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POSTGRADUATE MEDICAL EDUCATION*

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I CONSIDER it a great honor to have been asked to deliver the Annual Discourse at this meeting of the Massachusetts Medical Society. When I think of the calibre of the men who have preceded me as orator I am overcome with a great sense of humility. I am very grateful for this opportunity to speak before you. I present this address, on a general practitioner's view regarding certain phases of medical education, humbly and with full knowledge that whatever is said before luncheon is almost invariably forgotten by the time that repast is finished.

When or how the idea of Postgraduate Medical Education was born and first developed in this country is lost in the dim past. The movement seems not to have been started by any medical school, medical society, or as an accepted element in medical training but rather to have been initiated by physicians or groups of physicians of great knowledge and wise judgment who recognized the weaknesses of the teaching of their day and who undertook on their own responsibility without any support from the medical associations or from the state to correct these defects. Such men were pioneers of outstanding ability and we should never forget the debt of gratitude we owe them. In the Massachusetts Medical Society, particularly, must we always feel proud of our first president, for his varied accomplishments. John Warren, in 1782, realizing the lack of properly trained surgeons in the War of the Revolution, commenced in Boston the systematic teaching of Surgery and Anatomy at the Military Hospital which he commanded. This may be regarded as the first American attempt at organized postgraduate instruction.

The first undergraduate school of Medicine in the United States was established in the University of Pennsylvania in 1765. Since then Philadelphia has remained a noted medical center. It is therefore most fitting that this University also should have been a leader in graduate medical education by opening in the Fall

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of 1920 the first fairly comprehensive group of systematic graduate courses in medicine to be offered by any medical university in the United States.

In the year 1872, an effort was made on the part of several New York medical men who had studied abroad to develop postgraduate medical teaching in New York City. At the time it was the custom for a certain class or group, after taking hospital courses at home, to visit foreign medical centers spending six months to two years at one or more of them. Berlin, Vienna, Prague, London and Edinburgh were the chief places thus utilized for postgraduate study and of these Vienna was the most popular, for more could be seen and accomplished there in a given time than at any other medical center. Eventually, as a result of work of this nature there was incorporated the Alumni Association of the College of Physicians and Surgeons in 1873, and it was hoped that out of this Association there might be developed a center of postgraduate teaching, but not until 1877 was such teaching finally started. Out of this grew the New York Polyclinic in 1882, and at the same time the New York Post Graduate Medical School was started. Gradually other hospitals and committees in New York City took up the work of postgraduate education and in 1924 amalgamated into the New York Academy of Medicine.

In Chicago in the year 1892 a small group of physicians, druggists and chemists met two evenings a week to study bacteriology, histology, microscopy, clinical diagnosis and urinalysis. At that time inquiry at the Post Graduate Medical School and Polyclinic disclosed the fact that only about a dozen physicians out of a total of two thousand in the city had taken courses in these institutions during the past year. Beginning in 1921 practically all the southern medical schools broadened their policies from year to year to meet the growing demands of postgraduate medical instruction.

This country is not alone in its endeavor to increase postgraduate medical education. In England the Fellowship of Medicine and Post Graduate Medical Association of London provides instruction to qualified physicians in the

hospitals of that city. It is affiliated with fifty hospitals containing 6,000 beds and instruction is provided in every field of medicine. Twenty-seven of the hospitals, in London offer about sixty special courses each year. In the general hospitals these consist of two weeks of intensive work in general medicine, surgery, or a single division of clinical medicine. In the special hospitals the courses are limited to the particular field of the hospital. None of these courses give a degree or certificate. The Association also collates and publishes the many lectures and demonstrations scheduled in the city in all institutions and keeps in touch with the programs of postgraduate training in the other teaching centers in the British Isles.

The courses mentioned above are convenient for physicians in the cities, but not for those in the smaller cities and in the country who cannot afford the time and money to attend. Very little effort has yet been made to provide continuation education for these physicians which would allow them to attend their practices. Nothing like an extension plan of education has been developed.

In France most of the regular clinics, lectures and demonstrations in the French hospitals are open to qualified practitioners, and a large number of doctors attend the lectures in some of the well-known clinics. There is no organized effort however to keep the main body of the profession informed on current methods of diagnosis and treatment.

In Germany there is an unofficial plan of continuation training which has been worked out by the medical profession. The present plan originated in Prussia in 1901 with the organization of a central committee for medical postgraduate work for the state. Similar committees were formed in the other German states and in 1908 a central committee was organized. To reach the largest number of doctors the teaching was made as widespread as possible. In places where there were large hospitals the matter was comparatively easy; in the smaller places and in the country, the system of traveling teachers was adopted. The hours of teaching were arranged to suit the doctors so as not to interfere with their work. From noon until 2 o'clock, in the evening after 7, and Sunday mornings are the favorite times. The courses are free in order to attract the largest number of doctors though there are many who think that what must be paid for will be valued more than that which is given free. This means lack of compensation for the teachers, but there is a widespread spirit of self-sacrificing cooperation to make the matter of postgraduate education possible.

Local committees are formed of representatives of the state, of the municipal boards, of the universities, of the hospitals, and of the medical profession and medical societies. These

committees receive funds through the government in question who realize that it is in the interests of health of the entire population to have a well-educated medical force.

In the university towns the medical facilities take over these tasks while in other towns the large hospitals are usually the center points. In the smaller towns traveling lecturers are sent out from the centers of learning, singly or in groups, who give lectures to the smaller medical societies. The radio is also used in a half hour talk every Friday evening, given by the most prominent authorities. A periodical for medical advancement is published which in contrast to the scientific periodicals is devoted to the higher education of practising doctors. It concerns itself only with such matters as have received scientific recognition and can be of use in general practice.

The *American Medical Journal* in 1899 estimated that there were 120,000 doctors in the United States of whom there were 50,000 who had never subscribed for a medical journal and who had never received one in their office except some free copy of an advertising sheet. There were about the same number who had no books which did not antedate their graduation. To such a challenge, though far too many doctors after graduation lay down their books and cease to study, the medical teachers have made a most splendid response.

There are many factors which are working for the benefit of our postgraduate medical education. The medical societies, the hospitals, the libraries, the journals and the medical extension courses are the chief of these.

I have already mentioned the development of educational opportunities in the New York Academy of Medicine. I wonder if we members of the Massachusetts Medical Society generally realize what a great amount of work is being done there. Massachusetts well might follow certain of the precedents established in New York.

The library of the New York Academy of Medicine contains 140,000 books, medical and surgical meetings are held there each month, a series of lectures is given in November and an annual graduate fortnight offers opportunities to hear lectures and to attend clinics in October. All of the lectures and meetings held at the Academy are open to the profession generally and to medical students. The hospitals of the city contain over 34,000 beds. Over 50,000 patients are cared for each year. Ninety-four hospitals have an aggregate of about 25,000 beds which offer opportunities for postgraduate medical study. The committee of the Academy which has this matter under its supervision, has prepared a booklet which contains a description of the special facilities for postgraduate study which each of the listed hospitals offers and the names of attending medical men and their days

and hours of attendance. There is a bureau in the Academy which furnishes detailed information in regard to postgraduate medical study in Greater New York, and in other cities of the United States, Canada and Europe. Each evening a daily bulletin is posted in which the operations of sixty-five hospitals to be performed the following day are listed. There is also established a bulletin of non-operative clinics and conferences in sixty-one approved hospitals of the city. A total of 176 clinics are thus listed.

I have spoken of the work in Chicago. The study in that city discloses the fact that it was not practicable for a majority of physicians, or even a considerable number, to pursue successfully any studies at the schools and at the same time to carry on their practice; one or the other must be sacrificed. There were, however, many who could devote two or three evenings each week to such study if it were brought within their easy reach. In this city there was developed an extension plan. The choice of subjects can be made by the class, the courses may be made long or short, and the work can be done practically without loss of time and at minimum cost. Evidently there are many methods by which to conduct satisfactory extension teaching.

I have mentioned that the essential vehicles for successful postgraduate teaching are the medical societies, hospitals, libraries, magazines and extension courses; in Massachusetts the most important of these is our State Society for since its very beginning it has been the chief instrument for general spreading of medical knowledge.

There are 7,014 doctors in this state and of these only 5,054 belong to the state medical society. I believe the membership should be increased to include all the licensed practitioners of the Commonwealth. May I call to your mind something said by Dr. Osler in the International Clinics of 1910: "But after all, the killing vice of the young doctor is intellectual laziness. He may have worked hard at college, but the years of probation have been his ruin. Without specific subjects upon which to work, he gets the newspaper or novel habit, and fritters his energies upon useless literature. Habits of systematic reading are rare, and five or ten years from his license, as practice begins to grow, may find the young doctor knowing less than he did when he started and without fixed educational purposes in life. The man who knows it all and gets nothing from the Society reminds one of that little dried-up miniature of humanity, the prematurely senile infant, whose tabetic marasmus has added old age to infancy. Why should he go to the Society and hear Dr. Jones on the gastric relations of neurasthenia when he can get it all so much better in the works of Einhorn or Ewald? He is wearying of see-

ing appendices, and there are no more pelvic viscera for demonstration. It is a waste of time, he says, and he feels better at home, and perhaps that is the best place for a man who has reached this stage of intellectual stagnation."

This quotation serves to emphasize my conviction that in order for the state society best to fulfill its purpose it must embrace the whole profession.

The present weakness in membership of the Massachusetts Medical Society lends force to the suggestion that the educational work of the society should not be limited solely to its members, for those who are not on the roster need this supplemental education as much if not more than those who belong to the society. That there may be further limitation of the membership in the future is suggested by your constitution which states that graduates from any unrecognized medical college, who wish to become fellows of the society, must be better known than heretofore and must clearly demonstrate their capabilities not only to the examining censors but also to the committee on medical education and medical diplomas before they can be elected. Personally I doubt the wisdom of this action.

You have voted an annual prize of \$50 for the best written and most comprehensive case report submitted by interns holding any of the rotating internships now offered in Massachusetts, and approved by the American Medical Association. Such a prize should do much to stimulate medical writing among younger men and will help to disseminate throughout the state the importance of keeping abreast of medical literature. I am heartily in favor of this development.

Hospitals are almost universally equipped to do postgraduate medical educational work with their clinics of all kinds, their various lectures and medical meetings. The medical profession owes them a great debt of gratitude for this as well as for the constant courtesy and hospitality of their staffs and their willingness to take the time and strength to show visiting doctors whatever they may have of interest for they make one feel that for this work came they into the world. To realize the amount of postgraduate medical teaching that can be done in large institutions I need only to call to your mind the work of the Mayo Clinic in Rochester as one of the best known examples. Nearer at hand the Albany City Hospital is doing an intensive work in teaching postgraduate medicine and in its coöperation with the doctors of the surrounding country. You may know that the hospital is directly associated with the Albany Medical College and in this way differs from many of the ordinary hospitals. Every weekday clinics are given at noon; there is this unusual custom added, that doctors not on the

staff are urged to bring in their troublesome and trying cases. Family doctors read histories and exhibit their patients and then the staff discusses the matter of diagnosis and treatment. This makes for a much closer feeling between the country doctors and the hospital and is very educational as it frequently brings up the common but difficult questions which general practitioners are called upon to meet. There is also a fund which meets the expenses of visiting doctors of renown who lecture on their special subjects. The names of these men are of national standing and it is a pleasure that such a goodly number have come from the Massachusetts Medical Society.

Another way of raising the standard of medical knowledge is less widely known. In the *New England Journal of Medicine*, August 23, 1934, Dr. Channing Frothingham of Boston has written of the "Precedent Book" which has been evolved at the Faulkner Hospital in Brookline. Such a book maintains high hospital standards and prevents the treatment from varying too much with the whims of the individual doctor. There should be less misunderstanding, fewer mistakes made, and better education in therapeutics if such a book were in more general use. Each hospital could modify it to suit its own needs but always it should be revised and kept up to the best known methods.

The medical journals have ever been one of the chief ways of spreading medical knowledge and it is indeed fortunate that there are so many and such splendid ones published in this country. The *New England Journal of Medicine* is especially helpful in its publication every week of the Case Records of the Massachusetts General Hospital as well as for its very splendid and interesting original articles. For these things the magazine is widely known throughout the country.

May I mention the journal club as a means of medical education? No one man can read all the journals or do more than look over a few. Many splendid articles and much knowledge are missed. With a few men meeting together each week, and choosing and reporting on articles from several journals one can draw on a great deal of current literature easily and pleasantly. It is too bad that medical clubs of this character are not organized more widely for there are but few towns that cannot bring together at least three or four doctors who enjoy reading and talking, and the contact alone, with such kindred spirits, is worth while.

Since time immemorial the libraries have been one of the chief sources for storing medical knowledge and extending medical education. They most naturally are found in the large cities, as in the case of this Commonwealth. In Massachusetts the largest and best known collection of medical books is in the Boston

Medical Library and, as there are many members of our Society who are neither graduates of Boston Medical Schools nor graduates of Boston Hospitals, may I speak of the functioning of this library, even at the expense of boring many of you? To those who live away from Boston the library will send books upon request. Theoretically the borrower of books should be a member of the library but practically this rule has not been adhered to for many years. The borrower is supposed to ask the librarian of his local public library to arrange for an inter-library loan, the only charge for which is the cost of transportation of books to and fro.

There is a feeling that the \$5 out-of-town membership should have a larger number of subscribers, for the wear and tear on books used in this way is considerable and is expensive to the library in the long run. Last year there were more than 1,000 such loans to some 200 borrowers.

The library will also look up subjects for a very reasonable charge, but there again is the feeling that an out-of-town membership of \$5 should be paid; otherwise the library would be subject to a great many inquiries which might be of a trivial nature and not connected with any serious purpose. I hope that a committee of the library will be formed to provide brief criticism of new books issued as a bulletin from the library at stated intervals. This would be sent to out-of-town members and would doubtless take on other functions in the way of keeping the members informed on many subjects of interest to the profession. Such a service would, I think, be welcomed by all doctors as we are at the present at the mercy of optimistic book agents just as we are at the mercy of salesmen of the various drug houses.

Several of the larger cities have libraries connected with their medical societies, or some arrangement for the purchase of medical books is made with the public library; but in the small towns a medical library is a very personal possession and a doctor will collect at much expense a considerable number of books during his lifetime. I believe that a bulletin such as I have outlined could be issued by the Boston Medical Library and would be the greatest boon to such men.

In the small cities and towns which have a hospital, the hospital of course should be the nucleus of a library. The members of the staff should be willing to contribute to some yearly fund for the purpose of buying books and periodicals, and the library of many a doctor should ultimately find its way to the hospital's shelves.

There is a great deal of postgraduate work done in other states and it is interesting to know the many means that have been devised to carry such work along. It would be stupid and a matter of repetition to describe the various experi-

ments that have been conducted, as Dr. Parkins of Boston has done this so thoroughly and interestingly. Certain plans, however, to my mind contain valuable hints that might well be followed in Massachusetts.

The State of New York has found that the selection of extension teachers is most important; they must be practical, forceful and interesting speakers, and must have had reasonable experience with the diseases which they discuss. They must understand the general physicians' problems. I agree heartily. Many outstanding teachers are not successful in teaching the graduate physician. The talk must not be too long and must present the current conception of the disease under discussion rather than the lecturer's personal opinion. The average physician prefers his graduate medicine in small, divided doses which he can assimilate readily and without having to neglect his professional duties during the process of mental digestion.

Ohio has done notable work of late in post-graduate education. Dr. Clyde L. Cummer, Past President of the Ohio State Medical Association, has developed a series of outline studies on various subjects of especial interest to the general practitioners. The series of these study outlines is being published month by month in the Ohio State Medical Journal. Dr. Cummer says that the modern tendency to depend entirely on guest speakers is to be deplored; the attendance stimulated at the start by hearing or seeing well-heralded strangers gradually drops off. As a result of placing sole reliance upon outside talent, the members lose the power of expressing themselves in the presence of their colleagues, and as one observer said, they sit around with their mouths wide open like young robins waiting to be fed. To us who live in the country the medical extension courses of the Massachusetts Medical Society have been received with the greatest pleasure and interest. These courses bring with them the association of the great hospitals and laboratories, but I for one should like to have more papers read by local men and perhaps discussed by the outside talent.

In the matter of trying to better medical education in this Commonwealth through our own society, we sometimes forget that this society makes its influence felt through a very few devoted men chiefly in and around Boston. On them fall the burden and the labor. Are we willing to stand by and know this work is being done and yet not raise a hand to help? I believe that many are not only willing, but glad to have this work and this worry fall on others' shoulders. This is not fair. It is high time we roused from our slumbers and put our shoulders to the wheel.

There is a woeful lack of responsibility among doctors when it comes to medical meetings. How often do we let other plans interfere with them;

or a social engagement, or stormy weather will do the trick; the open fire may be pleasant, a book entertaining, or it may be we are not especially interested in the subject itself, and so we think that we'll let the rest of the men go for this evening, although of course we comfort ourselves with the idea that we are among those most interested, and one of the most loyal members.

It seems to me as though the smaller hospitals were not doing their share in regard to medical education. When one thinks of the wealth of material that goes through the various hospitals of moderate size without comment, it seems as though a great teaching opportunity were being neglected. In order to find out exactly what the situation in this respect was, I wrote to forty-four of the hospitals of this state averaging 100 beds and received replies from thirty-four. In no one of these was any definite post-graduate work being done. Practically all of them held regular staff meetings and almost all of these were open to the members of the staff only. In answer to the question as to whether there were any regular medical or surgical rounds, nearly half of them did not have such rounds and in those that did not have such rounds and in those that did, a little more than half were open only to the staff. Only three of the thirty-four held regular operating days; practically none had any lectures except those of the medical extension courses, although there were a very few in which the medical society met at the hospital once a month, to which occasionally an outside speaker came. Would it not be a possible thing for these small hospitals to increase their usefulness by opening their staff meetings to the general profession? This would not only increase the general medical education, but it would augment the discussion and make the meetings more interesting, and also make for a more friendly feeling between all doctors and the hospitals. It seems to me that no hospital can afford to be without regular medical or surgical rounds as in this way one gets varying points of view and different advice as to treatment. Could not these hospitals arrange to have regular operating days at least once a week? Of course many are built without amphitheatres for the general profession, but at the same time the number attending operations would be very few and might learn thereby a great deal.

There is a tendency for the journals to be overeager to publish original articles and scientific papers. One wonders if at times some of these are not like the description in Holy Writ, "Like the flower of the field it flourisheth, the wind passeth over it and it is gone, and the place thereof shall know it no more." I am afraid that many scientific articles are never read by general practitioners.

It would, I believe, greatly increase the in-

terest in, and the value of the *New England Journal* if more articles were written by general practitioners for men in practice. These might not be so scientifically written as many of the articles that we now see but they would be written in an understandable manner, backed by careful investigation and much thought on the author's part and should prove of great worth.

Would it be possible to publish at certain intervals practical articles dealing with the more recent and well tried out treatment of disease? Such articles as these are appearing in the *Journal of the American Medical Association* under the "Treatment of the Cook County Hospital," and, I think, are exceedingly valuable to the general practitioner. Some of us do not see enough cases of certain types to be well versed in the newer methods of therapy and very often it is difficult to find what these should be, even in the recent textbooks, so rapid is the change and so frequently are newer and very well-tried methods of treatment brought in. It is only by the everlasting repetition of reading about treatment that we can learn and remember the newer things.

I feel it is important that the medical extension courses of our Society should succeed, for they have started so well. Their future success depends on many factors. The subjects to be talked about must be of interest; this is taken care of by allowing the members to choose

their own subjects; if they are not well received the various District Societies have only themselves to blame for the topics are varied enough to appeal to everyone. The speakers must talk the same language as the audience. It is wasteful to have a superscientific man talk to a group of general practitioners about something of which they understand one word in three; and finally the speaker himself must not only know his subject, but be able to tell about it in a short, concise, simple way. It would be a great addition to the practical value of the courses if it were possible at each exercise to exhibit patients portraying the disease or subjects which were being talked about. It is not uncommon soon to forget what is said and to lose the good of the lecture; the interpretation of vision, when added to that of hearing, makes the memory a much more lasting one.

In conclusion, it seems to me that in Massachusetts and for members of the Massachusetts Medical Society the opportunities for an improved postgraduate medical education are numerous. At present they are not sufficiently used and enjoyed. There should be greater cooperation among all members of the medical profession and all should take better advantage of our chances for improving our medical knowledge. If we would work together the standing of our profession would soon be what it should be, a hiding place from the wind, a covert from the tempest, a river of water in a dry place, and the shadow of a great rock in a weary land.

CHRONIC ARTHRITIS IN HYPERTHYROIDISM AND MYXEDEMA*

BY ROBERT T. MONROE, M.D.†

HYPOTHYROIDISM as a factor in chronic arthritis was stressed in a recent report by F. C. Hall and the writer¹. Of one hundred and fifty cases of hypertrophic arthritis, one-third showed basal metabolic rates below minus 15 and one-half were benefited by taking desiccated thyroid. In an equal group of patients with atrophic arthritis, one-sixth showed similar findings. These experiences have been confirmed in the two succeeding years by continued observation of the same patients and by study of a large number of new ones.

Two questions naturally arose: Is such clinical evidence sufficient proof of true myxedema of some degree, or may it point to a functional and temporary impairment of the thyroid gland, or may it point only to hypometabolism the results being due to psychotherapy? We considered these possibilities in the paper referred to, and intend to report later on studies of the cholesterol content of the blood in patients with

arthritis, since it has been shown that this substance is present in excess in myxedema as contrasted with its normal level in other conditions causing low metabolic rates. The second question was, what is the relative frequency of arthritis in patients with myxedema and in others with hyperthyroidism? The present communication is an attempt to answer this.

ARTHRITIS AND HYPERTHYROIDISM

Over a twenty-year period to December, 1933, there have been 414 patients on the medical wards of the Peter Bent Brigham Hospital with hyperthyroidism. Of these, 374 (90 per cent) had no history of joint pain and physical examination showed no arthropathy. Sixteen had had transient arthralgias or myalgias without objective evidence of joint disease. Fourteen had had attacks of atrophic arthritis and three had had bursitis at one time or another. Only seven (1.6 per cent) were found to have hypertrophic arthritis.

One of the latter group was found to have spurs on the lumbar vertebrae in a plain film of the abdomen taken to demonstrate calculi in

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