MEDICINE

(INTERNAL DISEASES, PEDIATRICS, NEUROLOGY, DIAGNOSTIC METHODS, ETC.)

TEACHING AND PRACTICE

PART II*

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This leads us directly to one of the questions which has been most actively discussed in recent years: Is a man who has obtained his clinical experience largely or purely in hospitals properly fitted to teach students the essentials of the practice of medicine?

A distinguished student of the problems of medical education has been quoted as saying essentially: "Diseases are the same in the rich and in the poor, in human beings and in animals. To the clinician the ward is his laboratory, and the study of disease in the patient in the ward is, in all essentials, the same as the study of disease in the animal in a laboratory. The only difference between the study of disease in the hospital and outside is that in the hospital the patient may better be observed. It is a mistake to say that it is necessary for a professor of medicine to have had experience in private practice when the same experience may be obtained more intelligently and in a much more concentrated form in the hospital."

This conception which has, by some, been regarded as characteristic of the point of view of those who have favored the establishment of professorships of medicine on the so-called "full time" basis, has been looked upon as fallacious and dangerous by many of the opponents of certain modern tendencies in medical education.

"No man," they say, "is fit to teach students the art of the practice of medicine who has not himself passed through the experience of the practitioner. Practice in a hospital ward is one thing; practice

in the home of the patient, another. He who has been accustomed to rely upon the trained nurse and upon the many appliances and instruments of precision which a well-appointed hospital affords, can have little conception of the difficulties which he will encounter in private practice. He whose only experience has been with the trusting, unresisting patient in the general wards, will find himself at sea when treating the whimsical, prejudiced, opinionated invalid in private life. He who has been accustomed largely to study serious diseases in the wards of the hospital will have small sympathy with, and little understanding of the trivial complaints of the supersensitive and nervous members of the more well-to-do classes. The conditions that he is called upon to treat are to be remedied in great part by minor regulations of habits and manner of life, of eating and drinking and smoking and exercise. His main duties consist in ministering to the minds of his patients—in kindly counsel and encouragement—in advice tending toward the alleviation of a thousand petty ills which he who knows that they will pass with time, does not even consider in himself—which the less sensitive patient in the ward barely notices. How can one who has never had this experience teach students the art of practice? Is it not folly to take away the teaching of medicine from the experienced practitioner and give it to one who has had a training which might almost be called academic? Must we not regard this idea as the dream of the layman and of the laboratory student who, with all his scientific attainments, is yet woefully ignorant of the conditions of the doctor's life and of his duties?"

There is much truth in these objections. I should have no hesitation in agreeing that the medical experience suitable to qualify a physician as a consultant, or a teacher of medicine can not well be obtained wholly in the free wards of a hospital. There is a great difference between the

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mental workings of the patient in the free ward and those of the average individual with whom one is thrown in private practice. The stolid indifference to outside influences shown by many patients in the general ward renders the study of disease in hospital not so very different, it is true, from the study of disease in the laboratory, but so soon as one becomes associated with patients of a higher mental order, problems in diagnosis and in treatment arise which are much more difficult and complicated. It is, it seems to me, not easily possible for one who wishes to fit himself for practice as a consultant of for the teaching of medicine to gain that experience which he should have without a considerable association with individuals of more complicated mental constitution. Moreover, there are certain diseases which, strangely enough, are rarely seen in the free wards, yet are common in outside practice, diseases the recognition and management of which are of the utmost importance. I need refer only to angina pectoris. A man who is not familiar with the mental attitude of the people among whom he or his students are going to be thrown, who has not learned by experience successfully to navigate his bark through the mist of accessory problems which beset the antechambers of the sick room, is unable to give to the student much that will be of real value in the practice of medicine. But fortunately in many hospitals today, the great development of private wards offers abundant opportunity for the acquisition of just this experience. The man who desires to fit himself for a position as teacher of medicine or consultant should spend a considerable period of time in practice among the class of patients which is to be found in the large private departments of many of our hospitals. Such an experience gained in the hospital will afford him in concentrated manner just what he might obtain otherwise through a much longer period of time in private practice.

This is the general course of training which the aspirant to the professorship of medicine is likely in the future to follow. His elevation to the directorship of a large department of medicine or surgery may be directly from the clinic in which he has occupied a salaried position and to which

he has given his entire energies, or it may come after some years of consulting practice during which he has preserved close relations with an active clinical department.

Recognizing the magnitude of the problems associated with the organization of a large medical clinic, it has been felt that such a department could best be presided over by men who were able to give their whole energies to the university in organization, in teaching, in the conduct and direction of research. And, notably at that institution with which I have been connected for more than twenty-five years, several of the clinical departments have been reorganized upon a university plan. Through the generosity of the General Education Board, the institution has been enabled to establish a staff of university professors and salaried assistants who take charge of these clinics for hospital and university. These men, freed from the calls of outside practice, are able to give their entire time to the service of the department in the care of patients, the promotion and conduct of research and in the teaching of medicine. And as is well known, the members of this staff have agreed to abstain from the practice of their profession for their own emolument.

The discussion associated with this experiment has been very active, centering largely upon the last mentioned circumstance—the withdrawal or abstention of the university professors and assistants from private practice. Those who have objected to this procedure have regarded the plan as unwise and even unfair to the physician himself, to the hospital, to the student, and to the public.

In the first place, with regard to the professor himself, it has been pointed out, and with justice, that there can be little relation between the salary which the university could or should pay to the professor of surgery or medicine and the gross income of the successful surgeon or consultant in a large city. It has been asserted that the opportunities brought by a considerable income for wide associations with the world at large are broadening to the character of the man and are indirectly of value to the institution with which he is connected; that furthermore it must be a very serious question to the physician him-

self whether he is justified in planning deliberately a manner of life which can never lead to wealth or real financial freedom, when there might be open to him an opportunity to give to his family and those dependent upon him the advantages which come with a large income. Is he not, it is asked, giving up the "larger life" for the smaller, and will not the university in the end suffer by the loss of the wide domestic and international relations so often established by the professor who has the material resources to visit his distant colleagues in their clinics and to entertain them at his home? Will not the hospital, more directly, lose in the absence of those cordial relations which arise today from the association, as a consultant, between the chief of the medical clinic and the practicing physician?

Will not the students suffer, it is asked, through their association only with men who have had a more or less academic training in a hospital, who are out of touch with the exigencies of actual medical practice? Will not practitioner and consultant suffer seriously in losing their control of the hospital material which is now to pass wholly into the hands of salaried men? And will not the public suffer? May it not indeed be regarded as an injustice to the public and to the practitioner that they should be denied the services of these men especially eminent in medicine or surgery, whose opinions presumably are of special value—these men who have been chosen to direct large clinics?

It can not be denied that these objections have a certain force.

The physician who, starting from modest beginnings, has acquired, by hard work, a large income can not underestimate the blessings and the opportunities that such a revenue brings to him and to those who depend upon him. But such incomes are rarely honestly gained without very hard, very confining work, and without real intellectual hardship to the practitioner if he be a man of scientific tastes or aspirations. To one who has the temperament and ideals of the student, the advantages of a university professorship can not but appeal very strongly. No man who covets a fortune should select the career of a university professor. He who enters upon such a life knows from the outset what his

income is to be, and what the outlook for his family. He can not expect to be a rich man, and he must plan his life accordingly. But the compensations are great to one of scholarly tastes. The opportunities for study and research offered by the university clinics and laboratories, limited though they may be at certain times by the demands of teaching, the freedom from uncertainties, the complications, the endless activities of the life of a busy practitioner or consultant, the hours for reflection, for rest, for recreation offered by the stated vacations—these, wholly apart from the privileges and responsibilities of the organization of a large department, are advantages so great that they will always attract men of the highest order.

And "the larger life?" Who can say what "the larger life" is in itself? The "larger life," alas, does not always go with wealth and that which surrounds it; and who shall say that the opportunities which come to the university professor of distinction and to those about him, are more restricted than those which are open to the practitioner and consultant? Certain of the luxuries of life the professor may be obliged to eschew, but there are other privileges which will be his that no money can buy.

It is true that the salary of the university professor has not, in general, advanced with the incomes of those about him, or with the general scale of living; and it is, I believe, folly to attempt to put the directorship of clinical departments on a university basis at salaries such as have been in the past offered to the professor in the strictly scientific departments. Nevertheless, no one can expect such salaries to be large as compared with the income of successful men in private practice. It should, moreover, be remembered that with the successful consultant, for instance, nearly one-half of his gross income is often absorbed by the legitimate expenses of his practice. The burden of these expenses is lifted from the shoulders of the university professor whose fixed income represents a revenue of nearly twice that size with the consultant.

But the salaries of university professors, whether in clinical or scientific branches, should be materially—very materially—larger than they have been in the

past, if these men are not expected by outside activities to add to their incomes. I can, however, see no reason why the salary of a professor of medicine or surgery should be larger than that of a professor in a so-called scientific branch. In business circles it is true that the salary depends purely upon the immediate market value, so to speak, of the individual; that he who can in the world of affairs earn but a modest sum is able to demand a far smaller salary than a man with larger practical earning capacity. The physiologist who devotes himself single-heartedly to his teaching and his researches might, if thrown on the world to earn his living, have but a relatively small earning capacity; the clinician, if he have attained a popular reputation, may, on the other hand, be in a position to make a considerable revenue.

Universities often obtain the undivided services, let us say of the professor of physiology, for an amount which was once but is not today a proper living salary for a man whose abilities and contributions to science entitle him to a comfortable and prominent position in the community; that position which it is to the advantage of the university that he should occupy. And such professors in many institutions sacrifice much to the cause of science.

This seems to me fundamentally wrong. These distinctions must eventually be removed, unless our universities are to remain as short-sighted as our national government and bring it about that our professorships, like our diplomatic posts, shall come to be positions which only men of independent means can fill.

But to return to the question of the professorship in the clinical branches. If the salary be adequate, there should always be efficient men whose ambition will be to occupy chairs of medicine and surgery even though they realize fully that the chances of the acquisition of a large income are small.

The objection that is so commonly raised as to the injustice and unwisdom of any understanding or agreement by which the directors of the departments of medicine and surgery should abstain from private consulting practice is one which, as a teacher and practitioner, has interested me greatly. As has been indicated before, it

is not easy to see how the director of a modern university clinic, or the chief of a service in a large hospital organized on a similar basis, can give any essential part of his time to outside consultations. According to the tastes and character of the man, he will probably give more or less of his time to private consultations at his clinic. To the consultant the puzzling and interesting pathological problems brought for his consideration by patients sent to his consulting room by colleagues at home and abroad, form the most valuable part of his experience. Such patients the professor of medicine and his associates will doubtless continue to see. They should form a great addition to the hospital clinic. Some of these patients they will desire to admit to the hospital for study. But these consultations the director of a large clinic could hold only at stated periods, and to this work he could give only a limited amount of time. It is difficult to see how it would be possible for the director of such a clinic to give the proper service to his department, and yet conduct anything like an active consulting practice outside the institution. Under exceptional circumstances, however, the professor will probably accept calls to outside consultations, but only under exceptional circumstances. The director of a large medical department must control his own time and his engagements. He who is openly occupied in general or in consulting practice can never truly be master of his time.

A curiously active discussion has risen upon a rather small point in connection with the practice of the salaried director of a medical clinic. In some clinics, as has been said, the understanding exists that the professor shall contribute whatever fees he may collect from private patients to the departmental funds. This procedure has, indeed, been considered fundamentally improper, subversive of the higher interests and principles of the medical profession.

This is a problem on which I have meditated seriously, and, look at it as I may, I can but regard it as a rather small and relatively unimportant detail of a larger general question. The professor should naturally demand suitable compensation for his services to private patients. But whether such compensation should go di-

rectly to him, or should be turned over by him to the budget of his department, seems to me a matter of detail to be settled between him and the university or hospital. I am at a loss to understand the attitude of those who see in this a question of principle.

Some time before the first experiment of a university medical clinic was put into practice, a distinguished clinician whose services were sought by a well-known institution, offered independently, a plan for the organization of his department, which is very similar to that which now exists at the Johns Hopkins University. This offer outlined the establishment of his professorship upon a purely university basis, with the explicit understanding that the income from any private consultations into which he might see fit to enter, should be added to the budget of his department. Such an arrangement might be regarded as a distinct protection to the professor. For the financial questions which relate to practice are to some annoying and disturbing. And if the salary paid to the university professor be in any way sufficient, I can easily fancy that the professor might prefer to have it understood that the income from any practice which he might care to undertake should go into the budget of his department. I can also fancy that others might feel differently; that they might prefer a complete independence, expressed or implied, in this respect. I can further fancy that the university or hospital might fear that if the professor once began to accept fees from private patients, he would be in danger of being drawn into practice to such an extent that it would interfere with his university or hospital work. But, as I have said, the question of what becomes of the professor's fees seems to me of limited importance—a detail in connection with the larger problem. I can not see in it a great question of principle.

So far as the student goes, the danger that under the direction of a salaried professor, he may be given a training more purely academic and insufficiently practical seems to me small. In the first place, it has already been pointed out that the professor of medicine will doubtless be a man who has had a considerable clinical experience with patients in all classes of

life, whose training has been by no means purely academic, and although some of his associates will perhaps be men who have not yet acquired the ripened experience which should be that of the head of the department, yet no one for a moment fancies that *all* the instruction in medicine and surgery will be given by the nucleus of teachers wholly dependent on their salaries. In every large clinic, and in every large hospital affiliated with a university, a considerable part of the instruction in general medicine and surgery, as well as in specialties, must be entrusted to men with or without salaries, who are more or less actively engaged in practice. The fancy that because the director of such a clinic and many of his assistants are no longer at the beck and call of the public, the student is to be regarded as deprived of the opportunities offered by association with men who have been or are engaged in active practice, is a misconception.

That which the reorganization of a clinic upon a university basis should do, however, is to bring it about that the practitioners who share in the work and advantages of the hospital and take part in the instruction, may be rather more carefully and wisely chosen than they have been in the past. Well-digested experience, merit and teaching ability should more clearly and surely be recognized by a director untrammelled by hospital traditions and bent solely upon the improvement of his clinic.

The experienced clinician who is still engaged in private or consulting practice, if he be a man of high order, is not likely to lose his touch with the hospital or with the clinic so long as he is able and desirous of giving it his services. Indeed, it is probable that in the future, institutions will retain a closer connection with some of the members of the staff who are engaged in private consulting practice by offering them the privileges of consulting rooms at the hospital. This plan, which has already been adopted in some instances, ought to be of great natural advantage to hospital, to physician and to patient. To the hospital because it brings into close connection with the clinic those instances of rare and unusual disease which are sent to the consultant; to the physician because he is able to give much more time to his work at the hospital; to the patient because if the

consulting room of the physician be at the hospital centre, the many accessory examinations which so often have to be made, can be carried out much more expeditiously. But if such a physician be engaged in active consulting practice, he will no longer be the director of the clinic, and this, as has been pointed out, would seem to be desirable from every standpoint. For only under exceptional circumstances can such a man command the time necessary properly to direct a full department.

How much or how little time the head of a department of medicine or surgery may give to consulting practice is, however, a question which in the end must depend entirely upon the character of the man. He may give very little of his time; he may give a good deal. But if he be a man whose living interest is in his clinic, it matters little. For in either instance, through the character of the men that he associates with him, he will see that his department does its best work.

The objection so often raised that there is danger that a professor of medicine or surgery who abstains from outside consulting practice may be removed from touch with the profession, is comprehensible but not, I think, serious. If the director of the department be one who does a considerable amount of clinical work, he will still keep in active touch with the medical profession even though his consultations be held only at the hospital. In any event, the work of the department itself, set forth by him and by his associates and assistants in public clinics, in medical societies, and in journals, should keep him well before the eyes of the medical world.

The tendencies of the hour would seem to indicate that a very large nucleus of the staff of the medical or surgical clinic will in the future consist of salaried men who are giving the greater part of their time to the activities of the department; and it is very interesting that not only in hospitals affiliated with university schools of medicine, but in other independent institutions, this idea has already taken root. The experiment of a generously salaried staff of physicians and surgeons who are expected to give the greater part of their time, if not their entire time to the institutions, is already being made in various hospitals.

One of the most important functions of

a modern medical or surgical clinic is that it should afford opportunities for the ambitious student with scientific aspirations to pursue that course of study and acquire that experience which will fit him for a university career. Every year there graduate from our schools of medicine men with the ideals, aspirations and abilities of the true student, who, because of financial disability, are obliged to enter directly into active practice. A certain number of these men preserve their enthusiasm, make the most of their opportunities, and return later to the pursuit of those studies which have always been the object of their ambitions. Some find unexpected intellectual satisfaction in the varied opportunities offered by the life of a practitioner. Others, dazzled by the financial rewards of success, lose their early ideals. Many, however, are obliged to give up their ambitions. With the organization of the modern medical clinic, there should be a considerable number of assistantships commanding salaries which should make it possible for many of the really good men to pursue their chosen career. And it is highly desirable that such salaries should be sufficient and so graded that these men may continue their work through long years should they prove themselves of suitable character and ability.

But—and this is a question very often raised—what about the opportunities for the development of practitioners or consultants if every medical or surgical clinic become a training school for professors of medicine? The answer is simple. The training which best fits man for a professorship differs in no way from that which best qualifies him for the career of a practitioner or consultant. Some of the men who start upon their career in a modern department of medicine will remain connected with the service in one capacity or another for ten or fifteen years or even more, until the offer of a position as assistant or professor or director in another large clinic comes to them. Many, after eight or ten years' experience will find themselves well fitted to enter into the practice of medicine or surgery as consultants. Others after spending a shorter period of time will doubtless take up general or special practice. That to which we may look forward with reasonable cer-

tainty, however, is that the reorganization of hospital and university clinics according to this general plan, the essential feature of which is the establishment of a large nucleus of salaried men who give the greater part of their time to the activities of their service, will provide for university, hospital and public a body of men better trained, and with richer experience than has been offered in times past.

There is one point in connection with the reorganization of the clinic upon what I have called a university basis which seems to me of real importance. This has been touched upon especially by Dr. Meltzer.² I refer to the desirability of ample provision for voluntary assistantships. This is matter which touches especially hospital organization. The work of a modern hospital clinic has changed greatly. A well-organized medical or surgical clinic is as truly a scientific department as are the university departments of anatomy, physiology and chemistry, and in every hospital there is a constant demand for more and more students to assist in the researches which are being conducted by the various sub-departments, and incidentally in the care of the patients. The great advantage to a hospital of the presence of students in its wards has often been pointed out. Such students form a corps of extra assistants who enable us to study, and care for our patients much more intelligently.

But where can one find the director of a medical clinic who is not longing for the services of more young men, recent graduates with scientific aspirations, to assist him in the study of a variety of different problems? As it is today, only those men who can obtain salaried positions upon the staff or are of independent means can afford to give the time required for such studies. But many a student, upon his graduation, and during the several years that follow, would be more than willing to accept a position as voluntary assistant if he might be given a room and his lodging in the hospital. Every modern medical or surgical clinic should have a number of such positions open to such men as the professor may see fit to select. There could be no better investment for the hospital.

² Science, 1914, XL., 620-628.

Research assistants should be considered as essential to the welfare of the hospital today as are the regular internes.

These are the considerations that I have wished to bring before you today. They have to do with matters which are not without public significance.

The relations of the medical sciences to the commonwealth are of great intimacy and of vital importance.

Time was when the physician was called upon only to minister to his ill or wounded fellow. Today he is something more than the healer and the binder of wounds. The advice of the medical scientist is sought in every sphere of human activity. It is he who is called upon to outline and direct those measures which protect our homes from epidemic, our cities from pestilence. It is he who has opened the wealth of the tropics to the safe exploitation of man; to him we must look for that counsel which shall preserve the efficiency of our armies in the field and of our cohorts of industry at home; which shall lessen the horrors of war and the dangers of peace.

No effort can be too great; no sacrifice too costly that may afford to the student of the medical sciences the most active stimuli, the best opportunities for training and for research. For in the training of the student of medicine is involved more closely than is generally realized, the prosperity and safety of our country.

A COMPARATIVE STUDY OF THE KIDNEY FUNCTIONAL TESTS*

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Admittedly a failure as regards the original expectation of diagnosing the anatomical lesions of the organ, the tests of the functional activity of the kidney are now yielding results of perhaps

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