was provided that in case this work should so develop as to require any considerable amount of his time, salary provision should be made for it. It has been our hope that Dr. Cannon would make occasional rounds in the wards with the visiting staff to keep in touch with the type of patients and to make suggestions in regard to their investigation from the physiological point of view. Of course he will have freedom to conduct physiological investigations upon patients himself or indirectly through his assistants. Such limitations upon such work as seem needed from the clinical viewpoint naturally will be placed by the physician-in-chief, who is responsible for the health and treatment of all patients."

It is thus obvious that in the Brigham Hospital the coöperation of the departments of the medical sciences of the Harvard Medical School is fully sought, and these departments are given certain hospital rights and not mere favors. The enlightened university hospitals of the future will undoubtedly recognize that the university departments of the medical sciences, by reason both of the more accurate and extensive knowledge of the subject matter possessed by the members of their staffs and of their vastly superior laboratory facilities, are the proper directors of such phases of the hospital work as come properly within the pale of the sciences involved.

FOURTH. *The entire school of medicine and an adequate hospital may be situated, as was once contemplated, at Morningside Heights.*

This fourth proposition makes what is, to our minds, the ideal disposition of the school of medicine.

**Medical Education an Educational Problem**

Tradition is always hard to kill, and medical tradition is especially so. It would be possible to cite innumerable examples of the persistence of medical notions long after they have ceased to have a vital bearing upon medicine itself. So, too, there is no educational institution existing that is more burdened by the weight of tradition than is the medical school. In his sagacious introduction to Mr. Flexner's Report to the Carnegie Foundation for the Advancement of Teaching on Medical Education in Europe, President Pritchett says: "Medical education is first of all an educational, rather than a professional, problem. . . . This distinction is an important one, for professional education, particularly in America, has suffered from the notion that to train a man for his profession, one must have the viewpoint of the practitioner only, and not the viewpoint of the teacher as well. . . . The education of a physician is primarily an educational, not a medical question, just as the training of an engineer is primarily an educational, not an engineering question." In the past, and especially in America, medical schools almost without exception have been organized and administered by practitioners of medicine, while

by far the most of the instruction has been given by practitioners. But the omnipotence of the practitioner is already waning. It has become a cardinal principle of the best schools that the departments of the medical sciences should be administered and the instruction therein should be given chiefly by men who are not medical practitioners, and in many cases such men have neither had a clinical training nor received a medical degree. And the movement has now begun to put the clinical subjects likewise in the hands of men who shall not practice their profession outside the university hospital. President Pritchett again says:

"It has come to be generally conceded that not only must the basic sciences of chemistry, physics, and biology be taught by those who are primarily teachers and who give their whole time to teaching and to research, but also that the more definitely medical sciences of anatomy, physiology, pathology, and bacteriology must be represented by specialists. It has not been so generally granted that the clinical teacher must also be primarily a man who devotes his life to teaching and to research. This reform is the next great step to be taken in the improvement of medical education in the United States and Great Britain. In Germany only has it heretofore found recognition, and to this fact, next to the development of an orderly and efficient system of secondary schools, is to be attributed the high level of German medical science and medical teaching."

Thus is one tradition already well-nigh broken.

**Medical School and Congested Population**

Another tradition has decreed that a medical school shall be located in the midst of poverty and a congested population, where clinical opportunities are abundant, and not too far removed from the private offices of the practitioner professors. With a large portion of the teaching staff non-practitioners, the location of the private offices of practitioners need no longer be of moment. The tradition of the immediate necessity of a congested population cannot endure much longer. The experience of the Vanderbilt Clinic and other clinics in this city proves that ambulant patients will travel distances of even many miles to secure the best medical and sur-

gical treatment, provided that facilities for inexpensive public transit exist. Mr. Flexner points out that in Germany the fame of the medical professor is a powerful magnet and one of the important factors in building up clinics in small university towns by drawing from surrounding regions. Thus, the clinic of Göttingen with a municipal population of 34,081 possesses 458 beds; that of Greifswald with 23,767 inhabitants has 478 beds; that of Marburg with 20,136 inhabitants has 664 beds; and that of Tübingen with 16,809 inhabitants has 881 beds. Krehl's clinic at Heidelberg is, or was until within a very few years, the largest medical clinic conducted by a single individual in the world. All these facts go to show that even the poor, prone as they are to follow charlatanism and ostentatious display of the machinery of the healing art, will go to the famous clinics if any are available.

Thus in locating the ideal school of medicine of the future, other than the traditional reasons ought to be decisive. We are convinced that the controlling factor should be the location of the rest of the university—where the rest of the university is situated, there should be its school of medicine and its hospital.

**Teaching and Research**

The two functions of the medical school are teaching and research. In the minds of many laymen and even of many medical men the function of teaching should be preëminent in the school: it is merely a technical school existing for the purpose of training practitioners of medicine and surgery. And by both laymen and many medical men the success of a follower of medicine is often measured by the extent of his practice or the fame of his success in diagnosing or treating disease. Many persons are prone to dwell upon certain dramatic moments in the operating theater as the crowning glory of a surgeon's life. It is obvious that the need for properly trained practitioners will continue to exist, and the medical school is and must remain in many respects a technical school, where the teaching of things as they are is carried on. But medicine that is associated solely with the conventional hospital ward and the operating room or the private practice may be, and too often is,

a merely static thing. The medical school that merely teaches is but half developed. A function as great as, or perhaps even greater than, teaching and more useful to mankind is research. When one contemplates the success and the just fame of the medical faculty of a German university one thinks immediately of its contributions to scientific medicine, and one realizes that because of its spirit of investigation it is enabled to educate better practitioners than a mere teaching body. The medical school that represents the ideal is undoubtedly one in which teaching and research are coördinately developed and in which practitioners and investigators alike are trained. Within such a school teaching and research should not be separated as between departments. Research should no more be limited to the medical sciences than should the clinical subjects be limited to teaching. Each department should be a teaching and an investigating center. In the College of Physicians and Surgeons research at present is limited chiefly to the medical sciences, in all of which abundant and worthy research is being carried on. Under the stimulating influence of the present heads of the departments of practice of medicine and surgery there has been a gratifying development of the research spirit among a few members of the staffs of those departments. In the other clinical subjects research is largely wanting.

But teaching and research are the proper functions of every school of a university and of every department within a school.

**Benefits of Association of Medical School and University**

No distinction can or ought to be made in this respect between the medical school and the rest of the university. It goes without saying that the ideal environment for an institution devoted to teaching and research is that of other institutions of like function. Academic isolation invariably results in narrowness and infertility. It has thus become customary to associate geographically as closely as possible the component schools of a university, and thus to make possible the intimate association of the men who perform its great functions. Such intimate association is one of the most important features in the work of a university, for it breeds a

constant interchange of ideas, a broadening of knowledge, a stimulating inspiration, and an encouragement of effort. Moreover, it allows those departments of knowledge which have ideas in common or whose fields of labor come into mutual contact, opportunities to gain from one another. Of the various subjects within a medical school anatomy, histology, and embryology will always profit from a close association with zoology; physiology with chemistry, physics, zoology, botany and psychology; physiological chemistry with chemistry, zoology and botany; bacteriology with botany; neurology and psychiatry with psychology; while general medicine has points of contact with all of these divisions of knowledge and more. Indeed it is difficult to think of any department of medicine, whether scientific or clinical, that cannot conceivably gain by contact with a modern university. The immediate propinquity of a university therefore cannot fail to be stimulating and uplifting and broadening to a school of medicine. But the benefits of association are not to be limited to the school of medicine, for it is capable of giving as well as receiving.

These benefits of association have been well presented by Professor Paulsen in his chapter on "The unity of the university," being a part of his book on "The German universities and university study." He says:

"It is important, in the first place, that the teachers of all the faculties should be organized into a homogeneous body. By this means, the mere outward environment gives one a daily impression of the unity of the sciences; the daily meeting is an incentive to seek encouragement and assistance in intellectual intercourse. . . . The philosopher comes into constant contact with students of nature and history; they mutually influence one another. . . . The jurist, also, comes into daily contact with the historian or the economist, and the physician with the physicist, the chemist and biologist; the mere presence of those others is a challenge to look beyond the limits of his own science and to make comparisons.

"It ought also to be kept in mind how frequently the transition is made from one science to another, not infrequently even with a total disregard of the faculty boundaries: Lotze the philosopher was a physician and docent of medicine at Leipzig

before he was called to the chair of philosophy at Göttingen; Wundt also began with medicine, and Fechner was a lifelong professor of physics; Helmholtz, physicist and physiologist, had completed his medical course and was a military surgeon before he became a professor of physiology and then of physics. . . . All these men, moreover, laid the foundation for such dual capacity during their university course.

"This leads to the further observation that this intercourse of the faculties is of no less significance to the students than to the teachers. It is true that the university does not possess the unity of a school, it is merely an association of independent higher schools whose courses are in a general way coördinate. There is, however, a great deal of overlapping. A German student certainly will not readily leave his university without having heard lectures outside of his own faculty, at least without having done so occasionally. . . . The unity of the university by inviting the inspection of other departments makes it possible to recognize and correct mistakes in the choice of courses and professions before it is too late. . . . Thus the unity of university education contributes, in a high degree, to impart to the academically educated classes the feeling of unity and solidarity, the feeling of an aristocracy of intellect, an aristocracy which can hold its own against both birth and wealth. Excluding no one who has the ability to secure admission to the academic world, the university, as formerly the clergy, represents both the unity and the intellectual leadership of the people. . . . Isolated professional schools have no individual college spirit, the society is too limited, the point of view too narrow, and dependency too great; only at a university can there be that development of ideas in common which, as the soul of the corporation, gives it the distinctive character and the self-preservative instinct of an organism."

The great German clinician, Friedrich Müller, professor of medicine in Munich, in an address on the study of medicine in Germany before the Freie Studentenschaft in Munich on May 8, 1912, said:

"We wish the medical student to grow up within the university in active intellectual and social contact with the students of other faculties, and to receive incentive from all sides. We wish for him an opportunity to hear other lectures, to pursue other studies than those of his narrow field, and to develop into a man of general culture. A physician ought not to be narrow-

minded; he ought to take his social position among the cultured men of the nation."

**Views of Medical Leaders of Great Britain**

In order that our conviction of the benefits of intimate association between the school of medicine and the rest of the university may not appear to be limited to ourselves alone, we have asked the opinion of a very few of the leaders in scientific medicine in England and America, and have permission to quote them here.

Dr. C. S. Sherrington, Holt professor of physiology in the University of Liverpool, and one of the foremost British leaders in the medical sciences, writes as follows:

"The question it [our letter] asks regarding the relative advantages to a school of medicine of having close propinquity to the rest of the university of which it is a part seems to me to admit of a very clear answer. If one regards the school in its aspect as a place for the scientific study of disease with a view to the instruction of students and to the furthering of knowledge by research and discovery, the school undoubtedly benefits greatly from the opportunities for close contact with the other scientific schools of the university, both those of the pure sciences and those of the applied, but quite especially the former. This is surely the meaning of the advent of a new era in medicine when a university pure chemist (Pasteur) stepped over his chair's frontiers, in the interests of medicine; or, to take surgery, when Lister turned to following Pasteur's biochemical work with a view to improving his own ward-results.

"Also, may we not feel that a school of medicine in its turn will contribute something to the breadth and earnestness with which its sister schools of study proceed in the university, if by daily intercourse with them through its staff and students its own aims and difficulties and sympathies are known and recognized to be not ungermane to the rest?

"Further, I have myself long been convinced that one of the first duties of every university, and quite especially of every large university, is to leave no means unused for bringing together in their work as well as in their play all sorts and conditions of their students. It is, in my opinion, of the highest good to a student that he should have mixed with students outside as well as within his own particular 'Fach.' It gives breadth of character as well as breadth of knowledge. Only by providing

free mutual contact between its students of medicine, law, divinity, pure science, engineering, teaching, and what not, can university life ensure on the average that distinction and catholicity of judgment and sympathy for others which must be recognized as one of the best gifts which a successful university bestows on its alumni—the acquisition of a broad understanding and kindly though critical respect for the aims of their fellow men and women.

"As to the importance to physiology of its work being done alongside of that of the other natural sciences, especially physics and chemistry and biology, that is too obvious to need mention. To me it appears an absolute essential for the prosperity of any physiology school. Without it physiology has always languished and become 'dry-as-dust.' "

Dr. W. H. Gaskell, lecturer in physiology in the University of Cambridge, a man of many years' experience within university circles, a member of the Moseley Commission, and one who possesses a broad outlook over educational problems, writes:

[The place of physiology in the university] "is in the scientific department alongside of the chemical, physical and biological laboratories. The same reasoning applies to a less degree to all the scientific departments connected with medicine, such as anatomy, pathology and pharmacology. For workers in all these departments it is, to my mind, of incalculable value that the so-called non-medical laboratories should be close at hand so that at any moment they may obtain the best advice from experts in these departments. There is not, in my opinion, the same absolute necessity that the hospital itself should be in such close proximity to the scientific schools of the university, though I look upon such proximity as the ideal for a medical school, provided that the situation of the university does not preclude the attainment by the hospital of the best clinical teaching. . . . Of course if the circumstances are such that the best clinical teaching—both with respect to the supply of patients and the quality of the staff—be obtained in a hospital situated close to the scientific laboratories, then in my opinion you have the ideal school."

Dr. J. S. Haldane, reader in physiology in the University of Oxford and fellow of New College, a keen observer and thinker, writes:

"On the abstract question as to whether it is desirable that the medical school should be close to the other university buildings if at all possible, my own opinion is a very decided one, that the advantage of such juxtaposition is very great. The medical sciences are every year becoming more directly dependent upon physics, chemistry and biology, and for this reason it seems clear that the medical school ought not to be separated off from these subjects. I also think that there are still broader educational grounds for keeping the study of medicine in contact as far as practicable with other university studies, including literary ones. From the experience of this university, I should say that it is certainly good for the university as a whole that the men studying different subjects should be in contact with one another as far as possible and that a broader and sounder education is obtained under these circumstances."

Dr. Benjamin Moore, Johnston professor of biochemistry in the University of Liverpool, an active investigator in medical science, an acute thinker in medical problems, who speaks from the background of an experience as professor in the Charing Cross Hospital Medical School, the Yale Medical School, and for many years at Liverpool, writes:

"I have no hesitation in saying that both your medical school *and* your hospital will suffer by being cut off from the university geographically—the school very obviously; the hospital less obviously so, but none the less seriously. Nothing has kept back the progress of *practical* medical sciences in your country and mine so much as clinical professors in the university becoming purely professional practitioners and commercial men instead of remaining as scientific inquirers. A university hospital attached to a medical school is something more than a charitable institution for attending on the sick poor; it is an institution devoted to humanity for discovering the causes and means of prevention of disease. Unfortunately, money and commercialism enter in and physicians and surgeons become 'dollar hunters' in your country, and 'guinea grubs' in mine with a few honorable and notable exceptions. The atmosphere of a university is the corrective for this, and you lose this if both hospital and medical school are not kept in close living contact with all the other broad faculties of the university. Compare Germany with our countries in this respect, and observe how the physician or surgeon there works for love of his subject and professional fame,

the most distinguished men being often found in small cities, but with world-famed university clinics. If you want to replace the God of Gold by the God of Learning, you must set up your dwelling near the university temple. As to physiology and biochemistry, it is quite obvious that these must gain by daily contact with their colleagues in biology and chemistry. In addition, there is the broadening influence that comes from meeting men in other faculties altogether than medicine and science. If there is to be a soul kept in science, we must mix with philosophers and artists and scholars, or we shall turn into mechanics and technicians and will be incapable in the end of any real progress."

**Views of American Medical Leaders**

Dr. Lewellys F. Barker, professor of medicine in Johns Hopkins Medical School, physician-in-chief of the Johns Hopkins Hospital, acknowledged as one of the broad-minded American leaders both in scientific medicine and in problems of medical education, writes:

"Wherever such propinquity is possible and practically feasible, the advantages are numerous. For the advance of medicine it is highly desirable that the subjects of the first two years of medicine shall be taught as science departments of a great university in close connection with the research work of the graduate school. It is most helpful to the professors of anatomy, physiology, pharmacology, pathology and internal medicine to have easy opportunity of contact with the professors of physics, chemistry, biology and psychology. Moreover, it is highly desirable for the practical work of a hospital and for the clinical instruction of a hospital, that the laboratory department of the medical school be situated near by. The workers in the more practical department should be able without difficulty frequently to consult the workers in the more strictly theoretical branches. When the work of the primary branches and of the sciences fundamental thereto is too far removed from the work of the clinical branches, both parts suffer. The theoretical basal sciences need the influence of the practical branches, and vice versa. Of course the problem of clinical material has to be considered, but with the rapid transit facilities which now exist, including motor ambulances, etc., the problem has in recent years assumed a new phase."

Dr. David L. Edsall, professor of practice in the Harvard Medical School, a representative of the best type of modern medical science, who held a professor's chair for several years at the Medical School of the University of Pennsylvania, before being called to Harvard, writes:

"It is distinctly desirable to have the medical school of a university in direct contact with the university proper, geographically as well as otherwise. With any medical school, however, I think, in order especially to keep the clinical staff at its best in efficiency and productiveness, in order also to increase the productiveness and proficiency of the scientific (medical) departments, and especially in order that the students be properly trained in the relations between the scientific and clinical sides of medicine, the first desideratum is that the hospital facilities mainly used by the school be immediately adjacent to the medical science departments. If this can be done on the grounds of the university proper, it is the best arrangement by far. . . . I would separate from good hospital connections, however, in order to get into immediate contact with the general university if *assured* of the rapid provision of adequate hospital facilities on the same grounds."

Professor R. R. Bensley, professor of anatomy in the University of Chicago, a medical man whose attention for many years past has been directed to the problem of the place of the laboratory subjects of the medical course in the general curriculum of the university, writes:

"The physical separation of the medical school from the university, which is, unfortunately, the situation of most of our medical schools, requires a classification of the fundamental sciences into medical and non-medical, which is at once arbitrary, illogical and wasteful: arbitrary and illogical because it separates subjects, such as anatomy and zoology, or chemistry and biochemistry, which are really parts of the same general scientific group, and those which are contiguous and mutually dependent fields of inquiry, such as psychology and neurology; wasteful, because it requires the expensive duplication of departments to insure that neither the medical school on the one hand, nor the university on the other, may suffer. . . . It must be borne in mind that the medical school will bring much to the university as well as receive benefit from the university. Bac-

teriology is as important to botany as to medicine. Hygiene is as much a part of a broad general education as of a medical education. Anatomy, physiology, and pathology have won their place as general undergraduate scientific studies in those institutions which have been able to offer opportunities for study in these departments in the undergraduate work. The recent work on serum reactions and on the nature of immunity has as much bearing on general biological science as on the prevention of disease. These sciences flourish best in an environment which gives them at once the support of the clinical faculties which are dependent on them, and that of the general body of scientific workers of the institution, on whose work they are in turn dependent."

Dr. George E. Shambaugh, assistant professor of laryngology and otology in Rush Medical College, which is affiliated with the University of Chicago, one of the few American practitioners of his specialty who has spent much time in the laboratory in the scientific study of the fundamental problems of otology, writes:

"I am strongly of the opinion that for those universities which are planning to develop a real university department of medicine, the entire medical school should be developed in proximity to the remainder of the university. If the ideals of university instruction where 'scientific investigation is to be a prominent feature' are to dominate the clinical instruction in medicine as they already do the fundamental sciences in our leading medical schools, then the inspiration and assistance that will come through the geographical union with other great scientific departments of the university cannot be overestimated. On the other hand, the gain to such university departments as physiology, psychology and pathology by proximity to teaching research hospitals will, of course, be very great.

"There are still those, especially in clinical medicine, who are not able to admit that the introduction of university methods and ideals in the teaching of clinical medicine is an advantage over the methods and ideals existing in our proprietary medical schools. These men are anxious to have the detached medical school called the university department of medicine, but they oppose the introduction of those methods and ideals which alone can make it a bona fide university department of medicine.

"The most serious barrier to the development in this country of a university department of medicine from the existing type of

medical school is the geographical separation of the medical school from the remainder of the university."

Dr. Joseph L. Miller, associate professor of medicine in Rush Medical College, editor of the *Archives of Internal Medicine,* and a physician of high clinical attainments, writes:

"It seems to me highly important that the university, the medical school and the university hospital be on the same ground. First of all, it is going to permit of any student who wishes to do any investigation in the laboratories while studying medicine to be able to carry this out without a great deal of waste of time. I believe many of our medical students have the time and inclination to continue to do some advanced work in fundamental branches, we will say physiology, during their medical years, provided proper facilities are offered, and I believe this arrangement of all the buildings on the same ground would be an important factor and facilitate work of this sort. Furthermore, it permits a better interchange of ideas and a closer acquaintanceship of the man in the medical department and the pure scientist. Finally, to my mind one of the most important factors is, that a university like Columbia would give a certain atmosphere to the school, provided it was adjacent to it, which would be a considerable factor in inspiring the clinical man to do a higher class of scientific work. . . . Any other arrangement it seems to me must be considered more or less as a makeshift guided probably by purely financial reasons or inability to obtain a site."

Dr. Joseph A. Capps, associate professor of medicine in Rush Medical College, whose large experience as a consulting physician has qualified him to speak of the training of a clinician, writes:

"I can declare myself emphatically in favor of such a combination [the medical school and hospital with the rest of the university] on several grounds. First, economically, there is a tremendous saving by uniting the first years of the medical school with the science department of the university. Unless some very great objection exists to the teaching of medical students of the first two years in the university proper, it would seem to be the greatest waste and extravagance to duplicate the buildings, equipment, and teachers in the scientific department of the university and medical school. Secondly, the effect on

the university teachers, I think, is on the whole beneficial. The mere teaching of the routine subjects in the first two years of the medical school may not in itself be of any special advantage to the teachers, but contact with the teachers of medicine and with medical problems is bound to suggest good problems for investigative work. In the third place, the effect upon the teachers in the medical school of working in the university is unquestioned. The medical teachers are bound to benefit tremendously from daily contact with university men who are working in the sciences. The association of the teachers of practical medicine with the teachers of science is also most helpful in promoting the study of the border line problems, which require the combined work of the laboratory and the bedside. Finally, students themselves must derive benefit throughout their medical course in the close association of scientific teaching with that of the practice of medicine. Such an association will develop more research workers than could be developed by a separation of university and school."

Dr. George N. Stewart, professor of experimental medicine and director of the H. K. Cushing Laboratory for Experimental Medicine, of Western Reserve university, a man who possesses a keen vision into the applications of physiology to the problems of clinical medicine, writes:

"I think there is only one answer to the question propounded. Mutual gain, I should say, is not only probable but certain to result from bringing the medical school, including the hospital, into close topographical contact with the rest of the university. Of the advantages to the university, I shall not presume to speak. But the measure of the gain to the medical school can probably be estimated by none so well as those who, like the present writer, have suffered and are daily suffering from the disadvantages of physical separation. A while ago these disadvantages were not so obvious. Medicine, at least as studied, taught and practised in the average school and hospital, had few points of contact with the various disciplines of the academic, particularly of the scientific, departments. The professors and students of the academic departments were still less aware that medicine held anything of interest for healthy human beings. All that is changed to-day, and those who are about to build should remember that the change is still going on and will be even more obvious to-morrow. The science of medicine is

now recognized by its most enlightened and successful cultivators and more and more by the educated lay public as a branch of biology, whose progress is absolutely bound up with the progress of chemistry and physics, of animal and plant morphology and physiology, and which has important relations to psychology and even to sociology and political economy. And it is perfectly understood that the chemistry and physics which avail for the progress of medicine must be the best and freshest output of the laboratories and not an inferior grade ground down fine for easy assimilation by hard-worked practitioners and none the worse for being a little out of date. The physiologists, the pharmacologists, the pathologists, the wide awake and progressive clinicians of the hospital should therefore be so near the physicists and chemists, yes and so near the mathematicians and the psychologists for that matter, that far from having to make a special effort, to cancel engagements and travel several miles, in order to meet an academic colleague whose aid, perhaps entailing only a five-minute interview, may be invaluable to them, and invaluable at a particular moment, they may have every chance of stumbling against him on the campus, or even in a fit of fruitful abstraction wandering into his laboratory instead of their own.

"It is unnecessary to labor this point. There are many ways in which physical propinquity will help the different departments to tone each other up. The greater accessibility of the libraries, and the more intimate contact with the business organization of the university which would be brought about by the location of the medical school on the university campus are very considerable advantages in my opinion. I will end by saying that the above conclusions, although I think they could be deduced by general reasoning from the abstract proposition which you submitted, are, so far as I am concerned, the fruit of a not inconsiderable experience with both arrangements."

Dr. J. Gordon Wilson, professor of otology in the Northwestern University Medical School, one of the best representatives of the scientific investigator, who sees the broad bearings of his medical specialty, writes:

"I received my medical education at a school where the medical department with its hospitals was immediately adjacent to the other university departments. I spent several years in a university where the university proper and the first two years of medical studies were in one campus, while the hospitals with the

last two years were several miles away. I am now in a fully equipped medical school situated at a considerable distance from the university proper with the departments of chemistry, physics and psychology.

"My experience has led me to recognize the great advantage of a close association of the medical school with the scientific faculties of the university. The coöperation of investigators in medicine with scientific investigators in other fields is becoming every day of more importance.

"To the teacher and especially the investigator in the medical faculty, the wider views to be obtained by the close intercourse with members of the scientific groups are of the utmost importance. The viewpoint thus obtained and the knowledge of activities in other sciences are not to be gained so efficiently by even a wide range of reading. There is ever present the necessity of discussing with authorities in physics, chemistry or psychology some phase of the problem of disease in man.

"Further there is the advantage to the medical student of becoming less a school-man and more a university-man with a broader outlook on the problems of life—an advantage gained by the subtle influence which is involuntarily and unconsciously acquired from association with his fellows in other faculties."

Dr. Graham Lusk, professor of physiology, formerly in the Yale and the University Bellevue Medical Schools, now in Cornell University Medical College, a man of international repute in his science and of wide acquaintance with the problems of medical education, especially the relations of medical schools and hospitals, writes:

"I would say that, *given favoring conditions* for hospital development, all the university buildings would best form a group."

Dr. Henry H. Donaldson, for several years professor of neurology in the University of Chicago, and now head of the department of neurology in the Wistar Institute of Anatomy and Biology, writes:

"With the growth of laboratories and apparatus and the devices for communication, the fundamental importance of personal contact in the advance of knowledge has suffered some

neglect. Specialization requires to be supplemented by coöperation. The passing comment or appreciation, the incidental conversation, are most potent. They prevent useless labor and reveal unsuspected relations. This form of intellectual stimulus, always difficult to cultivate even under favorable conditions, becomes well nigh impossible in the face of geographical separation. The farther the sciences divide, the more imperative is the concentration of all workshops at one spot. I hope Columbia will be able to solve her problem in the interests of posterity."

**Views of Columbia Professors**

At the beginning of this communication we called attention to the fact that in the discussion of the future of the school of medicine and the university hospital, the interests of the rest of the university had been almost wholly overlooked. In view of this we have been interested in learning the views of our colleagues at Morningside Heights, whose field of work touches that of the medical school. Without exception, they have welcomed the idea of a possible closer association of the school with their respective departments and others allied to theirs.

Thus Professor Boas, of the department of anthropology, writes:

"It seems to my mind that the location of the two branches of the university near together seems to be entirely advantageous, on account of the possibility of mutually profiting by participation in our work. I appreciate the practical difficulties which are in the way. It seems to me, however, that if it were possible to place anatomy and physiology near the university, very great benefits might accrue to both institutions. We need very much the opportunity for work in these branches in the university, which would be greatly facilitated if they were located right here. This would be particularly beneficial to psychology and anthropology. I go so far that I should like to see a building devoted entirely to the needs of psychology, physiology and anthropology. I believe that the advantages for the medical school would also be very important, particularly inasmuch as the young students would remain more closely in touch with the broader university spirit, and would not so early con-

centrate their attention entirely upon the practical needs of their final examination. Thus could be broadened the scientific interests of your graduates."

Professor Wilson, of the department of zoology, writes:

"As far as my own department of zoology is concerned—and I think the same may be said of a number of other departments, for instance, that of botany—these advantages [of geographical propinquity of the medical school, hospital, and the rest of the university] would be in some respects very great. There are in the medical school as at present organized at least four departments which represent subjects, any one of which may form a desirable minor subject for a doctor's or master's degree, taken by students whose major subject lies in the university departments in question. These departments are those of anatomy, bacteriology, physiology and physiological chemistry. As you are aware, physiology has frequently been taken as a minor by students of zoology and the same may be said also of the other departments which I have mentioned. The advantages of a close association between these departments and my own are so obvious as to require no discussion. From every point of view it would be very much to our advantage could the work of these departments be carried on in laboratories that are close to our own. As matters now stand, much time is lost by the necessity that our students find themselves under of going so far to carry on their work in the medical school.

"Apart from the student point of view, the advantages of a closer association between the instructors in our department and in those of the medical school are evident. For these reasons and others which might be mentioned, I should be heartily in favor of any action looking toward the transfer of the medical school to a site upon or near the university grounds."

Professor Morgan, of the department of zoology, writes:

"Without attempting to speak of the advantages to the university in general that might accrue if the medical school were situated in this vicinity, I may be permitted to express an opinion as to the advantages to the zoological department that might be hoped for. Many of our undergraduate students look forward to a career in medicine. The importance to them of their zoological work and the seriousness of the work might be brought home if the body of medical students mingled more

freely with the undergraduates. But it is in regard to the more advanced students and to the members of our staff itself that I wish especially to speak. The medical men are in daily touch with actual problems of humanity. Our students and we ourselves live in a rather academic atmosphere where the applications of our studies are somewhat remote. The crossing of these two currents cannot be without beneficial results. It is, however, the investigator in the medical field that is most essential to us. There is only an artificial barrier that separates the investigator in physiology, pathology, bacteriology and anatomy from the investigator in the zoological field. We need each others' experience at every turn. As it is impossible to duplicate in the university the work done by the advanced students in the medical sciences we are correspondingly isolated from a group of men whose work is closely akin to our own. This seems to me to be the chief argument, from our point of view, for bringing the medical school nearer to us."

Professor Cattell, of the department of philosophy and psychology, writes:

"It seems to me that psychology suffers at universities such as Columbia, Harvard and the Johns Hopkins from the fact that the medical school is so far distant as to be almost a separate institution. Union Theological Seminary, which is a separate corporation, seems to be more nearly an educational part of Columbia University than the College of Physicians and Surgeons, and we have more to do with its professors and students. Both the fundamental sciences given at the medical school, such as physiology and anatomy, and the clinical subjects such as neurology and psychiatry, are of great importance for students of psychology; they would be more likely to follow them and to gain more from them if the medical school were adjacent to us and were an integral part of our work, than under existing conditions. At present we regard it as desirable to give in the department courses in abnormal psychology, which ought not to be necessary, if the courses in the medical school were available, and to arrange for our students to attend clinics in different parts of the city, when it would doubtless be better if there were a well organized hospital and clinics adjacent to us and under the control of the university."

Professor Woodworth, of the department of philosophy and psychology, writes:

"The department of psychology would expect distinct advantages from the neighborhood of the medical school. We frequently have students who wish to study the brain or nervous and mental diseases, as well as general physiology. At present it is difficult to make a combination in the student's program between our work and that at the medical school and thus the neighborhood of the medical school would be a distinct advantage. Furthermore, I believe the opportunity for frequent intercourse between our teaching staff and the staff of the related departments in the medical school would be of considerable advantage to us.

"On the other side, I believe that occasionally we should be able to contribute something to the education of the medical student. Those who are preparing for special work in nervous and mental diseases often come to us to take some psychology, but they find the long journey a hindrance and I have no doubt that many who would profit by our courses are unable to avail themselves of them at present."

**View of President Butler**

It may be pertinent here to call to your attention your own words uttered on January 17, 1910, in announcing to the faculty of medicine the project of the trustees for the reconstruction of the medical school at Morningside Heights.

"I cannot refrain from pointing out what I believe to be the immense educational advantage of bringing about a physical unity between the medical school and the rest of the university. The consequent close association with other university teachers and students on the part both of members of the teaching staff and members of the student body at the medical school cannot fail to be in every way advantageous. A closer alliance will be formed between the work of men engaged in research under the faculty of pure science and those engaged in research under the faculty of medicine. The medical students will be able to enjoy, what they have not heretofore had, namely, the pleasure and profit of academic residence and of close academic association."

Dean Woodbridge has recently written:

"I am of the opinion that there is decided gain both educationally and economically in having the various departments of

the university in the same geographical location. The interrelations between the various departments are growing to be yearly more intimate and there is a strengthening of university spirit by the presence in one locality of the important branches of the institution. Indeed, if the question is raised as a purely theoretical question I do not see how it is debatable."

**Medical School and School of Sanitary Science**

In one special field of the work of the university physical association is especially desirable, namely, in the school of sanitary science and public health which Columbia must ere long establish. After approving action by the medical faculty in 1903 and 1908 the matter of inaugurating such a school was thoroughly considered by a committee appointed in December, 1908. This committee consisted of Professors Lambert, Lee and Starr and Dr. Ditman of the College of Physicians and Surgeons and Professors Burr, Calkins, Devine, Farrand, Goetze, Seligman, Tombo, and T. D. Wood, representing a wide range of interests in the university outside the medical school. On April 26, 1909, this committee submitted its report and advised the establishment of a school of sanitary science and public health, distinct from existing schools but making use of the equipments of several of them. If such a school were established instruction in it would be shared by at least the departments of physiology, biological chemistry, pathology, and bacteriology now at 59th Street and the departments of civil engineering, anthropology, chemistry, political science, administrative law, social science and psychology now at Morningside Heights. It would be exceedingly difficult to adjust the work of the students in their several courses without involving much loss of time due to the necessity of traveling back and forth between the two sites. Moreover, the school would suffer seriously from the lack of unification and solidarity that is essential to the success of any such institution. Apropos of this Professor Burr, of the department of civil engineering, writes:

"If there should eventually be a department or school of sanitary science established here, that department would unques-

tionably greatly benefit by having the College of Physicians and Surgeons in near vicinity to it. I hope such a department or school may eventually be established."

Mr. Daniel D. Jackson, lecturer in sanitary engineering, writes:

"There is great need of better schools for the training of public health officers and inspectors, and the public is now beginning to demand that such men shall be specifically trained for the important duties which they have to perform. Harvard and the University of Pennsylvania have already started such courses, but Columbia has so far only her course in sanitary engineering.

"With the College of Physicians and Surgeons in close proximity, it would be possible to establish courses in public health leading to the degree of C.S. (certified sanitarian) and D.P.H. (doctor of public health). This union would also admit of graduate courses in advanced protozoölogy, bacteriology, physiology and physiological chemistry, which would be mutually beneficial and serve to add strength to the courses in biology, chemistry and sanitary engineering, as well as to the variety and scope of subjects taught in the College of Physicians and Surgeons. Sanitary science and the sanitary arts which are now being taught in the Schools of Mines, Engineering and Chemistry will be greatly strengthened by the proposed union, and the College of Physicians and Surgeons will be assisted in its hygiene and preventive medicine. It may be beneficial to train the medical student more thoroughly in the causes and prevention of diseases, and give him an optional opportunity to take courses in advanced chemistry and biology.

"I thoroughly believe that the separation of the two schools at a distance which cannot be traversed between courses is a detriment in the economy and efficiency of both institutions."

**View of Medical Faculty**

Our thesis then is, that from the standpoint of the ideal school of medicine, the future College of Physicians and Surgeons, together with the future university hospital, ought to be situated in the immediate vicinity of the other schools of the university. It will be recalled that on January 17, 1910, the faculty of medicine put itself on record in favor of such a disposition of the school as follows:

"*Resolved,* That in the judgment of the faculty, the transferal will be for the best interests of the future development of the school of medicine at Columbia."

The situation created in connection with the proposed transferal was referred at the time to a committee of the faculty of medicine consisting of Dean Lambert and Professors Huntington, Blake, Janeway, Wood and MacCallum. This committee reported at length to the faculty on October 17, 1910. Not the least interesting portion of their report consists of the committee's replies to eight objections that had been proposed to the proposition of removal to Morningside Heights. Among its final conclusions and recommendations, the committee submitted the following:

"That the College should move from 59th Street and that the proposed site at 116th Street, provided the additional space for an university hospital be secured, offers the greatest number of possible advantages compared with any plans of development which have been proposed."

The report of the committee was made a special order for discussion at a subsequent meeting of the faculty. The discussion was, however, finally postponed indefinitely because the immediate failure to obtain the necessary funds to effect a removal and the subsequent alliance with the Presbyterian Hospital turned the thoughts of the faculty to a different disposition of the school. This we believe to be wholly unwise.

In our endeavor to be impartial we have searched widely for objections to our main thesis. We confess that we can find no opposing argument that is of serious moment. It may be said that we have presented merely an ideal proposition, a Utopian scheme, acquiescence in which is easy, but that the university is obliged to face a very practical financial situation and that this must decide the future of the school of medicine. But ought this to be so? Ought the present lack of money to influence a university of such high ideals as is Columbia, and one which in the achievement of its ideals has already solved so many financial problems as has Columbia, now to abandon an ideal and

accept something that is obviously inferior? The College of Physicians and Surgeons has never assumed in the world of learning the high position which is its just due by reason of its seat in the metropolis of America and its connection with America's greatest university. For a period of just one hundred years it has been receiving Columbia's aid in various ways. In 1813 it was enriched by the discontinuance of Columbia's school of medicine and the transfer of the latter's faculty to the newer rival. In 1860 it formed an alliance with the university. This alliance grew into a definite merger in 1891. Thus for a century the medical school has been approaching a university ideal. But geographical isolation will always hamper it in the fulfillment of its aspirations. We believe that geographical propinquity, on the other hand, with all that that implies will immeasurably augment the prestige of the school in the learned world and will prove to be the final essential factor in enabling it to become one of the world leaders of scientific medicine. The present is the critical time. Ought Columbia to be satisfied with anything less than the best?

Respectfully,

FREDERIC S. LEE,

FRANK H. PIKE.

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