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ADDRESSES.

ADDRESS AT THE CLOSING EXERCISES OF THE ARMY MEDICAL SCHOOL, WASH- INGTON, D. C., APRIL 1, 1898.

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Gentlemen of the Army Medical School: With the appointment in 1789 of a surgeon and four surgeon's mates to the regiment of infantry and battalion of artillery begins the history of the Medical Department of the United States Army. For more than a hundred years it has had the respect of the country and the profession; especially since 1832, when the rule was established that entrance to it should be through examination, severe yet fair, having regard to professional and general education and to physical and mental aptitude for service, a rule that so far as I know has never but once been set aside, except with reference to Medical Inspectors during the rebellion. What has this picked body of medical men done to entitle it to such respect, and what in deeds and words has it added to the stock of professional knowledge upon which all the world is drawing? Of its special work, its care of the soldier, it does not become me to speak, a long-time civil practitioner, who yet counts it one of the joys of his life that he was for a while in the service, and when he thinks of the Medical Staff repeats to himself with pride, *pars minima fui*. Upon a medical officer of the Army, or at least an officer of the Army must devolve the duty of showing how in peace and in war, in camp and on the march, in lowland and in highland, in city and in country, on the desert or on the sea, in many places and under varying circumstances, the members of the Corps have ever had regard to the welfare of the soldier, have protected him from outside and oncoming physical ills, have professionally cared for him when sick or wounded, and by proper feeding, clothing and housing have secured to him such health and strength as have made him in the highest possible degree the defender of his country and the conservator of the public peace.

But of what has been done for the community at large, for Medicine, its art and its science, I may speak, and that all the more freely, because of personal feelings. Almost simultaneously with the organization of the Department began the march of that army of occupation that has swept over and taken possession of the interior valley of the Mississippi, the region of the great plains, the mountain ranges of the continental backbone, the seeming desert lands between the Rockies and the Sierra Nevada, the fertile lands of the western slope, all that imperial area that stretches from the Lakes to the Gulf, from the Alleghanies to the Pacific. In the front line of the on-going thousands of pioneer settlers, and generally well in advance of it, went the Army, establishing here and there little

permanent posts, centers from which offensive movements could be made, rallying points where protection could be had, the beginning of not a few of our crowded cities in the midst of great States full of people and abounding in wealth. To the medical officers at these various forts for longer or for shorter time the growing civil populations had to look for care in sickness and when injured and in many a place that today boasts, and with reason, of the eminence of its physicians and the skill of its surgeons the early chapter of professional history is the record of the deeds and the influence of the surgeons of the Army. From one know many. Dr. Richard Allison, who on Sept. 29, 1789, was commissioned surgeon of the infantry regiment, was at once ordered to the just organized post of Fort Washington, which for "seven years became the headquarters of all the armies that fought against the Indians under Harmer in 1790, St. Clair in 1791, and Wayne in 1794." He was Cincinnati's first physician; and Drake, who knew him well, says of him: "Whenever stationed here (i.e., in Cincinnati) he gave such assistance to the people of the village as made him a general favorite." Resigning in 1798 he spent the rest of his life in or near the city and was the first physician who died within its limits. "Though not profound in science, he was sagacious, unassuming, amiable and kind." (Drake.) Besides Allison, there lived and practiced at Fort Washington and in "the young village" during the first years, Carmichael, Phillips, Sellman, Elliot and Strong, of whom Sellman, after his resignation in 1794, remained in practice until his death in 1827, and Elliot, after the disbanding of his regiment in 1802, settled in Dayton, Ohio, and died there seven years later.

At quite an early day this outside practice must have been viewed with little favor by the authorities of the War Department, perhaps because it may have been found to conflict with the proper discharge of official duties, perhaps because sufficiently interfering with local physicians to give rise to political complications. Whatever the reasons therefore, the Regulations for the Medical Department established in 1814 directed that "No Surgeon of the Army shall be engaged in private practice," and like prohibition had place in the Regulations of 1821. On this subject, Surgeon Harvey Brown ("The Medical Department of the United States Army from 1775 to 1873") writes: "Probably the retention in the foregoing regulations (those of 1821), of the paragraph forbidding officers of the corps to engage in private practice will excite some surprise. It certainly did at the time, for although it was originally incorporated with the regulations of 1814 it had never been enforced; in fact the position of the frontier posts and the comparative scarcity of physicians fifty years ago rendered it often an act of humanity for them to afford professional assistance to citizens living in the vicinity of the garrison." After the distribution of these regulations,

Post-Surgeon McMahon wrote to Dr. Lovell on the subject and the Surgeon-General replied that "the regulation forbidding army surgeons to engage in private practice was intended to prevent neglect of duty by entering extremely into it, as well as an improper application of public property, which often occurred. There would be no objection to this practice provided the officer desiring it would make an application to the Secretary of War, through the Surgeon-General, setting forth clearly the circumstances, in which case especial authority would be granted." As late as 1845 the physicians of Sackett's Harbor, N. Y., protested to the War Department against the surgeon at Madison Barracks attending patients in that village. The protest was not very favorably received, if we are to judge from the letter written by the Acting Surgeon-General.

But not alone for professional aid is a debt due by many of the communities in the Middle, Southern and Western States. Scattered here and there in medical and scientific journals, and especially gathered together in the two volumes of the "Medical Statistics" issued in 1840 and 1856, and in the reports of the various departments and bureaus in Washington, is much information respecting topography, climatology, ethnology, geology, zoology, botany, each and all of these departments of what for the time being may be called local science; information gathered up and communicated by the medical officers of the army, greatly increasing the amount and accuracy of the general knowledge of the sections and districts over which the army had traveled or in which for longer or shorter time it had rested.

The debt of the physicians of the country is yet greater, for while owing as much as citizens at large for what has been given along the lines indicated, they have been the recipients of not a few technical, professional, scientific and practical contributions each of value, some of value hardly to be worthily estimated. Take from our present knowledge of malaria, of cholera, of yellow fever, of typhoid fever, of mountain fever, of dysentery, of diarrhea, the published results of the observations, experiments and studies of Sternberg, of Porter, of Pitcher, of Woodward, of Smart, of Tripler, of Coolidge, of Hammond, of Bartholow, of McClellan, not to mention many others, and the resulting gap would be wide and deep. It will be long before in any discussion of the scientific place and practical value of hygiene and hygienic studies due notice will not be taken of the labors of Billings, of Hammond and of Smart, or before any student of the history of hospitals or the methods of their construction with associated merits and demerits overlooks the published writings and the special work of Billings and of Cowles. The literature of surgery is full of the outcome of the genius and the skill of the officers of your corps. It is with no little astonishment that I read of some of the work done in pre-anesthetic and pre-aseptic days, with no skilled assistants and with most limited appliances; as Pitcher's successfully suturing a completely divided ileum and of Beaumont's conducting to a satisfactory termination a case of lacerated and contused wound in which a charge of duck shot blew off "integuments and muscles of the size of a man's hand," fractured and carried away the "anterior half of the sixth rib," fractured the fifth, lacerated "the lower portion of the left lobe of the lung and the diaphragm," and perforated the stomach.

Passing by for the present the various reports made

to the Surgeon-General and published by the War Department, let us notice some of the work done, the results of which have been given to the world in journals, monographs or more formal books. I have had neither time nor opportunity of so examining the periodical literature of our country as to learn how many medical officers of the army have been contributors, to what extent and upon what subjects, a task that would have been a pleasant one had it been possible for me to undertake it; but I have found that to the *American Journal of the Medical Sciences* during its sixty years' life as a quarterly, nearly fifty of the corps contributed articles (some one, some many) on very varied topics, medical, surgical, therapeutical, obstetrical even, and if to these were to be added those who had once been in the corps but having resigned were at the time of writing in civil practice, the number would be a much larger one. In the Transactions of several of the medical congresses, international, national and special, that have been held in the last twenty-five years can be found able papers by officers of the Corps. At Philadelphia in 1876 Woodward delivered one of the general addresses, as did Billings in London in 1881; at the "Pan-American" in this city Surgeon-General Sternberg was chairman of the Section on Military Medicine and at Denver in June he will preside over the meeting of the AMERICAN MEDICAL ASSOCIATION.

To the various systems and handbooks that have appeared lately a few of the staff have been contributors. Your distinguished chief, who has received many honors at home and abroad and deserved them all, who has been especially concerned with the causes of things and has aided much in their discovery, who after a long and broad training in the school of practical work turned to the experimental side of medicine and has made himself *facile princeps* among American bacteriologists, he, with a number of his colleagues (Adair, Bache, Greenleaf, Huntington, Pilcher, Smart, Smith, Taylor, Woodhull and Woodruff), contributed to the "Reference Hand-book." Billings, scholar, writer, organizer, man of affairs, more widely known perhaps and certainly academically more honored than any other medical man our country has ever had, was one of the writers for Pepper's "System of Medicine" (on hygiene) and for Dennis' "System of Surgery" (on the history of surgery); and to the latter your professor of surgery (Forwood) contributed a masterly article on "Military Surgery." For Ashhurst's International Encyclopedia Clements wrote on the "Field Duties of Militairy Surgeons," and Bill on "Saber, Bayonet and Arrow Wounds;" the latter a clear, interesting paper, the last perhaps that will ever be written upon these subjects, almost certainly so upon that of arrow wounds.

The books that have been written on professional subjects by medical officers of the Army, though few in number, have been of decided value. As early as 1813 Surgeon-General Tilton published his "Economic Observations on Military Hospitals and the Prevention and Cure of Diseases Incident to our Army," and three years later was issued Dr. Mann's "Medical Sketches of the Campaigns of the War of 1812," together with a dissertation on dysentery and on broncho-pneumonia, both books of much interest not only to army surgeons but to those of the profession at large who may wish to know what was seen and thought and done in the earlier years of American Medicine. In 1833 appeared what may properly be regarded as

the most valuable medical contribution from the Army prior to the publication of the great Medical and Surgical History of the War of the Rebellion, Dr. Beaumont's "Experiments and Observations on the Gastric Juice and the Physiology of Digestion." The case already referred to of wound of the anterior left chest and stomach under Beaumont's care was practically healed in two years' time, and a year later (May, 1825) the Doctor commenced his first series of "Gastric Experiments" at Fort Mackinac. "In the month of June following," he writes, "I was ordered to Fort Niagara, N. Y., where, taking the man with me, I continued my experiments until August. About this time (August, 1825) I took St. Martin with me to Burlington, Vt., and from thence to Plattsburg, N. Y. From the latter place he returned to Canada, his native place, without obtaining my consent." Four years later through the aid of the agents of the American Fur Company "after considerable difficulty and at great expense" the Doctor had the man with his wife and two children brought to him at Fort Crawford, at the mouth of the Wisconsin River, "a distance of nearly two thousand miles." From now on for about two years there was carried on uninterruptedly another series of experiments on the stomach and gastric fluids. Then followed an interval of about eighteen months during which the man was at his Canadian home, after which from November, 1832, to March, 1833, the experiments were carried on again at Plattsburg and in Washington, the man being "constantly subjected to a continued series of experiments on the interior of the stomach; allowing to be introduced or taken out at the aperture different kinds of food, drinks, elastic catheters, thermometer tubes, gastric juice, chyme, etc., almost daily and sometimes hourly." The opportunity was an unique one, and Dr. Beaumont appreciating the situation had the genius to inaugurate and the patience to execute a series of experiments which, rendering him famous, was of immense importance in determining the physiology of digestion. All of his conclusions are not today accepted, but everywhere and by everyone his facts are and his labors are acknowledged and appreciated.

Years afterward the profession received from the Army another contribution of much value on physiologic subjects, the "Physiological Memoirs" of Surgeon-General Hammond, made up of various papers written during his term of service as assistant surgeon, one of them a prize essay of the AMERICAN MEDICAL ASSOCIATION. At about the same time this author, who has written so much, so well and on so many different topics, gave to the Army and the country a treatise on "Military Hygiene." The medical staff carried off another of the AMERICAN MEDICAL ASSOCIATION prizes when in 1876 Assistant Surgeon Culbertson (retired) submitted an essay on "Excisions," a volume in size, the preparation of which necessitated enormous labor, which will long remain as one of a few books that must be consulted by anyone working up the subject of operations done upon the six larger joints. From time to time we have had from the pen of Dr. Billings volumes upon hospitals, upon hygienic subjects, upon ventilation and heating, upon vital statistics, and a medical dictionary, and, as is true of all that the Doctor has written, they prove that he has ever heeded his own advice, "have something to say and say it." To Surgeon-General Sternberg students and practitioners are greatly indebted for a

treatise on malaria, a translation of Magnin on "Bacteria," which came so opportunely, and his own elaborate "Manual of Bacteriology" and associated "Text-book," at home and abroad accepted as authoritative and worthy of both subject and author.

Of all the literary work done by the Medical Staff of the Army far and away the most important has been that connected with the preparation of the Medical and Surgical History of the War of the Rebellion and of the Index Catalogue. Increasing knowledge, changing views of nature and cause, variation of type, fickleness of fashion which has no little influence upon professional opinions, one and all bring it to pass that few books have other than an ephemeral existence. As the elder Gross once said to me "How seldom it is that a man's labors outlast him." But once in awhile there appear the writings of a Hippocrates, a Galen, a Vesalius, a Paré, a Sydenham, a Hunter, a Bichat, a Virchow, and they become as immortal as Medicine itself. Among the never dying will be the two great works just mentioned. The accumulation of immense material, the having at hand clerical aid in quantity and quality equal to the requirements, the countenance of a willing Department and the financial backing of a great nation permitted of that being done which had never been done before, will probably never be done again in like degree and could not have been done under any less favorable conditions. The opportunity was there and the Medical Staff of the Army had the cultivation, the judgment, the persistence, the literary skill that was required. There was most fortunate conjunction of the time, the place and the men. Had they done nothing else the preparation of the Medical and Surgical History and of the Index Catalogue would have perpetuated the names of Otis, of Woodward, of Smart, of Huntington, of Billings; and with them should be mentioned their associates of the Corps whose less prominent work was yet of no little value. At once a treasure house and a mine, the Medical and Surgical History reports facts, presents statistics, discusses theories, compares opinions, weighs treatment, and all the while bears testimony to the fidelity, the skill, and the devotion of that army of medical officers, regular and volunteer, that was fighting disease and injury during the long years of that terrible strife. In the midst of arms Law is silent, Medicine never. From camp and field and hospital she has always spoken and she never else has spoken so loud, so long, so authoritatively as in our day and on our soil. The epitome of her teaching is this History. Though the advances of the last thirty years in knowledge of the causes, the means of production, the most favorable methods of treatment of the diseased conditions prevalent in armies render even now much that was learned in the ten years before of comparatively little practical value; though alterations in armament will cause much change in number, character and gravity of wounds and therefore in the care of them, still these six ponderous volumes will long have to students and practitioners, military and civil, much more than a mere historical value, great as that may be.

Of much more present practical value to the profession at large is the Index Catalogue which with the supplementary Index Medicus has for nearly twenty years been making us familiar with what has been and is being written on each and every medical subject. In most unusual degree it has been filling a long-felt want, and both at home and

abroad has been furnishing students and writers with what was heretofore unattainable. The magnificent library around about us, in so great a degree the outcome of the labors of Dr. Billings, has supplied the material for the work. The high scholarship and peculiar fitness for editorial supervision that have long characterized Dr. Billings and his co-laborer Dr. Fletcher have guaranteed fulness and accuracy of selection and classification; the abundance of clerical aid has secured extraordinary regularity and rapidity of appearance of the successive volumes. A first series completed, a second is bringing the catalogue up to date; and the declaration may safely be made that the Medical Department of the United States Army has accomplished the most gigantic, important and useful medical task known to history. Over and above this literary work it has accumulated stored and scientifically arranged a museum that so far as relates to the diseases and injuries of soldiers is unapproached and in all probability unapproachable.

Keeping in mind the things done, the services rendered, the influence exerted by the officers of the Medical Staff through all these many years, who can rightfully refuse to the Corps full meed of respect, full measure of honor? True, more perhaps might have been accomplished; not a few bright minds have suffered eclipse; there has been much loitering on the way; but our Country and our profession are and ought to be proud of their most carefully selected body of medical men. Many of its members have gone out into civil life, carrying with them those principles of honor and integrity and devotion to duty that are the very life and soul of an Army Officer. You may well take pride in the labors and the successes of such general practitioners as Heustis and Pitcher and Porter, of such surgeons as Van Buren and Weir and Gouley, of such gynecologists as Homans and Lee, of such oculists as Thomson and Norris and Fryer, of such laryngologist as Asch, such alienist as Cowles, such anatomists as Isaacs and Allen, such chemists and scientists as Torrey and Bache, such zoologists as Coues and Schufeldt. The names of at least twenty-five of the medical teachers in almost as many schools have at one time or another been borne upon your rolls, and among them are those of Bartholow and Dunster and Glison and Pooley.

Thanking your Dean and the Surgeon-General for the honor that they have done me, it is with much pleasure, gentlemen of the Army Medical School, that I congratulate you on the completion of your academic labors and wish you all success in the life that is before you. In having the opportunities for special training here afforded you have been far more fortunate than were your elders. Of all the good work that Surgeon-General Sternberg has done none will prove to have been better than the establishing of this School, and you may be sure that in every effort to increase your scientific knowledge and to add to the sum total of the world's information on matters medical you will have the sympathy and aid of your Chief. Personal experience long ago taught him how hard it is to make bricks without straw, to follow out in army life careful continued accurate investigations without the support of—more, in the face of the opposition of—the higher officers of the Department. With you, under the present order of things, it will certainly be, the more labor the more favor. Will you pardon me if I suggest to you that while you are military surgeons you are medical men and Medicine

is greater than any of her departments. As far as may be possible, put yourselves in close touch with the general and local profession, and as you may freely receive freely give. The long time isolation of the surgeons of the Army has come to an end with the conditions that necessitated the establishment and maintenance of many and widely separated posts. As your duties call you to the vicinity of cities that are, in greater or less measure, medical as well as commercial and political centers, take your places as members of the greater and higher Medical Corps that embraces all the good men and true who are advancing Medicine and benefiting mankind. Again congratulating you, I bid you God speed.

THE RELATION OF THE MEDICAL AND LEGAL DEPARTMENTS OF RAILWAYS.

President's Address Delivered at the Annual Meeting of the American Academy of Railway Surgeons, at Chicago, Ill., Oct. 6-8, 1897.

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CONNECTION BETWEEN LAW AND MEDICINE.

Law and medicine, like "knowledge and wisdom," are "far from being one," but here Cowper's distinction ceases to apply, for the connection between the two professions is close and intimate, and each new discovery in this age of rapid, scientific progress unites more closely these great branches of learning. Medical jurisprudence has widened far beyond testamentary capacity, commissions in lunacy and expectation of life. The toxicologist and the chemist are quite commonly assistants of both commonwealth and accused in capital trials; the surgeon, the bacteriologist and the biologist are hand in hand with attorney and counsellor in civil and criminal causes. Where the *Green Bag* or the *London Lancet* was once filed alone, the *Medico-Legal Journal* now shares shelf space and attention, and the journals of both professions devote much printed space to medical jurisprudence and medico-legal surgery.

The Medico-Legal Society, from an insignificant local association, has grown to be an international organization; strong numerically, stronger intellectually, strongest in original research and investigation; throwing light upon problems which have heretofore puzzled alike the disciples of Blackstone and of Æsculapius, including in their numerous courses of study every subject of common interest, from psychics and hypnotism to compulsory vaccination; from toxicology to our own branch of railway surgery.

POPULAR HOSTILITY TO RAILROADS AND THEIR SURGEONS.

It is popular and profitable to criticise the grinding railroad monopolist in print and on the platform; it is politic in a court room to sneer at the salaried surgeon who has given his best and most conscientious professional services, often under unfavorable and distressing conditions as a "corporation tool and hireling" whose testimony, "well, gentlemen of the jury, you know what expert testimony is worth, especially when the expert has a life position with the corporation. I leave it to your own common sense." In the determined effort to dominate the minds of twelve men, sometimes unintelligent, often uninformed, always