MEDICAL EDUCATION

MEDICAL EDUCATION FROM THE VIEWPOINT OF THE FIFTH- YEAR GRADUATE*

BY GUY A. CALDWELL, M.D.,
Atlanta, Ga.

At the outset it is advisable to define and locate this viewpoint. Our medical student has been five years graduated from the school of medicine, but only two to three years out of the hospital. The greater portion of our fifth-year graduates have seen at least two years' service in the Army or the Navy. It is, as I see it, an elevation near the most important parting of the ways in one's career. One has not been out of school and hospital long enough to lose his ideals; he is young, full of ambition and energy, and he sees things through optimistic glasses.

From this height, the devious turnings and difficulties of the comparatively short pathway over which he has already come are apparent: he has had enough practical experience to have a fair idea of where the road leads that he is upon and to know many of its chief difficulties. Most important of all, however, is the fact that from his position he still has a clear vision of the star to which he hitched his wagon at the time he became a student of medicine. It still is an open question with him as he pauses at the end of the fifth year to consider where he is headed, to know whether the road chosen by him at the parting of the ways when he completed his internship is the one which will ultimately bring him nearest the goal represented by his star.

It may be worth considering here for a moment what that goal is, for I believe that the motive prompting most men to take up this study is much the same in all cases. One does not choose medicine because of its financial possibilities; nor because one feels it to be the most honored of professions, the most interesting, nor

the most progressive. All of these things, and many others, are factors in the choice, but they are not the controlling factors in most cases. As a rule, it is chosen because it is essentially altruistic, because it appeals to the greatest thing there is in one—the desire to be of real service to one's fellowman, and eventually, by reason of one's contribution to the progress of science, to leave the world a little better off than it was before. From the fifth-year point of view, therefore, this aim is still clearly in mind and the student reviews the situation to decide whether he be on the road best adapted to his natural talents, and which will permit him to render the greatest service to his neighbors, and at the same time will allow him to set about solving some of the problems of medicine.

Looking backward in reminiscence over the route he has traversed, he may compare it favorably with the relatively unblazoned trail pictured to him in his youth by his grandfather, or with the roughly defined and uninviting pathway traveled by his father or uncle who are now retiring. Five years ago our student entered the study of medicine because he had finished high school and college training, and he knew that four years would be required of him in a Class A medical school, and that he must serve from one to two or three years in a good hospital before his pride and conscience would permit him to practice. What a different outlook from that which his grandfather had when he took up the study of medicine! With him, the preliminary education had not been requisite. It was simply a question of taking one or two courses or lectures, five to six months in duration, at a cost of from \$200 to \$300, and an apprenticeship of a year or so, with probably a small salary, with some established physician. With his father it was a matter of three courses of lectures of from six to eight months, at a cost of \$300 to \$400 a year—the state board examinations, a year or so with some older doctor, or in the most fortunate cases, in a hospital, and then practice. But five years ago it was a matter of four

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years in the medical school at \$700 to \$900 per annum (the student having already been an expense to his family for four years in college) and two years in a hospital at a cost of \$200 to \$400 per year. Considering the time and money invested in his education by some one, he makes a rapid mental calculation and finds that he has not as yet paid more than the interest on the capital invested in him, although he has already been practicing two to three years!

This leads him to compare his state with that of his comrades in college who went into business or even into engineering. These men generally received their educations at the expense of their employers, or at least they got their practical experience with a salary in addition which was ample for their upkeep and permitted them to save enough to begin their home life, and already, for the most part, they are established men with families and good prospects. Or he may compare his lot with his friend who entered West Point or Annapolis, there to learn a profession diametrically opposed to his own, that of the destruction of human life. He had received at the expense of the Government a highly technical education, in return for which he gave the Government a specified period of his time, and at a fair salary. And thinking of these things, he is prone to wonder whether it is quite just that the commonwealth should expect some of its citizens, such as his father, to make such unprofitable investments (from the financial standpoint) as in the education of a doctor in the family. Usually, however, one dismisses such thoughts with a shrug of his shoulders and turns to the consideration of how the road over which he has come could be made smoother for those who are following.

If he be an embryonic surgeon, he regrets that he was not provided with more work in surgical and regional anatomy during his last year in school; or that the hospital did not provide time and place for his doing dissections of such portions of the body as he was dealing with in the operating room. He regrets that his visiting men had been so crowded with practice that they could not give more time to the consideration of the cases in hand at

the hospital and thereby help him on his way. He fails to see the reason why certain of the operating staff were so reticent about discussing their operations with the house staff, who were there to learn.

If he be a follower of the internist, he deplores the lethargy of the hospital and school in not employing their pathological material to the better advantage of the interne and students. If he had ideas that were worth developing—and many of them were worth it—he is sorry that he did not find a receptive spirit or readiness to make an effort to obtain necessary equipment or material for working out the problems. He would always have appreciated an adequate library and reading room, and some time to repair thither in peace and study.

He reflects that it is neither just nor reasonable for hospitals, even though they be charitable institutions, to expect the services of internes without paying them sufficient to cover their clothing and incidentals, for surely his long-suffering family have enough invested in him by this time, and he is now twenty-five to twenty-eight years old and finds it rather humiliating not to be self-supporting at least.

One wonders, too, whether it has been the greater part of wisdom for the hospital to require twenty-four-hour duty of its internes, whether both the hospital and the interne would not have profited by having him relieved, even as much as the nurses were, in order that he might have recreation, rest and exercise and time for study and attention to personal affairs. He recalls that two of his classmates—the best in the class—entered the hospital immediately at the close of a heavy fourth year's work and gave so much time and energy to their work that their resistance was lowered. One contracted tuberculosis and the other died of pneumonia. Is it to the credit of the science of medicine that it has laid out such courses for men, and has demanded such duties of them, that they are devitalized and have no resistance? And yet the profession has not been unaware of the high incidence of tuberculosis and acute infectious diseases among students nor the still higher rate among internes.

Has it been necessary? Has it been right to permit it, not to say demand it? Will it be corrected unless we begin somewhere? Again one must shrug his shoulders and look for brighter fields.

He recalls the days as he approached the finish of his two-year internship, having served eighteen months on the surgical side of the hospital and six months on the medical. He realizes with a wave of thankfulness how much he has learned in the care of patients in that time and is tremendously grateful that he did not have to pawn himself upon the world as a practitioner without having had that experience. But he has also a feeling of great sadness that his student days were over, and that he was now to begin an altogether new study of how to practice medicine—a pursuit which interested him but little, anyhow. He knew that Smith, a fellow interne finishing at the same time, relished the idea of installing his office, of buying his diminutive car and of getting started at last. Smith loved the thrill of approaching a new case, of studying a little now, and a little then, but chiefly from the standpoint of alleviating symptoms. He was of just that type. He cared but little for the refinements of research, for having exact records, for analyses, collateral study, and for original work in new fields, but quite the contrary he would like the contact with men of business and other professions, would glory in developing his personality and clientele, and in being able to dispense his knowledge in return for the necessities and the comforts of life. Our student admired Smith and was glad that a goodly number of his friends were of much the same type. But then there was Jones, who had always been something of a philosopher, who was observant and careful of the minutest details, who loved to spend a great deal of time on a single case and then to read about and study over and discuss its curious findings. Jones was not a particularly good "mixer," and he abhorred anything verging on the use of placeboes. Brown also was of much the same type, except that Brown was very glib and gave out his thoughts in a very direct and concise way.

They both had oftentimes met in the students' room, and together they had deplored the fact that they were so unready to go into practice. They did not feel that they had delved into the depths long enough. They wanted to continue the study of medicine in the hospital with its help for several more years. They felt that they were just reaching the most receptive stage and the time at which their experience, if abundant, would rapidly develop them into genuinely good and competent men in their lines. They were just beginning to see the real problems of medicine and were getting ideas of how to attack some of them.

And yet, what were they to do? The hospital was soon to be through with them and the next class of internes was pushing them out. There appeared to them to be but three types of places open to them.

1. Full-time laboratory work, with possibilities in research.

2. Positions with fixed scale of salaries with the Army, Navy, Public Health Service, or industrial medicine.

3. Private practice, with or without connection with the medical school, if there happened to be one in the community.

Every position coming to their knowledge was discussed, but with the exception of one they all came under some one of these three heads. Yet, from the standpoint of our two graduating internes, there were great and serious objections to all of them.

Laboratory work, leading to research problems, usually took one away from patients, wards and operating rooms. Moreover, it meant a life of self-sacrifice. No research man can look forward to more than the most meager salary at any time. A home and comforts of daily life are hardly to be counted in with such an outlook.

Likewise the Army, Navy, Public Health and industrial positions with fixed salaries and allowances did not permit of one's retaining the personal touch with patients. Those positions usually are burdened with a great deal of statistical and administrative work, and although of unquestioned value to the community, did not appeal to these two. They wished to continue the

study and care of the same type of patient they were having in their interne service.

In the third place, if they launched into practice they knew that it meant, so far as their scientific and clinical development was concerned, the loss of from four to six years during the valuable period in their lives. They had just reached the point where they were capable of absorbing most, of acquiring with greatest rapidity the necessary deftness of hands and fingers needed in surgery, and were beginning to get a hold on what were the real problems of medicine and surgery, and to see possibilities for their ultimate solution. Often they had discussed Dr. X. as representing what happened to their type of men going into practice. He had at that time been five years graduated from the hospital and was just then getting a foothold in the capacity of Junior Assistant. He had several times discussed his positions with these two internes. He readily acknowledged that he had been forced into practice because of financial reasons, and that during the entire five years, although considered financially a success, he had not cared for, nor come in contact with, as many cases of a serious nature as he had in two months in the hospital. And yet his reputation as a house surgeon still lived in the institution, so exceptional had he been in his knowledge of anatomy and pathology, and so dexterous was he with instruments.

But at the time he was under discussion he was no better as a surgeon nor as a diagnostician, if as good, as when he had completed his internship. Thus reflecting on these matters, our two internes did not feel that any of these three types of work afforded them the field they were seeking, wherein they might earn an adequate salary or maintenance, continue to be as useful as they were at the close of their internships, and at the same time develop themselves and advance the science of medicine.

The one exception to these three types was a position as resident surgeon or resident physician in a teaching hospital and this would have afforded them what they were seeking had it carried sufficient income to justify their accepting it. This would mean a sufficient sum to pay in-

terest on the money invested in their educations, their incidental expenses and clothing and something to lay by with which to begin a home, an office, or a bank account.

There were a number of resident positions which might have been open to these two, but only one which carried with it the possibilities of their developing by their work and study. In this particular hospital it had been deemed advisable for the good of the institution to reduce the number of assistant visiting physicians and surgeons, and to turn over the work that had been done by them to the resident physician and surgeon. Thus they would be afforded abundant opportunity for observation of cases, latitude in working up the clinical and laboratory data, and in the case of the surgeon, of continuing to develop his manual dexterity and operative technic. It was understood that the reasons why this institution had found it advantageous to reduce the number of visiting physicians and to supplant them with a smaller number of residents was twofold: (1) junior visiting men were prone to slight the hospital patients on the charity services in favor of their private practice; and (2) they were so numerous and their rotations to the various services so frequent that the patients did not get continuous and consistent treatment, and the internes did not have constant supervision, but instead had too much latitude and responsibility. The other resident positions afforded better salaries, but since they did not offer opportunity for operative work, nor the time and possibility for the treatment of cases on one's own initiative, they were naturally not considered.

It was not left to the students of the class, however, to decide their own destinies. War was declared by the United States very shortly after they had completed their internships, and almost to a man they volunteered for service and were rapidly sent overseas. There they came in contact with many men of their class from all sections of this country as well as of other nations, and many were the occasions in camp, on shipboard, in trains and in dugouts to discuss just this situa-

tion and the differences obtaining in various parts of the country.

Among those whose interest was in general medicine and surgery, there was a great unanimity of opinion on this point, that in no section of the country is there an adequately paid resident's position giving opportunity for operative work or for the treatment, careful study and analysis of cases. As a result, medical education in these departments is cut short and delayed for from three to six years, oftentimes with disastrous results to the proper scientific development of the earnest student of medicine. All felt that it would be to the common interest of hospitals, medical education, students and patients if they could be allowed to pursue their training as residents in the proper definition of that position. If the more advanced residents could be employed as full-time instructors of medical students, it would certainly be to the benefit of medical schools who suffer much from the tendency of unpaid instructors who are practitioners to neglect the student constantly for the sake of practice.

It seemed to be an impression also that if one must practice, the better openings lay in the middle or far West. The East and South were often criticised as being loathe to admit men trained elsewhere to their medical cliques, that there was a colloquial spirit here in the South too narrow to be receptive of outside men, regardless of their qualifications and ability. This section was also criticised for not being strict in the matter of referring cases to men specially qualified in the various branches. Let it be understood here, please, that the speaker is Southern to the core, although educated in the East, and he resented these statements, and has since been able to disprove practically every one of them in his own experiences. Nevertheless, these criticisms of the Southern branch of the profession should be borne in mind as we encounter doctors from other sections of our country.

With the close of the war our fifth-year graduates are back on this side, picking up the lost threads of their plans where they dropped them. Many are repeating their internships, having lost touch with clinical medicine by reason of administrative

positions they held in the Army. Many have launched into practice, and others find themselves filling the position of resident in various hospitals. All are clinging to the old ideals and are eager to do everything in their power to further the interests of medical education, but they recognize two great drawbacks: (1) the unwillingness or inability of hospitals to pay their internes' expenses and their residents real salaries, and to provide them with proper work; and (2) the lack of a sufficient number of full-time paid instructors in medical schools, especially on the clinical side.

Our fifth-year graduates frequently wonder what might be done to provide for just these things. Of course if charity hospitals are to remain purely charitable institutions, and private hospitals are to care for only those patients who are able to pay, it will be difficult to arrange things. The ideal hospital should be a combination of the two, affiliated with a medical school. The hospital would furnish a number of offices, two or more for each department and service. Charity and pay patients alike would be seen in these offices and studied, clinic fashion, and cases requiring hospital care would be admitted at the proper time. All others would be treated as office patients.

All cases would be referred to the financial department to determine on what basis they should be admitted for clinic or hospital treatment, and if they were to pay, to fix and collect the fees. Through the social service department of the hospital the information necessary for these decisions could be obtained. The offices referred to would be held by the resident physicians and they would have the benefit of consultations with the visiting staff when the nature of the case demanded it. The resident physicians would draw either fixed salaries from the institution or a percentage of the receipts from the cases handled by them. They would be responsible for the instruction of the nurses in medical branches for supervision of the work of the internes and certain of them for the instruction of students in bedside work.

Whether this will be the ultimate solution of the question, or whether it will

come through the combining of all hospitals and medical schools under municipal, state and the Federal Public Health Service, with the organization along the lines above mentioned, one can only conjecture. Certainly if by the latter solution, the Public Health Service or an allied bureau, could take over and adequately finance medical education, and offer its training to students in return for a certain number of years of their service, it might solve many of the most serious difficulties now confronting medical education and the public health in all of its departments.

To sum up the situation, therefore, as seen from the fifth-year point of view, it seems that certain things should be accomplished:

1. That medical schools must get sufficient funds to pay an adequate number of full-time instructors a living wage, this to the end that students, especially in the clinical branches, may be consistently and properly taught.
2. That radical changes should be made in the matter of duties and hours for internes. That all hospitals should pay them at least \$25 to \$50 per month and provide them comfortable living quarters, with a recreation hall, reading room and library in addition.
3. That the number of assistant visiting men on municipal and charity hospital staffs should now be reduced for the sake of economy of time and general efficiency of the institutions.
4. That a resident physician or surgeon's position should be created in each hospital service. That these positions should absorb the authority and duties pertaining to the assistants on the visiting staff and be under the supervision of the senior visiting physicians or surgeons. That these positions should be amply paid by the hospital.
5. That the positions as paid, full-time instructors in the medical colleges be recruited from among the hospital residents, and in turn that visiting men be appointed after they have held both positions.

If these things could be accomplished, muses our fifth-year graduate as he gazes across the hills to where his star is shining down upon the end of his pathway,

there would be fewer doctors in general practice carrying a "specialty" in addition to their general work; there would be more hearty co-operation among us, and more referred cases; and most important of all, there would be an end of "bluffing," no more need to "bluff" the patient. Either one can care for him or one will refer him. No need to "bluff" the inquiring student or interne, for one who shall have been trained by the courses outlined above can not but know. He can then practice or teach without fear, and his students may say to him as did those of yore, "Good Master, thou knowest whereof thou speakest."

DISCUSSION

Dr. Lewellys F. Barker, Baltimore, Md.—Many of these difficulties mentioned by Dr. Caldwell are, I think, seen and appreciated, but no way has been found as yet of escaping them. What he has said about the excessive duties of internes, their long hours of work and their insufficient remuneration is very true. There are two ways in which the problem of a living for these young men who have just finished their internships and who desire to go on with higher clinical work might be met.

The first way lies in the provision of salaried positions for men who will continue to live in the hospital after their ordinary interne service has been completed. Hospitals must, from now on, have "upper" resident staffs in addition to the resident staffs that now exist. Instead of having merely an interne staff that is through its service in a year and a half or two years, we should have upper resident staffs on which men may remain for from three to five or ten years with small but growing salaries. There are hospitals that have already made such provisions, and they are reaping the benefit of that special kind of organization. Why every hospital does not make the effort to install it I can not understand unless it be through lack of knowledge of its advantages.

A second way is along the lines of Dr. Roberts' suggestion, namely, the formation of private clinical organizations for group diagnosis and group therapy. Such groups can make use of good young graduates on salaries. In a wisely-organized group, these men would not engage wholly in the practice of the group, but would have specially designated hours each week for study, teaching, writing, hospital work and investigation. The group could afford to pay the young graduate a salary that would give him a fair income, one suited to his training and the needs of his time of life, and as he grew in experience and in needs his income would be correspondingly increased.

Dr. Caldwell has emphasized as desirable the reduction of the number of men who are now at work in charity hospitals. Here I differ with

his views. My idea is greatly to increase rather than to diminish the number of men that are at work in the charity hospitals, but with this understanding, that the work should be organized, developed and differentiated so as to be of the right kind. We have, in my opinion, not one-fourth of the men at work in these hospitals that we need; but we have not yet adequately organized hospital work and we have not sufficiently differentiated the work that the men may do in such hospitals. This plea for the reduction of the number of workers is due, it seems to me, to a lack of recognition of the amount and the kinds of work that should be done in all hospitals in which patients are to be studied and treated. I have never seen a hospital yet that was sufficiently manned by the right kind of men.

I feel the same way about the faculties of medical schools, both the clinical staffs and the whole-time staffs. The idea at present is to reduce the number of men who are on the faculties of the medical schools. This seems to me to be an egregious error of judgment. My idea would be to bring in as many good men into the faculties of medical schools as is possible, provided always that you organize so as to have an ever more differentiated organization with divisions of labor that will afford opportunities of the right kind for each member. Faculties should of course not keep men that can not learn to work satisfactorily with others in a well devised organization, but they should try to secure all the able men who want to work and who are willing to work in the right way and should give them a chance to develop.

I agree on the whole with what Dr. Caldwell has said. We have listened to an admirable paper, one that should attract the attention of medical educators and of hospital administrators.

Dr. G. Canby Robinson, St. Louis, Mo.—We are interested in medical education not alone from the narrow point of view of the undergraduate, but we have in mind the intellectual development of all medical men. Dr. Caldwell has spoken of the opportunity for intellectual progress in a medical man's career.

There is, under the present state of affairs, a hiatus in his opportunities for study which is dangerous and detrimental in many cases. I believe that one solution for this is the development of the out-patient department. We should try to visualize an ideal medical career from the point of view of intellectual progress, and a man finishing his internship will not as a rule enter into busy practice, but he should nevertheless be able to continue to have the opportunities for study and the opportunities for development that he had through his internship. If dispensaries are developed as they might be, they would afford a splendid adjunct to the type of training men get in hospitals. A dispensary should be not only a place where patients can be carefully examined, but it should be affiliated with laboratories, where opportunities can be given for just as thorough work as in hospitals. If dispensaries were to be so developed, there is no reason

why a man having finished his hospital work should not go on and find the opportunities for satisfying his intellectual desires for growth as he had in the hospital. Today this is far from the case.

Dr. W. W. Herrick, New York, N. Y.—I was especially interested in Dr. Caldwell's paper and was perhaps a trifle apprehensive since Dr. Caldwell was once a member of my own classes at Columbia. However, he dealt very gently with that part of his academic past.

I feel strongly that the organization of many of our hospitals is at present inadequate in that the physician is excluded from positions on the hospital attending staff until he has been out of medical school some ten years. The recent medical graduate is not sufficiently utilized in the active work of the hospital. It would be of great profit if a junior staff were organized in each hospital to which the routine instruction of internes and students could be intrusted. Incidentally these men would also be acquiring knowledge in practice to which they and their clients are entitled. The organization of a force of junior attendings, to hold their positions from year to year during the rendering of efficient service, is a very great need of the teaching hospitals.

Dr. Caldwell (closing).—I think possibly I was misunderstood in regard to one point with reference to there being too many men on the visiting staffs. In the hospital of which I am a graduate, the Presbyterian of New York, and in the hospital where I am at present the Chief Resident, the Grady Hospital, Atlanta, Ga., on a service of from twenty to thirty patients, we have one visiting physician and two assistants. On the other hand, three internes are responsible for a service of from two to three times as many patients. This makes two or three times as many visiting men as there are internes on each service, so that when the internes have finished making rounds there remains but little time for the execution of the numerous orders. On a particular ward, all three visiting men make rounds on the same cases, there being no assignment of special cases to the various men on service. There are frequent conflicts in orders, many delays in executing them; there is confusion as to whose is the definite responsibility of caring for the case, who is to discharge it; and it becomes the old question of "that which is everybody's business is nobody's business," the result being frequent complaints from families that "Mr. So and So has been here so many days and nothing definite has been done for him."

Hence I feel that if the time of the assistant visiting men was devoted to certain classes of cases, to investigation along certain lines, or to work in the out-patient department, leaving one visiting man, and him alone, responsible for the care of this number of cases with the assistance of the interne staff, it would accomplish much toward simplifying the work of the interne and the nurse and toward co-ordination and efficiency in the care of the patient.