wholly to this practice must of necessity go backwards, and we see him carrying his views into cases in which they are not applicable; the result then becomes detrimental to science and society. The tendency of young graduates to rush into specialism, without any experience in general practice, should be condemned by all who hope to see the medical practice reach the high plane for which it was destined. Zamolxis puts it well when he said that "As you ought not to attempt to cure the body without the head, or the head without the body, so neither ought you to attempt to cure the body without the soul, and this is the reason why the cure of many diseases is unknown to physicians of Hellas, because they are ignorant of the whole, which ought to be studied also, for the part cannot be well unless the whole is well" (Allbutt). The overcrowded condition of the medical profession; the age at which men graduate in medicine; the belief that the road to fame and wealth is more direct and shorter in specialism; the microscopic tendency in the question of diagnoses; and the association of the general practitioner with "old-fashioned ideas" in the minds of the new physician, are some of the causes tending to modernize the practice of medicine. That a reaction has already set in is evident from the public addresses of those competent to speak, also from the position taken by our leading colleges on the question of higher medical education, making a university of medicine of what was formerly a school. Then, again, the marked progress in the general educational standard of society of to-day, and what that promises for the future, are almost conclusive that the time is not far distant when more will be demanded of the physician than that he be a part and not the whole, that he combine those traditional qualities of the old physician, reinforced by modern discoveries, with a systematic knowledge of all those sciences necessary to complete the whole, perhaps less in amount in special lines than is now held by some, yet sufficient. The physician of the whole body and mind, who from his knowledge of nature and man and soul is the only one entitled to that name — Physician.

IMPROVEMENTS IN ARMY MEDICAL SERVICE, SUGGESTED BY EXPERIENCE IN THE LATE WAR.¹

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THE object of this paper is not to criticize the medical service of the regular army or National Guard, especially of our own State, whose medical service at the commencement of hostilities was almost all that could be desired, considering that the volunteer militia had not seen active service for over thirty-five years. It is only by experience that we can approach perfection in any branch, and my idea is to suggest methods for improvement in our service.

As surgeon in charge of a large field hospital, I have had exceptional opportunities to observe defects in our present system. No matter what advancements are made in National Guard medical service, one cannot fully utilize them in national as in State service, for the reason that in the former we are depending on the efficiency of superiors over whom we have no con-

trol; but the State training of its medical officers in a body and the individual training cannot fail to produce good results. To illustrate this point: The country has another war; Massachusetts sends to the front, as it recently did, medical officers well trained in the duties of their department; each regiment, as in this war, is sent to a brigade composed of troops from different States, whose medical department may be controlled by an officer of little experience in caring for large bodies of troops. Necessarily, the inefficiency of the head of the department must hamper the work of our medical officers; for instance, take the matter of supplies; if the superior officer does not furnish the proper medical supplies, the command must suffer; but with subordinates who thoroughly understand red-tape the career of the inefficient will be anything but pleasant. Then again the surgeon is apt to be detailed from his organization for special duty, but wherever he goes his individual training will help him.

What excuse have I to offer for bringing this subject before our Society? I have no apology to make; it is the proper place. Our profession is responsible to a certain extent for the men it sends to the medical department. For the work of our physicians on the field, the profession at large share with the military authorities the criticism which may be just or unjust, and it seems to me highly proper to interest the profession in the matter. The material, medical, surgical and hygienic, procured in war should be placed in the hands of the best professional talent, in order to reap what profit there is to science and for the benefit of mankind. For the information of those not familiar with military organization, I will state that medical officers in an army corps (containing about 25,000 men) were distributed about as follows: one chief surgeon of corps, with the rank of lieutenant-colonel; two division surgeons, with rank of major; six brigade surgeons, with rank of major, one for each brigade; nine regimental surgeons, with rank of major, one for each regiment; eighteen assistant surgeons, with rank of first lieutenant, two for each regiment; one assistant was detailed for special work at division hospital, or other duties.

So many details were made from medical officers for special duty that most organizations were handicapped by being short of physicians. Brigade surgeons existed only in name. They were detailed to take charge of division hospitals and other special duty. The senior regimental surgeon was acting brigade surgeon. Contract surgeons were detailed to take the place of these officers in many cases. Many of these contract surgeons were first-class men, impelled to offer their services through patriotic motives, and I shall always recall with pleasure the able and self-sacrificing devotion of many to their duty. These men were not examined for their positions, and, consequently, some got into the service who had nothing to recommend them but their political influence. For obvious reasons every surgeon ought to be commissioned in the service, not for any vain glory, but in order to render all amenable to the same discipline, and to stimulate pride. I cannot see the reason why men should serve in this department without commissions any more than in any other. A reserve staff could be formed of physicians who came with good professional recommendation and passed an examination in the different branches of the science. If I can judge by the eagerness of my medical neighbors to go to the front, I think the flower of

¹ Read before the Massachusetts Medical Society, June 14, 1899, and recommended for publication by the Society.

the younger members of the profession could be secured for this honorable and important work. When a medical officer was detailed for special work, as, for instance, where one considered an expert in yellow fever was hurried to the front, a member of this reserve staff who had shown his qualifications for the work should be detailed to take his place. He could assume his new duties feeling that he would be respected by officers and men, holding the commission which entitled him to it. Of course, it is only fair to mention that the apparent urgency was so great and the heads of departments so busy that to make provision for this method was perhaps not deemed expedient.

Had our troops in this Commonwealth gone to the front in brigades which had long been organized, their service would have been even more efficient than it was, with medical and every other department properly equipped and an ambulance corps that has been a pride to our soldiers. Our leaders in other departments of the militia service as well as the medical are, and always were, men of ability and action. As intimated in an early part of this paper, surgeons in their respective States may have received excellent training, but in the field may be handicapped by an officer whose experience has been confined to a small military post; much of the executive ability of the former is lost by this, but even under these circumstances their training renders their services valuable, although not so much so as if they performed duty with their own organizations.

You are familiar with the noble work of the Massachusetts Volunteer Aid Association. The surgeon superintendent of their ship *Bay State* was formerly Surgeon-General of this State, and his successful management suggests the feasibility of calling to our aid in emergencies the services of physicians who have served the State in its medical department, but who have retired after nine years of continuous service, or another class that have severed its connection with the militia for various reasons. In looking over the adjutant-general's reports of this State for the past ten years, I find the names of at least twenty surgeons who have left the service. Most of them would be proud to give their services if asked, and I can answer personally for several, who have told me that they would have served if they could have procured an appointment.

I recommend that in the future, a reserve staff be formed of all medical officers who have served in the militia. These men have received some training in the duties of the medical department and if not required in the active work of a campaign, their advice and relief work at home would be of great value. The skeleton of a first-class Volunteer Aid Association could be formed by these officers, controlled by the surgeon-general, and its official connection with the service would be of decided advantage. A military organization should be able to take care of itself in every department.

At least one surgeon in each brigade, and better if in each regiment, should be selected for his skill in surgery. You can see the importance of having a trained surgeon, a specialist in surgery, in an organization that may be engaged in battle where major operations requiring great skill may be performed. The camp of instruction is not the place to teach surgery, neither is the battlefield the place to learn. In the

school suggested men will be taught surgery, particularly that which relates to gunshot wounds and other injuries likely to be met with on the battlefield, but this instruction cannot make them skilled surgeons; a special aptitude is required, and we should have no difficulty in getting at least one first-class surgeon in every organization. A special surgical examination on admission could be given to applicants seeking those positions.

A bacteriologist could be attached to each brigade or division. The reserve corps before alluded to could furnish specialists in this line. With thoroughly equipped laboratories, they could be of inestimable value in aiding the surgeons to diagnose doubtful cases of malaria and other diseases, besides furnishing valuable aid in compiling the medical history of an army, and adding to science. A division hospital, as its name indicates, is a hospital for all the sick soldiers of the division, that is, for those ill enough to be confined to bed. In this campaign regimental hospitals were practically abolished and all the hospital equipments called in at least in one Southern camp to form the division hospital. This met with such vigorous and just opposition from the volunteer surgeons that a compromise was made and each regiment allowed to retain two cots in its hospital for emergency and observation cases. Towards the middle of September the wisdom of allowing regimental hospitals was clearly seen and provision made for the care of soldiers in their own regiments. I think most volunteer surgeons will bear me out in the statement that division hospitals are failures in the broad sense. There should be a division hospital for special cases, where major operations could be performed and where cases requiring treatment of a specialist could be referred; also a contagious hospital. The regimental surgeons should treat their own men; their sick should be nursed by their own comrades; the question of discharge for disability and sick furlough should be settled by the regimental surgeon. The surgeon would not only be responsible to his superiors for the care of his sick, but he would also be responsible to his State and his neighbors. With division hospitals the regimental surgeon has but little responsibility; he becomes a mere transferring agent for division hospitals; an admitting physician, so to speak; his men lose confidence in him. In the future, if division hospitals exist, they should be thoroughly equipped with everything necessary to form a first-class field hospital, and not depend upon the equipments of the State to furnish them. I do not wish these remarks in regard to division hospitals to be considered a reflection on any individual for their introduction in this campaign, for it did seem before and early in the war that the system had much to recommend it; but I base my opinion on my own observations and those of many surgeons. However, a longer trial of these institutions may convince us of their superiority. The failure to supply these hospitals with suitable equipment is explained by the fact that the demand for medical and hospital supplies for such a large army was so great that it was impossible to furnish them at such short notice.

In the National Guard we have not the organization for a division hospital, but it would be well to practise more for the perfection of brigade hospitals, which really are division hospitals on a small scale, in order to perfect ourselves in the working of larger

field hospitals. We had so little sickness during our short encampment in this State that we had but few cases for our brigade hospital at South Framingham.

The encampment, care of men, etc., should be the same as in actual war; the drinking water *should be filtered, no matter how pure*, in order to accustom the men to it, and to impress on their minds the importance of such a procedure. A garbage plant is important; a regiment should be so accustomed to active service methods that it could step gracefully from the militia into the national service. To be sure, there would be more or less recruits in every organization at the commencement of hostilities, but the skeleton of the perfect machine would be there and would quickly adapt itself to campaign work. The soldier cannot be produced in a month any more than the mechanic.

How much have we improved our medical department since the Civil War? And in what ways shall we improve it in the future? As far as the volunteer service is concerned, we have made a decided advance. Much interest has been taken of late years in the progress of this work. Education of medical officers coincident with general medical education has contributed not a little. Antisepsis has contributed greatly, but of course we cannot claim all improvements, such as antisepsis, for the medical department; but we can claim it for our profession, and after all, what we claim for our department is simply a claim for our profession, for there is no title we are so proud of as plain doctor.

In 1892, the Association of Military Surgeons of the National Guard was formed, and in 1894 the scope of the organization was enlarged by taking in the medical officers of the United States Army, Navy and Marine-Hospital Corps, and the name changed to Association of Military Surgeons of the United States. This Association meets annually, and many valuable papers on all subjects pertaining to military medicine are read and discussed. The convention lasts three days, and the exchange of ideas and the interest awakened in subjects have done much to advance the medical service of the country.

I do not wish to take all the credit for suggestions here made. Some are original, and many are obtained from my associates in the militia, particularly the superiors with whom I have had the good fortune to serve.

A few quotations from the surgeon-general's reports will show the interest taken in our State medical service. Many of the suggestions have been acted upon and have borne good fruit. I trust that ere another year has passed the volunteer militia will have profited by the introduction of all these improvements.

Surgeon-General Kittredge in 1893 recommended a physical examination for recruits, that a gymnasium be established in every armory, and a systematic course of athletic exercises be prescribed and carried out under a proper instructor, and also that a system of feeding troops in conformity to military usages be adopted, together with an emergency ration.

Surgeon-General Burrell's Report, 1894: "In a few of the States the medical department of the National Guard has been placed on a permanent footing by being made a staff corps. In one State, when a vacancy occurs in the medical department it is announced in the public press that a competitive exami-

nation will be held for such appointment, and the best man is commissioned as an assistant surgeon, and is sure of promotion and full surgeonship, and possibly a directorship. Whether it were wise or not to bring about this condition of affairs in our own State has been a matter of serious consideration; but our present system and the personnel of the medical department of this State are in such condition that it has not seemed wise to me to seek such a change, at least at present." (Some of the duties of medical officers, M. V. M.)

Recommendations by General Burrell, Surgeon-General's Report, 1894: "That a physical examination of recruits be made mandatory; that the surgeons receive compensation for the examination." Dr. Burrell and his successors have worked hard for the attainment of this, and now the examination of recruits is mandatory, and the surgeons will receive moderate compensation for their services. Since the plan was started by Dr. Burrell our recruits have been examined to some extent through the generosity and unselfishness of our medical officers, who have worked zealously for the State without pecuniary reward, but in the future this examination will be done in the thorough and efficient manner such important work deserves, and the surgeons receive some compensation.

In the late war many officers and men enlisted who were indebted to their States for their military training, but being rejected on physical examination, were consequently unable to make any return for this training.

The war has taught the lesson anticipated by General Burrell and his successors, and in the future our militiamen will be ready physically as well as patriotically when their country calls for them.

Surgeon-General Burrell's Report, 1894: "I am convinced, from personal investigation and from reports of our medical officers, especially that submitted by Lieut. C. W. Galloupe, that a large saving in illness, even of a temporary character, might be made at the encampments of State troops by the State providing suitable food. I would by no means recommend an army ration, — not but what an army ration in itself is an excellent bill of fare, but it is not adapted to State troops who go into camp for a short time. Troops should be provided with plain, wholesome food, and this should be furnished by the State."

In 1894 General Burrell adopted a system of blanks modelled after those in use in the army, but so modified as to meet the wants of the State service.

A school for medical officers was started during the régime of Surgeon-General Burrell and is still in existence; one or two sessions have been held every year, and many interesting papers on subjects of military medicine and surgery have been contributed. Dr. Burrell obtained permission from the Surgeon-General of the United States for members of our organization to attend the school for regular army surgeons in Washington, but for obvious reasons advantage was not taken of this privilege. The starting of our school by Dr. Burrell was a step in the right direction, and the continuation of this idea on a larger scale desirable, but the formation of a special school for militia medical officers; and conducted by medical officers, is impracticable, and I would therefore recommend that a professorship of military medicine be established in the different reputable medical colleges of the United States. It seems to me that this would be a great step towards

approaching perfection in military medicine and surgery. The different branches of these subjects, including hygiene, transportation of the sick and injured, the management and organization of field hospitals, red tape of the service, etc., could be taught in a course of lectures extending over one year.

Even though the knowledge thus gained were never used in army service, it would be no burden and would prove useful in civil practice. The knowledge of red tape acquired would give the student an insight into methods which would be of some benefit to him in conducting his ordinary business affairs. When the tocsin of war sounded again it should find the medical profession, as a body, ready to tender its best assistance, without the preliminary training which is now required in order to do effective work.

In the late war our profession as a whole did noble and efficient work, and whatever may have been lacking in its effectiveness was not due to ignorance or incapacity as far as ordinary professional duties were concerned, but to inexperience in military medicine. It has been suggested that the National Government establish a medical school for army surgeons, including militia surgeons, to train physicians for the army. This is unnecessary, as the course now given in Washington to regular army surgeons before they enter their career is sufficient. In any great emergency, such as the Civil War and the one through which we have just passed, volunteer surgeons must be depended upon for their share; they cannot devote the time to take a course at some special school remote from their homes, and the method I advocate would be in conjunction with their regular medical training. The advantages of this system are obvious. The country would then have a large body of doctors fitted for the medical service ready at short notice. Until such a system is inaugurated, in fact well established, there should be a course given to medical officers of the National Guard in medical schools or post-graduate courses, the latter consisting of at least thirty-six exercises in the form of lectures, or one a week for the school year. A school like Harvard could give one or two exercises a week in its regular course, or the State could provide for instruction in post-graduate schools. This system would give an opportunity to medical officers to derive decided benefit from connection with the militia. At present the advantages are not professional but almost purely social, excepting perhaps the slight experience derived from practice at State camps. By strict entrance examinations, embracing general medicine and surgery, the Massachusetts Volunteer Militia has maintained a high standard in its medical department, and it is the hope of the writer to see the whole service of the National Guard brought to the same or even higher degree of efficiency, by suggestions recommended in this paper.

I quote from the late Surgeon-General Forster: "Voluntary examinations of recruits are maintained in some commands; to secure the greatest efficiency of our State troops, such examinations should be mandatory with all, and I so recommend." To establish company bearers as part of the militia system of the State, he requested the following paragraph to be incorporated in general order No 6:

"Company commanders, with the concurrence of the senior medical officer of the command, will designate four privates for instruction as litter bearers. They will be known as 'company bearers' and shall be in-

structed under the supervision of the medical officer (senior) at least one-half hour daily while in camp and at such other time during the year as the commanding officer may deem advisable, in the duties of litter bearer and the methods of rendering first aid to the sick and wounded. This special instruction will not relieve them from the performance of all regular (their) military duties. They will give first aid to the sick or wounded or carry them to the rear until relieved by members of the ambulance corps or a medical officer. When so relieved they will immediately join their companies.

"When on duty where their services may be required they will wear a distinguishing mark—a red brassard around the left arm, just above the elbow."

■ Our present surgeon-general has well sustained the record of his predecessors. His earnestness and zeal in seeing that his medical officers were well supplied with everything needed in their department will always be kindly remembered. His motto, "There is nothing too good for Massachusetts soldiers," has been lived up to in the present campaign.

In his recommendations this year Surgeon-general Blood says: "I would recommend that each Massachusetts Regiment of Infantry, M. V. M., have one surgeon with rank of major, and two assistant surgeons with rank of first lieutenant." In case this increase is made, the extra surgeon could be selected for his surgical ability.

"Of the nearly nine thousand troops at one time or another encamped at Framingham during the summer, only one serious case of illness occurred. This seems a remarkable record, in view of the great amount of sickness of the United States Volunteer soldiers in Camps Alger, Va., Thomas, Tenn., and in camps in Florida. This, I believe, can only be accounted for by the supposition that the sanitary conditions were better at Framingham than at the camps mentioned, and that there was a better supply of pure water; this was probably true."²

Emergency lectures following the course adopted by the Massachusetts Emergency and Hygiene Association have been given with more or less regularity to the different organizations of the militia the past seven or eight years. The Association has furnished skeleton charts, etc., in fact everything required for a course of instruction in first aid to the sick and injured; it has also furnished diplomas to soldiers who have passed satisfactory examinations and have been recommended by their medical officers. Too much praise cannot be given this noble Society for its good work. Prevention of much suffering and even loss of life amongst Massachusetts militiamen were due to the instruction received in first aid by the militia of the Commonwealth. Dr. Otis H. Marion has done much to advance this work in the militia.

To this course I would add instruction in camp hygiene, the prevention of contagious disease, etc., embracing policing of camp; personal cleanliness; the importance of reporting venereal disease to prevent its spread by drinking vessels and other means; care of water supply to prevent pollution; bathing, clothing, ivy-poisoning, and kindred subjects.

No rules and regulations to prevent disease can be carried out without the intelligent co-operation of officers and enlisted men. An officer high in command in United States Volunteers told me that he saw a

* Surgeon-General's Report, 1898.

soldier lying on the ground and drinking from a stream that had been contaminated nearer its source by washing, bathing, etc. There was no need of this individual endangering his health by drinking from the polluted stream; there was an abundant supply of pure water in each regiment. Such reckless individuals form a small part of the volunteer force; the great majority are earnest, patriotic men who are anxious and willing to learn and practise everything which conduces to their physical welfare. For years I have believed in the importance of individual instruction to officers and men. With this end in view I advocated and, with the permission of the Surgeon of the Ninth Massachusetts, gave instructions to officers and men in the above-mentioned subjects. Each day the members of one company were instructed until the twelve companies of the regiment had been educated on these important matters. The fact that disease was more to be feared than bullets was impressed on their minds and with good results. In two months' service in this country there was not a single case of typhoid in this regiment; in fact I don't think it can be justly said that Massachusetts brought any of the typhoid cases to the South.

This Ninth Regiment, according to Lieutenant-Colonel Weaver, the regular army officer who mustered it into the United States service, was an exceptionally fine body of men physically. Every care was taken to prevent disease, but while in Cuba the hardships during the siege of Santiago were so great that it was impossible to carry out measures for the prevention of disease.

Since writing this paper I have seen various quotations in newspapers and medical journals from high medical authorities, advocating the education of line officers in matters pertaining to camp hygiene. I have the satisfaction of knowing that I have not only advocated but have practised it in the late war and with results that have fully demonstrated its importance.

The ration must be improved upon and adapted to the tropics. Expansion means an army in tropical regions, and consequently it will have to adapt itself to the surroundings. This hardly comes within the scope of this paper. No doubt the military experience of our troops in the Philippines, Porto Rico and Cuba has taught this lesson, and in the near future, we shall probably see a ration adopted that will fully meet the demands. The United States Army ration as it stands to-day has stood the test of experience for many years in this country, and I believe gave good satisfaction in camps of instruction.

By direction of President McKinley a special order regarding the food supply of the United States Army in the tropics was recently sent to commanding generals at Manila, Havana, Cuba and San Juan, in order to determine what alterations, if any, in the established rations would be conducive to the better health of troops serving in tropical countries. Each of these officers is directed to institute a board of three officers serving respectively in the line, medical and subsistence departments, to examine into the subject of any desired changes in the ration for the troops serving in his command, and to cable the results of such inquiry to the Secretary of War. It is fair to presume that this will result in great improvement in rations for our troops in tropical climates.

For many years this State has maintained a well-

organized ambulance corps under the command of an able and efficient officer.

The commencement of hostilities found this Government with no provision made to take this or other like organizations into its service.

To prevent the possibility of again losing the valuable services of such well-trained men, I would suggest that one or two men be detailed from each company of each regiment for instruction in ambulance corps. I would also deem it advisable to consider the value of a corps of trained female nurses in connection with the militia.

Perhaps there is no position in the army more unsatisfactory than the surgeon's; he has no power to command; everything must be done with the approval of his commanding officer; he is censured for the health of the command, when perhaps he has made every effort to do his duty. Certainly this State has a medical service of which it can feel proud. The examinations for admission to the medical department of the Massachusetts Volunteer Militia since 1874 have been very strict, embracing the following subjects: anatomy, physiology, chemistry, materia medica, theory and practice, surgery and hygiene. To this has been added a physical examination. Our staff is composed of men who have been tried and found successful in their chosen profession; they have given to the work the requisite time and study which it demanded. And will you believe that their training has been for naught? That those who have studied and prepared themselves for this emergency have failed? To believe this is to be unreasonable and disloyal to our profession. The volunteer surgeon who was experienced in military medicine before the war, who was earnest in his calling, could not fail to do good work when summoned to active service.

Considering the fact that the present generation of medical officers has seen no active service, that the large volunteer army was raised at such short notice, it is not surprising that there was something lacking at its management.

The total number of deaths reported in our army, including regulars and volunteers, from May 1st, 1898, to April 30th, 1899, is 6 406. Of these 5,438 died of disease, and 968 were killed in battle or died of wounds, injuries or accidents. This statement makes a great impression as to the danger of disease rather than of bullets; but it is only fair to consider that an army of nearly a quarter of a million of men was exposed to disease for twelve months, where only a small portion of this army was exposed to bullets for a few months. However, considering this, it shows that the prevention of disease is a very important consideration in dealing with the health and effectiveness of an army. Had the entire army been engaged in active warfare, of course the percentage of deaths from wounds would have been much greater.

Petty bickerings between regular and volunteer surgeons, trying to shift responsibility from one to the other, only tends to lower both in the eyes of their fellow practitioners and the laity. Let them come together even more closely than formerly. Let them work together for the public good and remember above all things that they are members of the same profession. To say that regular army surgeons are not bright and intelligent physicians as a class is unreasonable. The examination that they pass for admission to the medical corps is sufficient to guarantee

this; to say that volunteers are ignorant and inexperienced is to belittle the whole profession and degrade it in the eyes of the people. They both are lacking in some qualifications to make the best type of medical officers; many of the volunteers are lacking in military medicine, particularly as regards red tape, etc., and the regular in experience in general medicine and surgery. The combination of the regular and volunteer would make the ideal medical officer. If the regular profits by his experience in this war, and the volunteer by his, and they work together harmoniously in the future, the question of good army medical service will be solved. Let us not give way to personal feelings, criticising physicians who have done the best they could under the circumstances, and who have perhaps done better than we could under the same conditions. Let us note our imperfections and try to improve the service for those who succeed us. Contributions furnished by experience will be a great aid to our successors. Exaggerated and sensational accounts of mismanagement do no good.

Some of the important improvements in our State service the past five years are as follow:

- (1) Physical examination of recruits; at first voluntary and now made mandatory.
- (2) Ration to be used at camp. Something after the pattern of army ration, but modified for adaptation to State service.
- (3) School for medical officers. One session annually.
- (4) Company bearers; four privates in each company specially trained in emergency and first-aid work.
- (5) System of red tape patterned after regular army, but modified for State service.

I have merely touched upon certain suggestions which could well bear elaboration, but time and space forbid.

The following is a brief *résumé* of the suggestions offered to improve the efficiency of the army medical service. Some of them have been practically adopted by the Massachusetts Volunteer Militia, and it is hoped will be adopted by the entire National Guard:

- (1) That professorships of military medicine be established in every reputable medical college.
- (2) That until such time as professorships are established, the State provide a course on required subjects.
- (3) That physical examination of officers and men be made mandatory.
- (4) That troops at State encampments conform as nearly as possible to duties required in service on the field.
- (5) That every medical officer receive commission. (This pertains to contract surgeons.)
- (6) That one or more men in every company be detailed for regular instructions in ambulance corps, to prevent possibility in the future of the country losing the service of men especially trained for this service.
- (7) That one medical officer be selected in each regiment or brigade for his surgical ability.
- (8) That a corps of trained female nurses be organized in every State.
- (9) That divisional hospitals, in the broad sense, be abolished, and that small brigade and divisional hospitals be established for special cases, such as surgical and contagious.
- (10) That the volunteers follow, as closely as prac-

ticable, the regular army, so that when called into service together the two branches may work in harmony.

(11) In addition to the present instruction in "first aid," a course in prevention of contagious diseases, etc., be given.

(12) That a reserve staff of medical officers be formed in each State; said staff to be composed of ex-members of the medical department of the National Guard.

Clinical Department.

UNUSUAL DIASTOLIC MURMUR, WITH AUTOPSY.

BY RICHARD E. EDES, M.D.,
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AND

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THE following case seems worthy of record as helping to throw light on the causation and character of aortic murmurs, as well as for the other uncommon pathological conditions present.

The patient was a business man of active life, married, fifty years old, short and rather stout. No alcoholic or venereal history. Sciatica about five years, and a ruptured varicose vein about three years previously, during which sickness his physician said nothing to him or his family about the existence of heart trouble. About a year previously he lost most of his sleep for a few nights on account of pains resembling muscular rheumatism in his right shoulder, arm and forearm, but these practically all disappeared and did not return.

On February 18, 1899, he realized that something serious was the matter with him, having had a very restless and uncomfortable night, and complaining also of a "scraping" in his chest. This he said he had felt for about six months, but had thought to be only bronchitis! Some weeks previously he had had an attack of dyspnea after climbing stairs, but had soon recovered; and again, during the heavy snowstorm on February 13th, he had nearly collapsed between the train and his house, one-quarter mile, and had been feeling rather poorly since, although going actively about. His breathing on the nights of February 17th and 18th, as described by his wife, was Cheyne-Stokes.

A hasty examination gave a loud "scraping" murmur and thrill at the base of the heart, seeming systolic at first, as it was accompanied by a heave in the apex region, although by no definite apex beat which could be felt.

Further study developed the following picture: The apex beat could be felt very feebly at times in the sixth interspace, one inch outside the nipple in the dorsal position, and in the left side position quite distinctly a trifle further out. The heave was diastolic, very marked, and at times a distinct diastolic impulse, alternating with the true apex beat and with the carotid pulse, could be felt in the fourth and fifth interspaces inside the nipple. The heart dulness was enlarged, corresponding to the position of the apex, and the lower sternum was duller than normal. Later the lower sternum became quite flat to percussion and dulness extended about one-half inch to the right.