wreck the happiness of the innocent without doing them any good. There would be no difficulty in multiplying illustrations. Doubtless, ordinarily, the truth, which may be stated with brutal frankness or with delicate consideration, is best for all concerned, especially if it be served with the saving grace of "as I see it," or its equivalent.

Now for the condition or touchstone. Before swerving from or denying the truth we should ask ourselves the searching question, "For whose advantage is this denial?" If it is in any measure for our advantage, or seeming advantage, let us shame the devil. Only when in our deliberate judgment the interest of the patient and his family, and that alone, is thereby furthered is the truth to be denied.

Finally, allow me, my younger brothers in the profession, to wish you God-speed and the attainment of your hearts' desire.

MEDICAL TEACHING AT HARVARD AND THE OPPORTUNITY IT OFFERS THE YOUNG GRADUATE FOR MEDICAL TRAINING.*

BY HENRY A. CHRISTIAN, M.D.,

Assistant Professor of the Theory and Practice of Physic, Harvard University, and Physician-in-Chief, Carney Hospital, Boston.

Mr. Chairman and members of the Alumni Association of the Harvard Medical School: It was with particular pleasure that I received your invitation to talk to you to-day of the teaching of medicine in Harvard and the opportunity for training it affords the recent graduate in medicine. Not being a graduate of the Harvard Medical School myself, perhaps I can discuss the teaching of medicine in Harvard from a slightly different view point from that of the man trained here. At least, the perspective of the man born and trained in Virginia and Maryland is apt to be different from that of the New Englander when each turns his gaze on the same things, and so I will not be supposed to see things just as you do. However, when we differ, I trust it will be on the friendly basis of mutual interest in the Medical School and that a consideration of these differences will emphasize what is best for that common interest.

Seven years ago I came to Boston with very different ideas of the Harvard Medical School from those I now hold. I expected to find the settled method which had grown hoary with years and the complacency of long precedent. Instead I found the restlessness of experiment in teaching methods. Six years ago the degree requirement for admission was inaugurated, and in the autumn of 1905 the fourth-year elective system was begun. These two changes alone are sufficient evidence of a desire to improve conditions, but in addition many minor changes have been made, so that the teaching in the school must have changed much since the days when most of you were students.

With the establishment of the fourth-year elec-

tives, a number of changes were made in both departments of medicine and it is of these that I desire in the first place to tell you. Through the courtesy of the trustees and superintendent of the Massachusetts General Hospital the Department of Theory and Practice has been able to offer to 28 members of each fourth-year class an elective, in which four men spend their entire time in the wards and laboratory of that hospital in intimate contact with the patients and machinery of a great hospital and under the constant supervision of one man whose hospital obligations are *nil* and whose teaching function is paramount. There each man sees the daily progress of disease in some forty patients. Each student obtains the history of assigned cases, makes physical examinations and watches the patients from day to day. Work in the wards is supplemented by laboratory investigation, such as is possible in a well-equipped clinical laboratory. All student observations are subjected to the control of instructor and house records. The ward visit of the visiting physician is followed by all four students and instructor, and in this way all patients on one service are observed. All post-mortems are attended and in many instances have been done by the students themselves. The case seen on the medical side, if transferred to the surgical, is followed by the student in charge and, as a rule, all see the operation. Autopsy and operation serve to confirm or disprove for them diagnosis in a way far more instructive to the given student than is possible in any other way. It is the continued contact of student with patient that has been the most valuable feature of this course, and one of hardly less importance has been a sufficiency of time for careful observation and record, such as is impossible in the outpatient department. This elective will be supplemented next term by an additional month, increasing the number of Theory and Practice students at the Massachusetts General Hospital to 32, and the department will offer a second elective of similar character at the Carney Hospital to 16 men; four men every forenoon during two months.

A third elective was offered last year by Theory and Practice and will be continued this year, in which an opportunity is given a limited number of senior students during the first half year of carrying on clinical laboratory investigation. Last year two creditable pieces of work were published from this course.

The Department of Clinical Medicine conducts its work in a different way. It does not limit the number electing the course. The students are distributed in the out-patient medical clinics of the Massachusetts General and Boston City hospitals during the forenoon as regular student assistants to aid in running the clinics. There they see and treat ambulatory cases. Last year this work was greatly enhanced in value by the presence at each hospital of an assistant in clinical medicine, whose only duty was to supervise the students in their work. The regular management of the clinic devolved on the visiting phy-

*An address at the annual meeting of the Harvard Medical School Alumni Association, held in Boston June 25, 1907.

sician on duty, assisted by the students, and the teaching was directed independently of the management of the clinic. The experience of the previous year had shown that it was not possible for one man satisfactorily both to teach and to run the out-patient clinic.

The afternoon is spent by these men in part in ward work at the Massachusetts General Hospital, under the direction of an instructor, and in part in preparing a thesis or attending certain laboratory demonstrations. A ward visit with Dr. Shattuck is included in the week's program. One of the best afternoon exercises comes on Fridays, at 4.15, when the histories of cases which have been autopsied during the week are read and discussed. After this the post-mortem findings are reported and specimens demonstrated. Lastly, any discrepancies in diagnosis are discussed and post-mortem findings harmonized as far as possible with ante-mortem observations.

Finally, last year a new feature was introduced in the medical department, a clinical laboratory course given under the supervision of the department of Theory and Practice, which replaces portions of instruction formerly given by several departments. This course occupies two hours a day of the second half of the second year, and includes systematic instruction and practice in various clinical laboratory procedures.

This hasty review of the present teaching of medicine at Harvard brings out two things, namely, that now several men are devoting almost the entire day to teaching and that satisfactory teaching is incompatible with a satisfactory handling of an out-patient clinic by the same individual. This is a marked contrast to the former system, under which no man doing clinical teaching in medicine gave more than an hour or so to teaching work and that in connection with the management of a clinic. With the change has come a new employment for the younger men, clinical medical teaching. Clinical medical teaching as a vocation is new to Harvard, perhaps not yet fully realized. Still it bids fair to become soon a reality. What, then, has it to offer to the young medical man? First, it affords moderate income. This has been rendered possible in good part by the activity of this Alumni Association, which has raised a fund to be used annually in increasing salaries for such work and which fund you increase this year to \$1,500 — the equivalent of a \$37,500-endowment.

However, salary is a lesser attraction. The chief one is that such work brings to the teacher many of the clinical advantages of large hospitals without the responsibility of the routine, it brings contact with students of active mind, it compels study and familiarity with medical progress and it affords some opportunity and incentive for investigation. In short, it affords a valuable training in medicine. A number of these opportunities under the old system in Boston came to the men only after a number of years had elapsed since graduation and at a time when the activity of youth was passing into the settled calm of

middle life; in other words, too late for them to give their maximal value in training.

Unfortunately, the hospital system in vogue in Boston, with its unstimulating system of promotion by seniority, makes impossible the greatest incentive for a young man's adoption of such a teaching position, — the incentive of the feeling that success in medical teaching and investigation will bring the coveted beds in a hospital and a higher place on the faculty. Success in his endeavors may bring them, but this is largely a matter of circumstance. Knowing what I do of the inner mechanism of Boston hospitals, I feel as yet unable to advise the young graduate seeking advice to follow the course, which I regard as certain to give him at the end of four or five years the broadest training and best grasp of medicine, and to assure him that attainment of these qualities will give him a hospital position. Rather am I forced to say, "Do certain routine which will train you a little, but bring a reward for faithfulness in an out-patient department, from which you will rise to the dignity of wards in due season — a long season, perhaps — even though you may learn but little more than you now know, and devote what time is left to your medical teaching and investigation. The latter will add breadth and force to your training, though it may not hasten your promotion." Gentlemen, we cannot expect to get the best men in teaching and research until the principle is established that he who does creditable work will be appointed to the out-patient department and promotion to the wards will come to that man young or old, who has best utilized his opportunities for work, whatever his seniority rank. This stimulus is needed by almost every man, and with it more hard work will be done.

Changes that must come soon in the staffs of Boston's large hospitals will give an opportunity for the hospitals to show whether adherence to the precedent of seniority promotion will continue or not. If seniority determines these promotions, I can but feel that medical progress in Boston has received a serious setback. So long as the medical school controls no hospital appointment in Boston, as is now the case, it should strive in every way possible for the principle of promotion to the best man, in order that for its teaching it may command the best local talent. Cessation of seniority promotion in Boston hospitals would, I believe, greatly aid in getting the best local men for our teaching.

I have not speculated as to the future development of the Harvard Medical School. Each can build for himself medical air castles. To maintain its relative position Harvard Medical School, however, must be active. Laboratory buildings we have in every way adequate. The crowning glory of a medical school — the hospital — we lack. I cannot refrain from saying that the Brigham Hospital will not be that crowning glory unless the appointments be controlled by the medical school, teaching be freely permitted and there be a single head to each service. A large number of patients across the street are no asset to the

student, unless he can come in contact with them and have competent instructors. Too often do we boast of the many hospital patients in Boston as a valuable asset to the medical school, forgetting how few of these are really accessible to our students. Not more patients, but more contact with patients is the present great need of our students.

If the Brigham Hospital is manned as the present Boston hospitals and be free of university control, to my mind its nearness will be its only advantage, and it may well serve as a perpetual preventive of what we need,—a university hospital. An improvised dwelling house with few patients would be better for us than a magnificent hospital, uncontrolled by the medical school, for in the former, at least, the medical school can determine the policy and appoint the best man capable of doing medical investigation and teaching, and in this wise lay the beginnings of a university hospital, which in due season will grow to be an institution that is a fit companion of our present laboratory buildings. But I have digressed from my main topic.

Notwithstanding the fact that at present the medical school cannot appoint to hospital positions the men regarded as most capable of teaching and investigation, yet the advantages of the training offered the young medical man by such an employment of his time as is afforded by teaching in the departments of medicine, are great, and these positions, I wish to emphasize, are for the young men and should be held for only a few years. Continuance in them is desirable neither for the man nor for the school. The personal pleasure in such work in itself would well recompense the man during these few years and the training gained would at least be no bar to hospital promotion. So, in those years, while awaiting an appointment in the out-patient department, medical teaching offers many attractions. If followed by the brighter men, at least, we will have soon in America a class of men from which to draw clinical professors, when freer interchange between our schools becomes possible, and who in the meantime can redeem us from the just criticism that in America rarely does a man continue clinical investigation beyond the first decade of his medical life, and that our medical leaders represent but little that was not embodied in our medical leaders of half a century ago.

For these reasons and others, I trust that the recent changes made in the teaching of medicine at Harvard will result in attracting the younger men to the positions which give them teaching experience and opportunity for clinical investigation. All effort possible on your part directed to this end will be a great boon to the medical school and a factor in the uplift of the standard of American medicine.

THE Croonian lectures of the Royal College of Physicians, London, have been delivered by Dr. W. J. R. Simpson on "The Plague."—*Science*.

Original Articles.

THE MEDICAL AND SURGICAL ASPECTS OF PERFORATING TYPHOID ULCERS.*

BY RICHARD H. HARTE, M.D., PHILADELPHIA.

SINCE typhoid fever has become such a widespread disease, with its apparently unavoidable and fatal complication, namely, perforation, which has been estimated to amount to as many as 16,000 annually in the United States alone, it renders a discussion of the subject one of perennial interest, and, I think I may add, of considerable value. It is only by a discussion of the relative value of the various symptoms and modes of treatment at present known to us, that we can hope to save more of these cases from a fatal termination.

Although it may be somewhat of a presumption to call your attention to a subject which has already received such able treatment by many of the physicians and surgeons of Boston, yet I venture to present for your consideration some of the conclusions that I have myself reached, with the hope of carrying home with me, as the result of your kindly discussion and criticism, some ideas which will be of practical utility to my future patients.

I cannot but feel the importance, in the treatment of desperate cases of typhoid fever, of the surgeon and physician daily seeing the patient together, as it is impossible for a surgeon suddenly called in consultation, knowing nothing of the individual peculiarities of the patient, to positively diagnose perforation. Neither does it seem necessary that the surgeon should be called in consultation in every case, particularly before the physician feels that there is cause for alarm.

The physician is of the greatest help to the surgeon in deciding on the propriety of surgical intervention. An over-enthusiastic surgeon would many a time open a patient's abdomen were not the physician at hand to remind him that sudden pains in the course of typhoid fever are not unusual; that a leucocytosis of from 10,000 to 12,000 has occurred and the patient seemed none the worse; that the patient has vomited at times without appreciable cause; or, that in another instance, abdominal pain and fall of temperature was significant of intestinal hemorrhage and not of perforation. Of course, the surgeon must in the end assume the responsibility; he cannot and he should not regard himself merely as a machine in the hands of the physician. Therefore, to render himself competent to appreciate the changes produced in typhoid fever by perforation, he must familiarize himself with the normal aspects of the disease; he should be acquainted with the slow pulse, the disproportionate high fever; the distention of the abdomen, its normal resistance and susceptibility to pain; and he should pay particular attention to the facial expression of the patient. This facial expression and the change

* Read at the meeting of the Surgical Section, Suffolk District Medical Society, in conjunction with Boston Medical Library, March 13, 1907.