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The Massachusetts Medical Society.

THE ANNUAL DISCOURSE.*

NOTE.—At an adjourned meeting of The Massachusetts Medical Society, held Oct. 3, 1860, it was

Resolved, "That The Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

Resolved, "That the Committee on Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

THE INTERNATIONAL MIND IN MEDICINE.

BY KENDALL EMERSON, M.D., WORCESTER, MASS.

GARRISON'S account of the life of Hippocrates informs us that he was born at Cos, studied at Athens, and spent much time in travel and practice among the cities of Thrace, Thessaly and Macedonia. Not content with the limitation of one environment, he sought the great centers of learning and civilization in that early epoch, and in the period of the Eighteenth Olympiad such journeyings were the full equivalent of the modern physician's post-graduate work abroad. Hence we may infer that the Father of Medicine himself felt his mind reaching forth for foreign contacts, realizing fully the derivation of the word education, a drawing out of the intellect by the attractive force of other greater intellects.

*Delivered before the Massachusetts Medical Society, June 13, 1922.

The physician is an intelligent traveler, for by his training he is specially fitted to sift the grist that comes to his mental mill and to winnow the good grain from the chaff. Not only is this true of his ability to judge medical matters but of his capacity to appraise other phases of strange civilizations as well. This quality is well exemplified in the writings of such keen observers of men and manners as Dr. David Livingstone, Sir Frederick Treves or the inimicable Rabelais of an earlier period.

Formerly it was a tradition that the American medical student must complete his training in the clinics of the Old World. With the amazing improvement in our own educational facilities this worthy tradition no longer maintains. Standards of American medical training have forged ahead until our clinics are becoming world centers replacing those of Vienna and Berlin. A recent letter from an American surgeon studying in Vienna states that he has learned nothing new and that on the whole the local work compares unfavorably with our own in point of thoroughness in preparation and technique in execution. In these undoubted facts there lies a source of self-congratulation, and yet, withal, a menace lest we be led into an attitude of smugness and complacency which may work havoc with our breadth of medical vision and tend to limit rather than expand our mental outlook in dealing with the world-wide subject of health. The great leaders of our profession in America have been the keenest

exponents of the international mind in medicine; their university has been the world; and today we are profiting from the splendid structure which has been built upon the solid foundation of their contact with the medical thought and the medical masters of all countries.

Can we ever forget that it was the inspiration of two Boston physicians, received during a period of travel and study in the British Isles, which led to the founding of our Massachusetts General Hospital in this city? And is it possible to estimate the far-reaching effect on hospital development in America which may be traced directly to the inspiration of these two practical idealists, James Jackson and John C. Warren?

Successful achievement brings with it an increased burden of responsibility. It is our duty, therefore, from time to time, to examine our present record, to determine how we are bearing the load and what plans are making to enable us to carry on with success in the years ahead.

From very early times it has been recognized that health is a community, not an individual interest. The Hebraic law lays down rules of public health which indicate keen appreciation of this fact, rules which have been carried out without change for thousands of years, to the inestimable benefit of a very sturdily developed race. Now and again in past centuries such scourges as the plague in London or a virulent inroad of Asiatic cholera have aroused governments to make feeble efforts toward the protection of the community's welfare. Lack of knowledge as to the cause of disease and proper preventive methods brought scant success to these attempts. The embargo furnished the only practical means of protection and had its use when the world was composed of isolated and self-sufficient, small communities. As commerce increased and nations slowly took on relations of economic interdependence a prolonged embargo often carried with it depression in business and even actual suffering from the cutting off of imports. Then came the nineteenth century with its miracles in the field of transportation and communication. The small community no longer existed. Action in the remotest corner of the globe had its reaction throughout the world. Soon ministries of health sprang up in many countries, and the principle of the embargo slowly gave way before the theory of prevention at the source. Then followed the splendid stream of commissions for the study of local disease, sent out by the more advanced governments of the civilized world, the rapid development of health departments in those governments and the early recognition of the essential necessity for co-operation between the health services of all governments throughout the world.

It is beyond the scope of this paper to enter into an historical study of the development of these health services or to detail their international growth. To every physician with an outlook on things beyond the confines of his immediate practice such study will prove one of absorbing interest. Not the least striking phase of public health development is its amazingly rapid extension from the limited field of contagious diseases, and its profound invasion almost daily of new arenas of activity in the sphere of preventive and community medicine. This has been a simultaneous growth in all civilized nations, though it is not presumptuous for us to claim rather more than our fair share in hastening the progress of its development. There are several reasons why this should be the case. For years America has been the annual host of hundreds of thousands of strangers from every country of the globe, whose health immediately became a source of solicitude on our part. When it is realized that probably not over ten per cent. of any nation is highly adapted physically and mentally for pioneer life, it is evident that in the problem of immigration alone our health service encountered a colossal task, particularly when we reflect that our quota doubtless springs chiefly from the other 90 per cent. and that the principle of selection at the source has never been applied. Furthermore, America has possessed the means and the energy for development more fully than less favored nations where overcrowding, poverty and ignorance render progress far more difficult. One finds throughout the countries of Eastern Europe a surprising elaboration of paper plans for serving the public in matters of health and sanitation. One often looks in vain for the practical realization of those plans. In one country under the direction of a most able minister of health, an idealist and a scholar, I found a completely formulated plan for the care of the nation's tubercular patients, including preventoria, instructional classes, clinics, sanatoria and hospitals for the hopelessly advanced cases. Geographically, the country was admirably covered. Yet when an effort was made to see the scheme in action the pathetic fact was brought out too clearly that the fight was being waged on paper only and that far too large an appropriation for that alone was being spent on maintaining a perfectly running central bureau, while practically no assistance reached the unfortunate victims of the disease.

But even such instances as this, of which there are admittedly many in Europe, have their encouraging side. For such elaborate plans give evidence of close familiarity with similar organization in other countries where practical accomplishment has been achieved as well. The medical libraries of these countries

are well stocked with literature embracing the best thought in medical advance throughout the world; the first question always asked the visitor in the days immediately following the war was how best and most quickly to reestablish exchanges with current American publications.

Furthermore, many examples may be cited of extraordinary alertness for foreign contacts among nations often thought of as retarded or reactionary. A case in point was observed in the new Republic of Poland. A few months after the signing of peace I saw on the wall of the new and excellently installed public health laboratory a map of the world, on which were pinned the familiar little colored flags indicating the incidence of epidemics in all countries. Though, through national poverty, the laboratory lacked in many of the humblest details of equipment, the director's mind was already reasserting its international instincts, and one could see at a glance what epidemics were, at the moment, afflicting Singapore, Moscow or Havana. A visit to this same laboratory a year later disclosed amazing progress in the development of the laboratory facilities. The director was at that time manufacturing standard typhoid vaccine on a large scale at a price so many times cheaper than it could be made at the Paris Pasteur Institute that he had captured the international market in Eastern Europe and was shipping vaccine to all the countries from the Baltic to the Black Sea.

In remote Lemberg, a city which we think of as almost a frontier post, Dr. Groer, year before last, organized in his children's hospital the first training school for nurses on the Continent which gives a three-year course of graduated instruction modelled along American lines and turning out a product hitherto unknown in Europe, a nurse comparable in her attainment to those educated in our American training schools. Only by thorough knowledge of the value of the American standard by an open-minded study of our results could this physician have developed the faith to struggle against the reactionary Continental attitude toward the nursing problem. Since that time the presence of so many able American trained nurses in Eastern Europe has vastly aided in allaying prejudice, and at the moment three additional nurses' training schools have been organized there under the direction of American nurses. This is a little known bit of American enterprise in international medicine for which Miss Alice Fitzgerald of the League of Red Cross Societies and Miss Helen Scott Hay of the American Red Cross should receive far more credit than has been their reward up to the present.

In Bucharest, Dr. Minovici, former president of the International Medico-Legal Society and

doyen of the University Medical School, has by a most magnificent effort established a remarkably complete municipal morgue, with autopsy rooms, amphitheatres and medico-legal museum vastly superior to any city plant I have seen in this country or abroad. During the German occupation of Roumania, the Teutonic medical officers were so impressed by the efficiency of this plant that they themselves added several autopsy tables and made it a center of medico-legal scientific research. To be sure, fortune has favored the good doctor in his work, for, if I recollect aright, he told me that there were no less than three deaths per day by criminal violence in the little city of Bucharest, which furnished him ample clinical material.

In 1919 I saw Professor X at work in his physiological laboratory at the University of Tomsk, tucked away in the very heart of devastated and riotous Siberia. Though stripped of most of his apparatus by Bolshevik ruthlessness he showed us much excellent work in progress made possible by cunning improvisation. Among other experiments I recall a dog with gastric fistula from which the Professor was demonstrating and pursuing his researches. It is not necessary to multiply scattered incidents of this nature to demonstrate that one must look beyond the great world famous clinics to realize the extent to which medical knowledge is universal knowledge, and to appreciate the ripeness of the field for spreading still further international contacts.

And now turning to our own record, how far have we kept pace with our duty in this essential development? The answer cannot fail to fill us with a fair measure of satisfaction. It is only necessary to allude to the historic achievements in our fight against malaria or to the conquest of yellow fever through the sacrifice of American martyrs to scientific research. Perhaps through the glory thus honorably won Mr. Rockefeller was largely inspired to make possible further victories. In 1909 he organized and financed a Sanitary Commission to study hookworm disease in our Southern States. Wickliffe Rose, gathering statistics during the preliminary investigation, demonstrated that the malady, far from being localized, was a world problem belting the earth for a strip 30 degrees on either side of the equator and including a region inhabited by upward of a billion people. No sooner had means been devised for the correction of our own small fraction of the problem than ministries of health in many lands sought help and counsel from the "International Health Commission," which grew out of the original Sanitary Commission. And witness into what varied fields of international medicine the Rockefeller Foundation has since penetrated:

the pneumonic plague in China, tuberculosis in France, and lately the establishment of a modern medical school in Peking for the spread through trained native physicians of scientific medical knowledge. Two elements have been essential to the development of this great benefaction: money and men. The former was the more readily secured. The men with breadth of outlook sufficient to visualize the significance to world welfare of this enterprise were hard to find. The commission consists of physicians and business men with international interests and minds trained to look upon the world as a unit and not an aggregation of unrelated parts. But beyond the commissioners still lies the difficulty of getting men of proper training to carry on the details of the work in foreign countries. So a school has been established to care for this need, where physicians receive the necessary executive education and mental broadening to assume the complicated duties involved in prosecuting campaigns in other lands.

The Great War furnished an extraordinary opportunity for the development of the international viewpoint among the rather provincial population of these United States. Medically this development manifested itself in the remarkable expansion of the American Red Cross. It took the mind of an international financier correctly to grasp the significance of the opportunity. When Henry P. Davison took hold of the situation and announced that he needed one hundred million dollars to carry on, the executive council very nearly suffered from syncope. His was the only mind that foresaw the expenditure not of one but of three or four hundred millions were we to perform our international medical obligations in satisfactory fashion.

Save by those intimately concerned with the administration of the American Red Cross during and after the war its actual rôle as an international medical clearing house is scantily appreciated. The practical value of its supplies to the sorely pressed allies before our own entrance into the struggle is known only to those of us who were there to see what added suffering overtakes an army when its surgical dressings run low. Unless there are men in this room who were with the American Red Cross in Italy during the Austrian invasion of 1917, none can realize the tremendous service rendered both morally and materially by our organization and its important share in averting complete disaster along the Piave. And in addition to its practical efficiency the Red Cross seized the opportunity to enter with enthusiasm into research work covering the problems of war medicine, for the alleviation, so far as might be, of the human agony caused by the sinister conditions of modern warfare.

It is characteristic of the greatness of Mr. Davison's mind that he could grasp and read so clearly the true significance of this vast international organization for the promotion of health. To be sure, it was a wartime measure, but did it not have an equally important rôle to play in times of peace? Had not the nations learned that it was time to combine in the eternal conflict against the forces of accident and disease? And so was born the League of Red Cross Societies, a permanent international clearing house for the promotion of the health of the world. The many difficulties that have surrounded this organization in its early development cannot dim the high idealism of its conception nor lessen the great service it has already rendered, though they will slow down its full fruition for a time. The International Committee of Red Cross Societies at Geneva has shown lack of understanding sympathy and coöperation. The League of Nations has established a Department of Health of its own to take on a rôle which was to have been assumed by the League of Red Cross Societies. And so jealousies and the pettinesses of humanity are delaying the development of one of the really great ideas which the war has produced.

The world has progressed but a little way along the road of unselfish combination for the common good. Dr. Januzewski, former Commissioner of Public Health in Poland, in a vigorous article in the *International Journal of Public Health*, deplores the lack of earnest consideration of the problems of health in the Treaty of Versailles. If the war was fought to make men's lot happier why did not the nations appreciate more clearly that international agreements must include specific action calling for world standards of public health? Advanced thinking this, yet when one reflects on the complicated social problems taken up and settled in the Versailles Treaty it is somewhat extraordinary that the paramount problem of the nations' health should be dismissed in one short paragraph, urging the members of the League to make international arrangements to the end of preventing or combating disease. This serves to make it still more significant that it was left to the inspiration of a single broad-minded American to popularize the great principle of international public health through the League of Red Cross Societies.

It is a great temptation to enter more deeply into the details of the slow awakening of international consciousness in the field of medicine, to chant the praises of the medical missionary in his lonely and consecrated effort to spread the gospel of health throughout the world, to sing again the immortal epic of the Canal Zone, or tell the story of that picturesque chain of child welfare clinics organized, by American doctors and nurses, and extending along the

Eastern front from the Baltic to the Aegean Sea in that vast stretch of devastated territory where childhood is having such a desperate struggle for existence.

Greater interest attaches to a survey of practical work which is being accomplished on international lines, but this fact does not belittle the importance of many other elements, such as the international congresses of physicians and surgeons, which serve so effectively as distributing centers of modern medical knowledge. Of such gatherings, perhaps, none has greater significance than the rather prosaic meeting at Paris, in 1920, of a congress to consider medical nomenclature. This was the third meeting of its kind, the first being held in 1900, under the imposing title of "The First International Commission for the Decennial Review of Nosologic Nomenclature." As long ago as 1839 Dr. William Farr, English Registrar General for the Department of Vital Statistics, wrote: "The nomenclature is of as much importance in this department of inquiry as weights and measures in the physical sciences, and should be settled without delay." Dr. Farr's own classification held almost unchanged until Bertillon greatly improved upon it in 1886. But not till 1900 was the importance of an international nomenclature fully recognized and action taken by the representatives of most of the civilized countries of the world.

I cannot refrain from expressing deep satisfaction at the plan of the American College of Surgeons for a visit to our South American neighbors next winter. Too little is known by us of the splendid work being done in other parts of our own hemisphere by men of the widest experience and keenest medical vision.

In this intentionally brief and superficial survey of the growth of international relations in the field of medicine, it cannot fail to be a source of gratification to observe the preëminence of America's leadership. Without vainglory it is fair to recognize in this fact another evidence that in the soul of America there is a profound yearning to make the world a better place in which to live and to enhance the happiness of its inhabitants. After a close study of the medical situation in foreign lands, however, I am unwilling to admit that we possess an idealism that is unusual or that differs to any marked degree from that of the medical faculty of other countries. The difference lies far more in our capacity for translating that idealism into action. Here, again, our resources are so vastly greater that we must not assume too much credit for the fact. We can afford to try experiments on an expensive scale impossible to the impoverished health departments abroad. The extraordinary coöperation found everywhere on the part of government and doctors alike in all countries where that coöpera-

tion has been sought indicates the breadth of vision that seems to be the natural state of mind toward matters of public health.

In conclusion let us put the question plainly, "Are we as individuals in touch with this vast international movement in medicine?" Last winter I was called hastily to give an address in a thriving town, not far from Boston, in an effort to persuade the taxpayers to continue the salary of a Public Health Nurse. Even the local doctors, it was reported, were lukewarm toward the proposition. Is it not a bit deplorable that in our Old Bay State reactionary tendencies must still be fought when Poland, Czecho-Slovakia, and the New Kingdom of the Yugo-Slavs, are clamoring for more, and still more, Public Health Nurses? Shall we, who have taught these countries to appreciate her value, now repudiate this new Angel of Mercy in our own communities? When we accept the dignified title of Doctor of Medicine we formally accept the *noblesse oblige* which it implies. Our full obligation is discharged only when in matters of the public health we cultivate the broadest vision and take our place as leaders in the effort to teach humanity that man's physical well-being is not an individual matter, but a problem of the Community, the State, the Nation, and the World.

Original Article.

CONGENITAL ANATOMICAL DEFECTS OF THE SPINE AND RIBS.

BY JAMES WARREN SEVER, M.D., BOSTON,

[From the Orthopedic Department of the Children's Hospital.]

To those of us who possess a backbone, the following study, or report, may prove of interest, as giving evidence of the fact that such an anatomical asset is subject to great changes, distortions and serious defects in development.

The past few years I have been greatly interested in selecting from several thousand x-ray plates at the Children's Hospital those for study which showed any portion of the spine or sacrum. As a result of this study, I have found a large number of cases which showed anatomical defects of congenital origin of the ribs and vertebrae of a greater or less degree. It is with the idea of putting on record such a large number of most interesting cases that this report is presented.

For purposes of convenience and clearness, the report will be divided as much as possible into the following sections:

I.—Theories of ossification; development and numerical variation;

II.—Defects of the cervical vertebrae including cervical ribs;