

cal examination by Dr. Mallory, who reported the actinomyces. The patient then entered the City Hospital, and under ether all suspected tissue was curetted and dissected and preserved *in toto* for examination, one colony being found. Ten days later a small area at one edge of the wound that looked suspicious was curetted out, and three colonies were found. Five days later another similar looking spot was thoroughly cleaned out, but no colonies were found. The patient is still under treatment, but without any evidence of further relapse.

The pathological examination was made in each case by Dr. Mallory.

All the face cases showed invasion of the soft tissues only, the bone being free. In none of them could any definite trace of the original infection be found.

All the cases were given iodide of potash, and the wounds treated with peroxide, tincture of iodine in full strength or solution, and packed in iodoform gauze until all evidence of presence of the fungus had disappeared.

TENDON SUTURE.¹

BY EDWARD S. HATCH, M.D., BRIGHTON, MASS.

D. J. A. entered the Carney Hospital, as an accident case, on August 28, 1899. This afternoon he plunged his right hand through a window and cut the anterior part of his wrist on the ulnar side. When he entered the hospital he had a cord tied around his arm which was not arresting the hemorrhage.

I applied a rubber tourniquet, and after having the patient etherized I cleaned up the cut and parts surrounding it with a solution of chlorinated soda, then soap and water, and finally with corrosive. The cut was about two inches long. This cut I enlarged, both vertically and horizontally, and found the following structures divided: The tendons of the palmaris longus, flexor carpi ulnaris, and flexor sublimis digitorum. The ulnar artery and the median nerve were also found cut. The ulnar nerve was cut about halfway through its structure. The tendons of the flexor profunda digitorum were slightly nicked. The tendons and nerves were united with fine silk sutures. The ulnar artery was tied, both the proximal and distal ends. No attempt was made to unite the tendon sheaths. The skin wound was united with interrupted silkworm-gut sutures. Sterile gauze was put over the wound, and the arm was put up in anterior and posterior splints, with fingers semiflexed. The operation took two hours and fifteen minutes, and the patient was put to bed in good condition.

August 29th. Patient feeling well today, has little pain. Says he begins to have feeling in fingers.

September 2d. Dressing and splints removed, wound healed by first intention. Sense of feeling not so good over the distribution of median nerve.

September 8th. Dressing removed. Sensation slowly returning. Fingers can be moved a little. Stitches removed.

September 12th. Patient is able to move all fingers slightly. Sensations better than on previous days. Hand put up in anterior posterior splints. Anterior splint shortened.

September 16th. Movements of fingers improved. Hand dressed as before. Patient left the hospital. Is to be treated as an out patient.

September 25th. Movements of fingers improving. Hand put up in more extended position.

October 2d. Sensations and motions gaining. Hand put up still more extended.

October 18th. Motions improved. Anterior splint left off today.

October 28th. Splints all removed. Not any pain. Motions better. Massage started today to be continued three times a week.

November 13th. Fingers gaining in extension all the time. Only a very light dressing put on.

February 15, 1900. Patient has had massage three times a week up to this time. Extremely good flexion and extension; good sensations. Massage discontinued.

April 4th. At the present time the patient has normal flexion and extension, with normal sensation over the distribution of the ulna and nearly normal sensation over the distribution of the median nerve. It is interesting to note in this connection that the nails of the thumb, first and second fingers, died and then grew again, so that now on these fingers he has half of the dead nail, which is being thrown off, and also half of the new nail. He can separate the fingers and draw them together again with perfect ease.

A METHOD OF TEACHING PRACTICAL MEDICINE.

BY THOMAS F. HARRINGTON, M.D., LOWELL, MASS.

SINCE the publication of an article presented to the American Medical Convention at Columbus, Ohio, in June, 1899,¹ entitled the "Philosophy of Sickness," several articles have appeared in the medical journals, either elaborating my ideas or suggesting similar methods of reaching the same end, therefore I thought it best to explain in detail what I had merely given in outline, in order that the profession could judge rightly of the value or uselessness of my method of giving medical instruction to classes at the medical schools. It is not my intention to criticise existing methods as practised in the best medical schools today, nor to attempt to offer a different plan for doing the work, but simply to give the views of one who has felt the shortcomings of the modern schools, and who has given considerable thought to the correction of the same.

I believe the courses offered in the best schools in this country are capable of giving the greatest amount of good to the largest number. It is not the addition of new courses, but rather the appreciation of the value and possibilities of the present courses that I would like to emphasize. Much of the criticism of to-day on the method of teaching medicine is due to a misunderstanding, both on the part of the teacher as to the needs of the student, and on the part of the student as to his duty in the work. It will be my object first to try to clear, to a degree at least, some of the causes leading to this state. That there is a science of medicine as well as an art seems to have been overlooked by those who are protesting against existing methods, and it is to the neglect of this funda-

¹ Read before the Surgical Section of the Suffolk District Medical Society, April 4, 1900.

¹ Boston Medical and Surgical Journal, August 17, 1899.

mental principle that many errors and much confusion are due.

It is an inherent quality of the human mind to form some idea of what is brought to it by the senses. If the mind has been stored with the right knowledge, the ideas formed will be true ones, but the absence of such knowledge, or of any knowledge at all, will not prevent the mind from forming some view; hence arise new theories or hypotheses founded on what is called "experience," all of which tends to overthrow the science of medicine and substitute in its place the art of healing. The science of medicine is not productive; it cannot change; it has its fixed laws, dealing with the conditions of health and disease, the best means of preserving the same, the action of certain agents, etc. When we begin to put these fixed principles into practice, with the view of producing certain definite results, we go from the science to the art of medicine. Now it is evident that the first can be learned only through study, while the proficiency of the art is founded on practice, having of course a good intellectual basis. The science of medicine fixes established principles in the mind of the student about which he can group other facts. It shows him that there is a fixed relationship between certain things, and that it is to the learning of this relationship that he should bend his mind, rather than to the creating of new relationships. The student should know that mere acquaintance with many theories, discoveries, etc., is worse than no knowledge at all, for it is not real knowledge, and is more apt to be dangerous to him, for it gives him false and misleading views of things. The science of medicine disciplines the mind to a certain end; it forms the habit of order and method, of grouping and comparing new facts learned, and adding them in their proper place to the fixed principles; it teaches the student to think, reason, and express himself logically; it stimulates in him the desire for obtaining information for himself, and gives him the means to do it; it forms the habit of judgment, a most necessary quality in the medical profession. The science of medicine teaches caution, exactness, analysis and discrimination, teaching the student to distinguish what he knows from what he does not know. It is evident therefore that no bedside teaching, however extensive, no library, however useful in itself, no laboratory work, however conclusive, can take the place of methodical and laborious teaching.

While I claim all these advantages for the necessity of teaching the science of medicine, I recognize that in these progressive days it is impossible for the medical student to keep pace with the advances made, and give the necessary time to other studies. Dr. George B. Shattuck put the condition aptly at a recent Medical Alumni dinner thus: "Medical science is expanding by geometrical progression, and the possibilities of the individual who seeks to follow it by an arithmetical progression." By the method of instruction which I am to suggest, it is possible, I believe, to give the student the basis of medical science, supply him with sufficient advanced ideas to keep him up to date, and at the same time give him a greater amount of *practical* knowledge than he now receives, leaving the more advanced part of the science for his study, if he is to be other than a general practitioner. To criticize lectures and recitations, with the argument that the time taken up in their behalf might be better

spent, is a misunderstanding of what a lecture should be. In the first place, a lecture is not intended as an oratorical display nor the rehearsing of funny anecdotes; the business at hand is of a more serious nature, and has for its object the understanding of the patient and his condition, with the end in view of bettering the same. This demands on the part of the student more than mere *passive* attention; he must be actively and actually a party in the work; he must not only be taught but he must learn; he must grasp the material offered, and use it as his own, even going more than half way for the same. There should be the freest and closest communion between the teacher and the student, both remembering that it is the slow, patient, persevering, routine method, making good each step taken, which is of the greatest benefit. While there are exceptions, which should not be overlooked, the primary object of medical education is to produce *practitioners* of medicine, and with this end in view most of the schools have provided courses capable of accomplishing that result.

I believe there should be a sharp line of distinction between the courses of the first two years and those of the last two years spent in a medical school. During the former I would have medical science taught in all its entirety, while the last two years should be the practice of medicine rather than the preparation for that practice. The student should get in his last two years, and not before then, just that work which he gets in private practice. It is to the production of this class of men that I would offer the method of giving clinical instruction herein described, as follows:

Cases are assigned to students in regular order, and a record kept of each case, with the name of the student in attendance; these cases can be either ambulatory cases (out patients) or hospital cases (in the wards); the student sees his patient as often as he thinks necessary, learns the history of the patient from birth, family history, past illnesses, nervous temperament, worry, occupation, environment, etc.; learns thoroughly the subjective symptoms just as the patient describes them; observes all objective signs of health and disease, — pulse, temperature, respirations, bodily weight, etc., — after which the student makes his own diagnosis, prognosis and treatment of the case, making use of lectures, demonstrations and textbooks, as needed, to assist him. Now the student is prepared to come before the professor and the class; here the *teacher* receiving the *student* in the same way and asking him the same questions that he would a patient in his private office, learns from the student (acting as patient) all that which he might learn from the patient himself, were he present; then the teacher gives his diagnosis and treatment to the student in the same way as he does to patients in his private office. The student at this point ceases to be the patient. Then would follow a discussion by the students on the question of diagnosis, pathology, therapeutics, the teacher correcting false conclusions expressed by the students, and referring them to the latest literature on the diseases under discussion. And then follows the professor's advice as to diet, clothing, climate and mode of living, the exercise ending with the student (patient) making known to the class the diagnosis and treatment of the teacher as given to him at the end of his consultation with the teacher. By a systematic grouping of the cases by

the teacher, a lecture could be given on the various groups by the pathologist, therapist or specialist. Each student would in this way come in personal contact with the teacher, who should always be a practitioner himself, and who, by his method of cross examination and mode of procedure would teach the student just what every young physician finds himself deficient in, namely, how to learn his *patient*.

Now let us see what the advantages of this method would be. In the first place, the student would be growing up, as it were, among sick people; he would have the same opportunity to study his patients which the physician has in actual practice; he could use the science of medicine, as learned in his previous courses, to guide him in reaching proper conclusions; his textbooks and lectures would be of great benefit to him; he would get his facts direct from the living patient, which is always a surer teacher than the best authorities. This method would develop a spirit among the students, from their close intermingling and common interests, of a sort of self reliance and self esteem, marking each student as an individual, and in time generating a *genius loci* which leaves its stamp on all who come within its pale; it will bring the teacher and student in closer contact, and form a bond of mutual advantage, which can never be reached under existing methods; it would avoid much of the repetition on the various subjects, as well as the tendency of teachers in special lines to make the specialty the prominent one; it would show the student the daily variations even in the so-called "type," a view hard to get from any written record; it would do away with the ward visits in large sections, yet permit the whole class to study the case through the student. Each clinic would be a lecture, demonstration and recitation combined, with the advantages of all; it would raise the student from the plane of a school boy to the dignity of a physician; while it does not destroy the opportunity for those who intend to pursue a special line, yet it would insist on a solid ground work, without which no one should be permitted to proceed. In a word, it would be combining the old method of preceptor and student, which produced such men as Willard Parker, Austin Flint, Calvin Ellis, Jackson, Storer and Bowditch, as well as our own Elisha Bartlett. Neither is it an untried method, for it is founded on the principles laid down by Hippocrates himself, of each student pushing each case to its scientific cause, a plan which made the schools of Holland, Vienna, Paris and Berlin the recognized medical centres of the world.

It is impossible to turn out completed physicians by any one method, but I believe the method described will give the greatest freedom to the individual student, rather than the binding influence of a fixed curriculum fitted to the average student. It is not so much the number of cases seen as it is the opportunity and necessity of not only studying but learning each case seen—it being as fatal to crowd the mind with so great a mass of knowledge that it is repelled as it is to force upon it a quantity of undigested knowledge.

As to the practicability of the method there is no question; it is merely using the present unwieldy amount of material to a better advantage. True, there may be some patients who would object to the method, but might it not serve as a remedy for the abuses now so prevalent in the clinics, driving out un-

deserving cases in a way that no system has yet accomplished? Then again the experience of the obstetrical department at Harvard shows that no fear need be entertained as to its effect on the quantity of material available.

There is another result of this method which would make it most valuable, that is, the feeling it would engender among the alumni of a school and the great benefit such allies in private practice would be to the carrying on of the work.

Medical Progress.

RECENT PROGRESS IN GYNECOLOGY.

BY EDWARD REYNOLDS, M.D., BOSTON.

ON THE USE OF THE UTERINE SOUND.

JOHN BENJAMIN HELLER¹ discusses the passage of the uterine sound to a distance far exceeding the depth of the uterus, and that without the exercise of force and usually without ill results. Either the womb must stretch, or the oviduct admit the sound, or the uterine wall be perforated. In many cases the evidence is inconclusive, but in some it has been possible to demonstrate what occurred.

As evidence that the sound may enter the oviduct, the most important case is Floeckinger's. In curetting a patient for incomplete abortion, who had also had a subserous myoma, he found that the sound would pass to the handle; some time later it was decided to perform abdominal section for the myoma, and during the preliminary sounding the instrument passed once up to the handle. On opening the abdomen, it was found lying in the left tube, the tube and uterine wall being considerably stretched; it was also found possible to pass it into the right tube. Ahlfeld records a similar case, apparently verified by bimanual examination; others have been verified post mortem.

In most cases actual perforation has occurred, judging by such cases as have been investigated by laparotomy. Courant reports such a case in curetting a myomatous uterus, Odebrecht in introducing Orthmann's instrument to raise the uterus for a ventrofixation, Glaeser in curetting three months after delivery, Rosenfeld in curetting preliminarily to vesicofixation, Donald in curetting for hemorrhage three months after abortion, Brothers in curetting for chronic endometritis, Donald in curetting for post-puerperal endometritis. In some of these cases the perforating instrument was the sound, in others the curette. Kelly has perforated six times without bad results, but one of his assistants had a death in such a case from septic peritonitis. The writer had a case of incomplete abortion two months after miscarriage, that had been flooding persistently; curettement was apparently simple, when suddenly the instrument passed 5 inches towards the right side of the uterus, though the distance to the fundus was but 2½ inches; in the former position it could be felt through the abdominal wall. The cervix was lightly plugged with gauze and the patient manifested no untoward symptoms. This personal experience impressed the writer with what

¹ Quarterly Medical Journal, July, 1899.