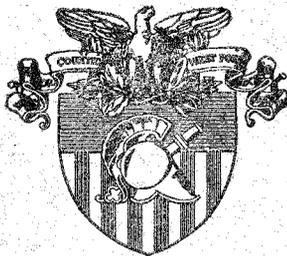


ANNUAL REPORT
OF THE
SUPERINTENDENT



UNITED STATES
MILITARY ACADEMY

1916

WEST POINT, N. Y.
United States Military Academy Press

ANNUAL REPORT
OF THE
SUPERINTENDENT



UNITED STATES
MILITARY ACADEMY

1916

ANNUAL REPORT OF THE SUPERINTENDENT OF THE UNITED STATES MILITARY ACADEMY.

Headquarters United States Military Academy,
West Point, New York, June 30, 1916.

From: The Superintendent, U. S. M. A.
To: The Adjutant General of the Army.
Subject: Annual Report.

1. Following is the Annual Report of the Superintendent of the United States Military Academy for the fiscal year ending June 30, 1916:

Personnel.

The number of officers and others in prominent positions on duty at the Academy is shown in the following list:

Superintendent and staff	5
Professors, permanent	7
Professors, by detail from the Army	4
Professors, Associate, detailed	2
Professors, Assistant, detailed	12
Commandant of Cadets and Tactical officers	15
Master of the Sword, Instructor of Military Gymnastics and Physical Culture	1
Instructors and other officers	68
Medical Corps	4
Dental Surgeons	2
Medical Corps, Instructors in Military Hygiene (August 28 to October 10)	4
Chaplain	1
Librarian	1
Civilian Instructors of Languages	3
Civilian Instructors of Fencing and Military Gymnastics	3
Teacher of Music	1
Organist and Choirmaster	1
Pay Clerk	1
Total	135

The Corps of Cadets.

Since my last report, July 1, 1915, the status of the Corps of Cadets has been as shown below:

July 1, 1915:

1st Class.....	126
2d Class.....	146
3d Class.....	174
4th Class.....	203
Total.....	649
Graduated.....	124
Discharged for deficiency in studies.....	58
Discharged for deficiency in conduct.....	1
Discharged for deficiency in studies and conduct.....	2
Discharged by reason of physical disability.....	3
Resigned.....	14
Absent on sick leave.....	5
Suspended.....	2

The following shows the number of cadets admitted to the Fourth Class by certificate or by mental examination as a result of the March and June examinations in 1916:

Examination held in	Examined mentally	Submitted satisfactory certificate under G. O., No. 19, W. D., 1915.
March.....	76	82
June.....	36	49
Total admitted.....		243

For information regarding June 27th examination see note bottom page 9.

In the last decade the number of cadets at the Academy and unfilled vacancies existing are as shown below:

Year Sept. 1st	Authorized No. cadets	Vacant cadet- ships to be filled	Cadetships filled each year	Cadetships unfilled Sept. 1st	Remarks
1906	522	172	121	51	
1907	522	216	140	76	*Law of 1910 be-
1908	533	244	127	117	comes effective
1909	533	272	144	129	—now effective
1910	533	267	145	122	to 1916.
*1911	629	319	262	57	
1912	631	221	147	74	
1913	640	278	198	80	
1914	748	302	215	87	
1915	706	265	186	79	
1916	1332	425	322	103 (Aug. 1st.)	

From the foregoing it will be seen that for the last ten years there have always been a considerable number of vacant cadetships remaining after entrance examinations are completed for the year, amounting to an average of 32% of the available vacant cadetships.

The law recently passed, May 4, 1916, increased the number of cadetships to 1332 and provides that the increase in cadets shall be spread over a period of four years, thus admitting one-fourth of the increase each year. In order to accomplish this it will be necessary to open up each year many more cadetships than the number of cadets to be admitted, and I believe it safe that the number of cadetships opened yearly should be based upon the experience of the last ten years as shown in the above percentage.

For the March and June entrance examinations this year 1058 candidates were examined. Three Filipino candidates were examined in January, one qualifying for admission. The following table shows the results:

	Examinations	
	March	June
Qualified mentally and physically	124	67
Qualified mentally and probation physically	36	18
Ex-cadets to be admitted August 28, 1916, subject to physical examination	2	
Reported late—not permitted to take examination		1
Qualified mentally and physically, not admitted because of cribbing		1
Qualified mentally, rejected physically	17	12
Disqualified mentally, did not report for physical examination	5	5
Disqualified mentally, qualified physically	124	151
Disqualified mentally, probation physically	34	33
Failed to report for examination	134	64
Failed to complete examination	20	35
Disqualified mentally and physically	31	34
Appointment cancelled, over age	1	1
Qualified mentally and physically, no vacancy	40	11
Declined to take mental examination, failed to report for physical examination	1	1
Qualified mentally, on probation physically, no vacancy	12	
Declined to take mental examination, qualified physically	1	2
Declined appointment	4	
Qualified mentally, failed to report for physical examination	14	7
Withdrew from mental examination, rejected physically	2	
Withdrew	6	18
Appointment cancelled, under age	1	
Unable to report on account of sickness	5	
Failed to report, authorized to submit certificate	1	
Total nominations	615	461

There is still a large number of candidates rejected physically although the showing is better than last year. The principal causes of rejection are the same as they have been for years, and are for the March examinations this year:

Vision.....	28
Heart.....	11
Underweight.....	20
Flat feet.....	8

The physical requirements are none too rigid for those who are expected to meet the strenuous life in field service. If those selecting candidates would insist upon their selections being first examined by an Army surgeon or some surgeon who knows and appreciates the necessity in the service of sound, robust bodies, and good eyes, there would be fewer rejections for these reasons. Many of those rejected physically are absolutely hopeless cases for the military service and should never have been permitted to try to enter West Point.

Attention is also invited to the large number, 134, who after being nominated as candidates failed to even report for examination. Many of these were alternates whose principals had submitted approved certificates, but there still remains a large number who fail to report for no apparent reason except perhaps indifference or fear of failure, thus preventing their districts from being represented at all. This is a condition that Senators and Congressmen can largely obviate by a careful selection of their candidates, either selecting by competitive examinations or securing a youth who can present an acceptable certificate.

In order to secure cadets of perhaps a broader preparation in studies than required by the West Point entrance examinations, and to permit youths, hoping to secure appointments, to pursue a course of study that would not only prepare them to enter West Point, but to enter a first class college as well, the following order was issued by the War Department, and is now in force:

General Orders,
No. 19.

War Department,
Washington, April 7, 1915.

1. General Orders, No. 38, War Department, 1914, is rescinded and the following amended paragraphs 64 and 65 of the Regulations for the United States Military Academy are substituted therefor:

64. *Admission by examination.*—On the third Tuesday in March of each year candidates selected for appointment shall appear for mental and physical examination before boards of Army officers to be convened at such places as the War Department may designate. No candidate shall be examined at any other time unless prevented by sickness or other unavoidable cause from attending the above examination. If thus prevented, he shall report at West Point for examination before 12 o'clock noon on the 12th day of June of the same year. The Filipino candidates selected for appointment, unless otherwise notified by the War Department, shall appear for mental and physical examination on the second Tuesday in January of each year before a board of Army officers to be convened at such place in the Philippine Islands as the commanding general of the Philippine Department may designate.

Each candidate must show by examination that he is well versed in algebra, to include quadratic equations and progressions, and in plane geometry, English grammar, composition and literature, descriptive and physical geography, and general and United States history, as explained in the circular of notification.

65. *Admission by certificate.*—The Academic Board will consider and may accept in lieu of the regular mental examination:

(1) A properly attested certificate (Form I) that the candidate is a regularly enrolled student in good standing without condition in a university, college, or technical school accredited by the United States Military Academy, provided that the entrance requirements of the course he is pursuing require proficiency in subjects amounting to not less than 14 units of the list given below.

If attendance at college extends over a semester, a full record of academic work at the college, giving subjects taken and grades attained in each, must accompany the certificate; if attendance at college extends over less than a semester and the candidate was admitted to college by certificate, a certificate (Form II) from the preparatory school giving a full record of studies taken and grades attained must accompany the college certificate. If a scrutiny of the certificate submitted shows low grades, the certificate will be rejected.

A certificate indicating enrollment in or admission to an institution at any other time than that specified in the college register for regular admission or enrollment will not be accepted.

(2) A properly attested certificate (Form II) that the candidate has graduated from a preparatory school or public high school accredited by the United States Military Academy, provided that he has in his school work shown proficiency in subjects amounting to not less than 14 units of the list given below.

If a scrutiny of the certificate submitted shows evidence of low grades or of graduation at an irregular date, the certificate will be rejected.

(3) A properly attested certificate (Form III) from the College Entrance Examination Board that the candidate has shown proficiency in the examinations set by the board in subjects amounting to 14 units from the list given below. If a scrutiny of the certificate submitted shows low grades, the certificate will be rejected.

The list of subjects and the corresponding weights in units is as follows:

(a) Required.

Every certificate must show evidence of proficiency in the following subjects:

	Units.
Mathematics, A1.....	1
Mathematics, A2.....	½
Mathematics, C.....	1
English, A.....	2
English, B.....	1
History, A } History, B } History, C } any two.....	2
History, D }	7½

(b) Optional.

The remaining 6½ units may be supplied from among the following subjects:

	Units.
Mathematics, B.....	½
Mathematics, D.....	½
Mathematics, E.....	½
Mathematics, F.....	½
History, A } History, B } Any not submitted among required subjects..... } History, C } History, D }	1 1 1 1
Latin, 1.....	1
Latin, 2.....	1
Latin, 3.....	2
Latin, 4.....	1
Latin, 5.....	1
Greek, A1.....	½
Greek, A2.....	½
Greek, B.....	1
Greek, C.....	1
Greek, F.....	1
French, A.....	2
French, B } French, BC } Either one but not both..... }	1 2
German, A.....	2
German, B } German, BC } Either one but not both..... }	1 2
Spanish.....	2
Physics.....	1
Chemistry.....	1
Biology.....	1
Botany.....	1
Physiology.....	1
Physical Geography.....	1
Drawing.....	1

The definition of unit and of the ground covered by the designated subjects is that of the College Entrance Examination Board. Credits must correspond to the unit values of the respective subjects. Greater credit than indicated will not be allowed; less credit will be understood as evidence that the entire subject has not been completed.

Certificates should be submitted not later than February 15. A certificate received between February 15 and the examination will receive consideration, but in view of the short time left to the Academic Board to investigate its value, no assurance will be given that such certificate can be acted on in time to exempt the candidate from the mental examination.

Candidates who are informed that their certificates have been accepted must present themselves at the regular time and place, as prescribed in paragraph 64, for physical examination. (22627560—A. G. O.)

By order of the Secretary of War:

Official:

H. P. McCAIN,
The Adjutant General.

H. L. SCOTT,
Brigadier General, Chief of Staff.

As was to be expected some difficulty has been found in selecting the schools and colleges whose certificates could be accepted for admission mentally, and the assistance of the National Board of Education was asked by the War Department. To that board are due many thanks for their conscientious and intelligent cooperation.

Many difficulties of a perplexing nature arise, especially with certificates that give incomplete and sometimes incorrect information. In many cases the showing is so poor or defective that those certifying to them should have refused to forward them because of this insufficient showing for entrance.

Blank certificates have been prepared in accordance with this order and with such detailed instructions therewith that schools and colleges, as well as candidates, can readily see just what is required.

The admission of candidates by certificates made no appreciable change this year in the percentage of vacancies filled under entrance requirements. Eighty-five candidates are to enter July 10th as a result of the examination held June 6th, leaving approximately 182 unfilled cadetships.* I believe that the most certain and satisfactory way of filling vacant cadetships is by

*An additional physical examination for admission on certificate only was held June 27, 1916. Seventy-nine candidates were admitted as a result of this examination, leaving the total number of unfilled vacancies for the year 103.

competitive examination for each, and I also believe that this method will give a much better mental average of material for cadets and for officers in the Army. In this connection I quote the following from my Reports of 1913, 1914, and 1915:

These cadetships belong to the people of the District, State, Territory, etc., and should be open competitively to all the youths eligible to compete, and it is my recommendation that a law be enacted requiring competitive examinations to be held for each vacancy, that youth to be appointed who passes successfully the best mental examination, and who is physically and morally qualified. The examination questions should be prepared by the Academic Board and a successful passing of the competitive examination should qualify a youth to enter, so that no other mental examination need be required. The details of conducting such examinations should, I think, be left to the Secretary of War. By announcing in the local papers some ten months or a year in advance that such a competitive examination will be held, stating its scope, it is believed that there will be a large number of eligible youths who will present themselves for examination in each district from which a vacancy is to be filled.

The Law of May 4, 1916, with respect to increasing the Corps of Cadets is as follows:

Bulletin
No. 14.

War Department,
Washington, May 15, 1916.

I. The following act of Congress is published to the Army for the information and guidance of all concerned:

An Act To provide for an increase in the number of cadets at the United States Military Academy.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Corps of Cadets at the United States Military Academy shall hereafter consist of two for each congressional district, two from each Territory, four from the District of Columbia, two from natives of Porto Rico, four from each State at large, and eighty from the United States at large twenty of whom shall be selected from among the honor graduates of educational institutions having officers of the Regular Army detailed as professors of military science and tactics under existing law or any law hereafter enacted for the detail of officers of the Regular Army to such institutions, and which institutions are designated as "honor schools" upon the determination of their relative standing at the last preceding annual inspection regularly made by the War Department. They shall be appointed by the President and shall, with the exception of the eighty appointed from the United States at large, be actual residents of the congressional or Territorial district, or of the District of Columbia, or of the island of Porto Rico, or of the States, respectively, from which they purport to be appointed: *Provided,* That so much of the Act of Congress approved March fourth, nineteen hundred and fifteen (Thirty-eighth Statutes at Large, page eleven hundred and twenty-eight), as provides for the admission of a successor to any cadet who shall have finished three years of his course at the academy be, and the same is hereby, repealed: *Provided further,*

That the appointment of each member of the present Corps of Cadets is validated and confirmed.

Sec. 2. That the President is hereby authorized to appoint cadets to the United States Military Academy from among enlisted men in number as nearly equal as practicable of the Regular Army and the National Guard between the ages of nineteen and twenty-two years who have served as enlisted men not less than one year, to be selected under such regulations as the President may prescribe: *Provided*, That the total number so selected shall not exceed one hundred and eighty at any one time.

Sec. 3. That, under such regulations as the President shall prescribe, the increase in the number of cadets provided for by this Act shall be divided into four annual increments, which shall be as nearly equal as practicable and be equitably distributed among the sources from which appointments are authorized.

Approved, May 4, 1916.

By order of the Secretary of War:

H. L. SCOTT,
Major General, Chief of Staff.

Official:

H. P. McCAIN,
The Adjutant General.

Inspection.

The following is an extract from the report of Lieutenant Colonel A. W. Brewster, Inspector General:

Commendations.

* * *

Battalion of Cadets.—The Battalion of Cadets was reviewed and inspected in full dress. The review was executed with accuracy and smartness. The inspection which followed immediately developed nothing to criticise. The appearance of the Battalion was extremely smart and soldierly.

The Battalion drills in close order were fine performances both as to accuracy and alertness. Considering the fact that there were so many new cadets, fourth classmen, in ranks it was remarkable.

Two days spent with the Battalion in camp in post and three days in the field presented an opportunity to judge of the performance of duty as well as the bearing and general conduct of the cadets. I was at all times impressed with the serious and thorough manner in which the cadets went about their work and their manly and soldierly conduct.

Detail of Officers as Instructors.

I have for three years urged that the Military Academy be made an exception in the operation of the detached service law and that officers be detailed as instructors for four years regardless of any other detached service they may have had.

This is a matter of most serious importance to the best interests of the Academy, and I feel it my duty to again urge that Congress be asked to pass a bill in accord with the above.

Pertinent to this subject I quote the following from my reports of 1914 and 1915:

It requires from one to two years' experience for even the best of the officers selected to become really proficient and efficient instructors. In all departments much of the first year of a detail as instructor is used in instructing the new officers, both in the subjects taught and in the methods of presenting and teaching the subjects. In the department of mathematics where officers are advanced as instructors from the fourth to the third class, a second year has to be largely devoted to such instruction, so unless an officer can remain here for a full period of four years the cadets lose that instruction to which they are entitled.

The effect of the detached service law passed in August, 1912, has been to deprive this Academy of a four-year period of instruction from officers detailed here for that purpose. Except those from the Engineer Corps not an instructor at the Academy can complete a four-year detail. As a rule officers with nine or less months beyond complete years of availability when they report must be relieved at the end of a complete year's service because it is impracticable to change instructors during the progress of a course. For instance, an officer available for three years and nine months under the detached service law can stay but three years; if two years and nine months available he can stay but two years, and so on.

It should be borne in mind that the Academy is very much limited in its selection of officers as instructors:

1st. They must be graduates of the Academy as no others are sufficiently known here to warrant their selection;

2d. They should be graduates who were not cadets with any class at the Academy. This cuts out all graduates of less than three years' service as officers;

3d. They should be officers whose standing in the subject they are to teach and whose character and abilities are such as to commend them for such a detail;

4th. They should not have been too long away from the Academy and out of touch with subjects of education. Officers over eight years away from the Academy should not be detailed as instructors unless they have recently served as instructors or are known to have done work that specially fits them for the position.

These requirements, when further curtailed by the detached service law, places nearly all the officers of the Army beyond our reach for a four-year detail. The very officers who would make desirable or even satisfactory instructors are, because of their attainments, selected for other details and so rendered unavailable as instructors.

The result of the detached service law is that we are compelled to ask for officers as instructors, who, without this detached service law, would not have been considered for such duty. These officers when detailed have done their

very best, and yet the results have not been up to the standard heretofore attained, and an exhaustive amount of work in instructing these instructors that is beyond all reason has been put upon the heads of the academic departments. The ill effect upon discipline of having instructors not naturally well equipped cannot even be estimated, and in this lies a most serious and bad effect of the detached service law upon the cadets at the Academy. Instructors who graduated low in their classes, and who are not temperamentally constituted to be good instructors, are now necessarily required to instruct the keen cadets standing high in their studies, and who are ready to take every advantage of an instructor's errors or peculiarities. The result is unsatisfactory not only as regards instruction but in its effect upon discipline.

In this same connection too I would recommend that officers serving at West Point with the Cavalry and Artillery Detachments be not considered as "detached service" under present laws. I quote the following from my reports of 1914 and 1915 on this subject:

The officers with these two detachments are in the same relation to the troops (except in name) as if they were serving in their own company and arm. They not only perform exactly the same and all kinds of duty of their rank and arm of the service but are instructors of cadets in these very duties on the drill ground, in marches, in camp, and in field maneuvers. I can see no justice in these officers being regarded, as they are, as on detached duty while at the Academy. Each of these two detachments has an enlisted strength and equipment to care for, has separate stables, barracks, and a company organization the same and administered the same as companies of a regiment.

In every sense they are performing duty with their own arm of the service.

Buildings and Grounds.

In my report for 1915, page 21, I considered the possibility of the Corps of Cadets being increased to 1200 or 1300 cadets and made certain recommendations regarding the location of the most important buildings to meet such an increase. Attention is invited to that part of my report of 1915.

Since that time a law has been enacted by Congress, approved May 4, 1916, see page 10, increasing the number of cadetships to 1332. When that law is in full effect, four years from now, I anticipate that it will place about 1200 cadets at the Academy, assuming, of course, that the present methods and standards for entrance are maintained, and I see no good reason to change these except as I have recommended on page 10 of this report, i. e., to have competitive entrance examinations in each district and State. This increase, although spread over a period of four years, makes it imperative that the erection of the necessary buildings to meet the increase should be started at the earliest

possible date. It will require two years and perhaps more in some cases to complete the large buildings after they are started. This coming year's increase can be handled with the present plant, but further material increase in the Corps of Cadets calls for more accommodations and it will be difficult to have the buildings ready in time even if there was authority to start them at once. The question of the location of the important necessary buildings has been a matter of much study and thought by myself, the professors and other officers at the Academy. In November, 1915, a board of officers consisting of:

Major General Hugh L. Scott, Chief of Staff,
 Major General Tasker H. Bliss, Assistant Chief of Staff,
 Brigadier General Enoch H. Crowder, Judge Advocate General, U. S. A.,
 Brigadier General Henry P. McCain, The Adjutant General, U. S. A.,

and myself, was convened by the Secretary of War to consider this question of the enlargement of West Point to accommodate 1200 cadets. For the consideration of this board I submitted the plans resulting from our studies at West Point. Those plans were approved by the Board and by the Secretary of War, and when the law increasing the Corps to 1200 became effective, May 4, 1916, it became necessary to revise the estimates for the Military Academy Appropriation Bill in many particulars, and to add an estimate for the new construction necessary to meet this new law. The approved plan just mentioned was taken as the basis for the new construction asked, being changed only as to cost to meet present-day prices, and a few items that were overlooked in the board's report. As thus changed I received the verbal approval of the Secretary of War the day before the Military Academy Bill, May 22d, was taken up in the hearings of the House Military Committee, and was used by me in those hearings.

The new construction, etc., asked for is shown in the following table:

Cadet mess hall	\$770,843.00
Cadet barracks	859,236.00
Cadet hospital	270,000.00
Cadet laundry	118,000.00
Camp grounds enlarged, additional toilets, baths, drainage, etc.	41,000.00
Alterations academic buildings	42,000.00
Officers' quarters	288,000.00
New roads, paving, grading, etc.	150,000.00
Quarry work for walls, foundations, etc.	140,000.00

Heating, lighting, water and sewers.....	80,000.00
Stables for cavalry and artillery.....	85,000.00
Enlisted men's barracks.....	80,000.00
Fees of architect and consulting engineers.....	100,000.00
Miscellaneous expenses, advertising, printing, specifications, office expenses, clerks, etc.....	50,000.00
Total.....	\$3,074,079.00

This enlargement plan should not be confused with the *Improvement plans* approved in 1904 and 1916. There still remains much to be constructed under those plans that is necessary and important and that is not included in the enlargement plan now proposed. The improvement plans are not now urged because the enlargement of West Point at once is so imperative and calls for all the construction that can be handled at one time.

Physical Training and Athletics.

I quote below the report of Captain H. J. Koehler, U. S. Army, Master of the Sword and Instructor of Military Gymnastics and Physical Culture. Attention is particularly invited to paragraph 3 of this report. It is believed that this physical training given cadets should be more extensively utilized at Army posts. The results have been most satisfactory in this department of instruction:

1. This instruction was carried out according to the provisions laid down in the usual program during the past year, and the results obtained were, considering everything, quite up to the satisfactory standard obtained in preceding years.

2. I feel it incumbent upon myself to again call attention to the change made in the schedule of the fourth class course four years ago, with the urgent request that some means may be devised which will obviate the deleterious effect this change has had upon this course in particular and upon the training of the other three classes in general. Attention is respectfully called to my report for last year in which this matter is discussed in detail. Under the arrangement now in force three-fifths of the time devoted to the fourth class course is now lost to that class during the month of May; a period during which the benefits and progress far exceed those obtained during any other period of this instruction. It is suggested that this matter be brought to the notice of the fourth class committee.

3. Particular stress has been laid upon the preparation of the members of the First Class so that they may be qualified to conduct this work in the service intelligently when called upon to do so. Up to the present time this has not been done except in isolated instances; however, where it has it is very gratifying

to report that the young graduates have given a very good account of themselves. What those who have been given this opportunity have accomplished others, if given the chance, would have accomplished equally well. It is therefore urged that the attention of the War Department be again called to the fact that a powerful means to the development of the efficiency of the Army in general is being allowed to go to waste for want of control and recognition from the War Department directly.

4. The instruction in the various forms of physical training, gymnastics, fencing, wrestling, boxing and swimming, coming under my direction, have been decidedly satisfactory and reflects great credit upon the instructors, all of whom have been painstaking in the discharge of their various duties.

5. Competitive athletics have been decidedly successful during the past year, both as regards the number of cadets engaged in them and the successful outcome of games. More should, however, be accomplished by encouraging even greater numbers to participate in the various sports, not for the sake of representing the Academy on any particular team, but for the good the individual gets out of them. If indulgence in athletics is to be confined to a limited few, who are already the superiors of their fellows physically, to the exclusion of those who indulge in them for the sake of physical betterment only, and if winning is to be made the sole and only desideratum, then athletics fail of their object, especially here at the Military Academy where every student is and must continue to be upon precisely the same plane of equality with every other.

6. Every encouragement is therefore given to cadets to indulge in some form of physical activity during their hours of recreation. They are especially encouraged to take up such forms of exercise that they can continue throughout their active careers in the service, such as gymnastics, fencing, tennis, riding, golf, swimming, etc.

7. It is gratifying to report that splendid results have already been obtained in this direction, as is evidenced by the increasing number who engage in these exercises and the decreasing "gallery" about the fields where the Academy teams are being developed.

Academic Departments.

The work in all academic departments has been most satisfactory and successful. The method of spending much of each recitation period in explaining and imparting instruction has been continued with gratifying results. An instructor is available daily as heretofore in each department to help cadets who desire assistance out of recitation hours, and those who avail themselves of this help undoubtedly improve their class standing, so there is no excuse for a cadet to be found deficient in studies, except by sickness, a lack of ability, or a failure to utilize his time properly.

Department of Tactics.

This department besides having charge of the theoretical and practical instruction of cadets in drills of all arms of the service, has, under the Superintendent, supervision of all matters relative to their conduct and discipline, and because of this class relation to the cadet it is, more than any department at the Academy, responsible for the formation of their habits, character, and military bearing, and I am pleased to report that the attitude and work of the officers in this department have been most gratifying.

Lieutenant Colonel M. F. Smith, the Commandant of Cadets, and head of the Tactical Department, died June 16, 1916. In his death the Tactical Department, the Academy, and the Service have suffered a great loss. In spite of his sufferings Colonel Smith was always the courteous, considerate, and able officer; as head of this department he maintained and promoted the high standard of honor and discipline in the Corps of Cadets, and did so by such just and fair methods that he had the confidence and love of the Corps as well as the respect and admiration of the officers associated with him. He was faithful in all duties and loyal in a pronounced degree to those under whom he served. His report submitted below was written shortly before his death, and is here printed in full:

One hundred and forty-one cadets reported on June 15, 1915, and forty-two reported on later dates. Recommendation is again made that the first examination be held sufficiently early that those taking the second may be enabled to report at the usual time just after graduation. This will permit a practical system of instruction for all to be carried out at the same time. Attention has been called to this for a number of years and it is requested that every effort be made to have, hereafter, all report at the same time.

The detail of five cadets of the graduating class over the new cadets gave excellent results. This detail should be continued regularly.

The training during the summer encampment was very satisfactory but it is believed that much better results would be obtained if the Corps were not encamped in the post. It is necessary to be somewhere in the vicinity in order to have the prescribed course in target practice on the target range and the coast artillery instruction at the mortars and 6-inch guns. Both of these are very important and should not be materially cut down. All other instruction could be given to better advantage at some distance from the post where numerous social and other attractions tend to interfere with the work. With the large increase in the Corps it will be necessary to enlarge the present camp site prior to the end of the next fiscal year. Before doing this it is recommended that the

question be taken up of selecting a site some distance out on the reservation for the encampment and that the encampment be made under service conditions. The details for target practice and coast artillery could be brought in on motor trucks. If some of the timber was thinned out and cut down, the reservation would be ideal for field training. By leaving a fringe of trees along the roads here and there in places, the picturesqueness would not be destroyed. However, the primary consideration should be utility and not beauty of landscape.

Field training took place on Saturdays during the summer, and a practice march was made from August 16 to 21. Cadets of the First Class were assigned daily as officers with the field artillery, cavalry, or practical military engineering details, and field problems were worked out each day in marching from one camp to the next. The route of march was the same as the year before: Peekskill, Lake Mohansic, Amawalk Reservoir, Lake Mahopac, Oscawana Lake, and Garrison. It is believed that this march is the most valuable week in the training of a cadet and it is recommended that it be extended this year to at least two weeks. There were no serious breaches of discipline during the march.

The First Class went to Fort Wright from August 22 to 29 to receive coast artillery practice with service charges. The results were very satisfactory.

The record of the First Class in target practice last summer was better than ever before. Thirty-two cadets qualified as expert riflemen; twenty-six as sharpshooters; fifty-seven as marksmen; five as first classmen; one as second classman; and none unqualified.

It is believed that the instruction in the various arms would be better if more concentrated, and the attempt will be made during the coming year to arrange the schedule of drills to accomplish this.

In view of the large amount of instruction given to equitation, especially to the First Class, and the comparatively small amount of time to field artillery, it is recommended that six weeks of the time assigned to the former during the indoor winter work be transferred to the latter.

The hazing investigation, which took place last summer, showed a number of infractions of the regulations during the preceding year. As a result of the investigation it is believed the conditions are much better. While it is seldom if ever that any under-classmen are hurt by being hazed yet the harm done is to the cadet actually doing the hazing, as it develops in him qualities of a bully and gives him entirely erroneous ideas in regard to the proper method of handling those under him.

It is strongly recommended that steps be taken to have the academic course changed so that the entire subject of minor tactics shall be taught theoretically and practically in the Department of Tactics. It is believed that the present method of having instruction in Field Service Regulations in the first class year in the Department of Engineering is wrong and that the course should be so arranged that a cadet should have practical and theoretical instruction commencing with the essentials when he enters and the training should continue progressively, so that upon graduation he has a thorough ground-work in minor tactics.

The large increase in the number of cadets that will take place in the next five years will necessitate the greatest attention and endeavor on the part of all officers, and especially those of the Department of Tactics, to maintain the standard of honor and discipline in the Corps of Cadets.

Department of Civil and Military Engineering.

The course in this department includes the "Art of War" besides the subjects indicated by its title. Naturally much stress is put upon this part of the course, supplementing text-book instruction by lectures and a visit of the entire class to the Gettysburg battlefield where this great battle is studied on the field itself.

The course was carried out satisfactorily, all cadets being proficient at the annual and semi-annual examinations.

The following report is submitted by the head of this department, Colonel G. J. Fiebeger, professor of civil and military engineering:

The course in civil and military engineering began Wednesday, September 1, 1915, with a class membership of 125.

The class was divided into halves, A and B, formed of the odd and even numbers according to standing in natural and experimental philosophy, and each half was divided into six sections, according to standing. Although all sections used the same text-books, by means of omissions the subject matter was divided into five courses graduated to the ability of the students forming the sections. Transfers between sections were made every two weeks.

The course was conducted by oral and written recitations and a written general review, and was completed on December 22. Only two cadets received a mark of less than 73% on the written general review, and were required to take a written examination. All passed this examination.

The course in military engineering and the art of war was begun on Monday, January 3, 1916, with a class membership of 125, and was completed on June 3.

After a thorough preliminary study, May 1 and 2 were spent at Gettysburg, visiting that battlefield.

There were 61 cadets examined in parts of the course in June; all passed these examinations.

During the course lectures, illustrated by lantern slides, were delivered on recent wars and sieges.

Captain Frederick B. Downing, Corps of Engineers, was the assistant professor.

The following officers of the Corps of Engineers were the instructors: Captain James G. Steese, Captain Daniel I. Sultan, Captain George R. Goethals, 1st Lieutenant Frederick S. Strong, and 1st Lieutenant Oscar N. Sohlberg.

All of these officers rendered very satisfactory service.

Department of Natural and Experimental Philosophy.

The course in this department embraces the subjects of mechanics, sound, light and astronomy. There is no course at the Academy that better develops the reasoning powers of the pupils than this course in natural and experimental philosophy.

Colonel W. B. Gordon, professor of philosophy, will retire for age during the coming year. By long and faithful service and his great devotion to his department and the Military Academy he has held a position that will be difficult to fill, and the Academic Board will lose from its councils one of its wisest and most influential members.

The following report is submitted by the head of this department:

The class of 1917 began the course in philosophy September 1, 1915, with 142 members.

At the semi-annual examination, Cadets Sinkler, Keiser, Monsarrat, Chapman, H. H., Helm, Brown, P. H., and Nygaard failed to make the mark necessary to excuse them from the examination in mechanics. All of these cadets successfully passed the examination.

Cadet Monsarrat was found deficient in chemistry and discharged. Byrne, A. B., had previously been granted sick leave, reducing the class to 140 members.

During the second term Cadet Moore, K. M., was granted sick leave to join the Second Class August 28, 1916, reducing the class to 139 members. With this number the course was completed.

The entire class made the necessary average to be excused from the final examinations in sound and light, and astronomy.

Ten men reached the necessary mark for distinction. This was a percentage of 7.2 per cent of the entire class.

Department of Mathematics.

Instruction in mathematics is given cadets for the first two years of their course. It embraces solid geometry, advanced algebra, analytical and descriptive geometry, conic sections, trigonometry, surveying, differential and integral calculus, and for upper sections, least squares.

In the two classes 358 cadets were under instruction and of these 40 were found to be deficient at examinations during the year; four of those deficient were turned back one year, and 36 discharged.

Below is the report of the professor of mathematics, Colonel C. P. Echols:

*

*

*

Instruction.—The fourth class course was in all respects the same as that of the previous year, alternating with surveying during the last 66 days of the academic year.

Examinations were held in December and June with the following results:

	Number in class	Deficient	Turned back	Discharged
December.....	180	16	—	16
June.....	159	14	2	12

The third class course was in all respects the same as that of the previous year, the prescribed course requiring recitations daily from September, 1915, to June, 1916.

Examinations were held in December, March, and June with the following results:

	Number in class	Deficient	Turned back	Discharged
December.....	167	6	—	6
March.....	162	2	—	1
June.....	158	4	2	2

Cadet Wang of China who was deficient in March resigned.

Major Bell who has ably served as associate professor for the last four years finishes his tour of duty at the Academy. It is much to be regretted that this occurs just at the time when the duties of supervision are to be greatly increased by the enlargement of the Corps of Cadets.

Department of Chemistry, Mineralogy and Geology.

The course in chemistry, mineralogy and geology includes besides the subjects indicated by its title an elementary course in heat and electricity with some practical work in the operation of electrical instruments and machines. It is regretted that time does not afford an opportunity to have a more extended course in the subject of electricity the importance of which for all Army officers is increasing so rapidly.

The work in this department has been conducted very satisfactorily. The following report is submitted by the head of this department, Lieut. Colonel Wirt Robinson, professor of chemistry:

Changes in Personnel.—Captain P. H. Worcester, C. A. C., was assigned to duty as assistant professor of the department on August 24, 1915.

1st Lieut. J. L. Dunsworth, C. A. C., will be relieved from duty with the department on May 31, 1916,

1st Lieut. O. A. Dickinson, Infantry, will be relieved on June 14, 1916,

2d Lieut. H. M. Hobbs, 4th F. A., will be relieved on June 24, 1916,

2d Lieut. C. A. Selleck, 1st F. A., will be relieved on June 8, 1916.

The equipment of the new chemical laboratory has been completed and it is now in readiness to handle the anticipated larger classes.

Unsatisfactory ventilation of the gas closet has been remedied by installing a motor-driven multivane exhauster of ample capacity.

The progress of the routine work of the department has been satisfactory.

Department of Drawing.

This department instructs the Second and Third classes in drawing. Its work with both classes has been satisfactorily conducted. The following report is submitted by the head of the department, Lieut. Colonel E. R. Stuart, professor of drawing:

Personnel.—E. R. Stuart, Lt. Col., U. S. A., professor of drawing, in charge of the department,

T. M. Chase, 1st Lieut., C. A. C., assistant professor,

G. F. Patten, 1st Lieut., Cavalry, instructor,

M. Wildrick, 1st Lieut., C. A. C., instructor,

J. P. Aleshire, 2d Lieut., Cavalry, instructor, relieved April 29, 1916,

G. Hoisington, 2d Lieut., Infantry, instructor,

C. P. Dick, 2d Lieut., Cavalry, instructor, detailed in department August 24, 1915.

But little change has been made in the schedule of work for the Third Class from the preceding year. A new problem was introduced for the subject of building construction drawing. The work of this class has been satisfactory, and it is believed that the course as now laid out is well adapted to its purpose as a course in general drawing. No cadets were deficient in drawing in the third class course.

In second class drawing the schedule of work was changed considerably to give a more logical and better graded development of the work. The second class course in mechanical drawing was shortened so as to be concluded by February 10. The time thus saved was utilized in extending the course in topographical drawing and sketching.

With the course as now arranged and instruction as now given it is believed that the courses in mechanical drawing and lettering are sufficient to answer the requirements of all officers. With the exception of perhaps 10% of the class it is believed that no cadet who has completed the present course in drawing will ever have any serious difficulty in making or reading any mechanical drawing that he will encounter in his professional studies or work.

Department of Modern Languages.

The courses in this department were successfully carried on during the year. Three classes, first, second, and third, or a total of 437 cadets were instructed for the academic year just ended, and for the coming year 448 cadets will be under instruction by this department. No other department at the Academy has so large a number, and yet the appropriation for the conduct of its routine business in the way of office help is less than for other large departments at the Academy.

The following is submitted from the report by the head of this department, Colonel C. DeW. Willcox, professor of modern languages:

The department has under instruction during the year:

- 1st Class, Spanish, 125.
- 2d Class, Spanish, 145, reduced to 139.
- 3d Class, Spanish, 167, reduced to 159.
- Total at end of year, 423.

One cadet of the First Class was conditioned at the semi-annual examination, but passed a satisfactory re-examination March 18, 1916.

Upon the suggestion of 1st Lieut. Geo. M. Russell, Cavalry, assistant professor of French, the Third Class began its study of French under the so-called natural method. The results attained were satisfactory; this plan will be continued in the future.

On account of the war abroad, no request was made to send officers to Europe to study French and Spanish.

The request to send instructors of Spanish to Costa Rica was disapproved because of Mexican conditions and of the pending Army legislation. As soon as conditions become normal again, the department will renew its application to send officers to France and to Spain, and makes bold to express the hope that the War Department will continue its wise policy in this regard.

It is the opinion of the department that German should form an element of the course of languages. It will shortly submit a report on this subject, looking to the introduction of German on September 1, 1917.

Mr. Louis Vauthier was transferred from the department of tactics as civilian instructor of French.

The salary of the clerk should be raised to \$1200. The department of modern languages has more cadets under instruction by far than any other of the Academy. It is the only department that keeps both morning and afternoon hours. The clerk has charge of the library, is required to have some knowledge of French and Spanish, make out all papers, besides stenographic and type-writing work. His pay is not commensurate with his duties.

The messenger of the department should receive extra duty pay at the rate of fifty cents per diem. I renew my recommendation to this effect.

I also urgently renew my recommendation, made at various times, that foreign instructors of the department should receive heat and light allowance of a second lieutenant.

It is believed that a very fair proportion of the cadets under instruction have acquired, to a certain degree, the ability to converse in French and Spanish. No cadet would be helpless if required to make his wants known, professional or personal, in either of these languages, and to understand average conversation. All have a working knowledge of the printed language, and most can express themselves after a fashion in writing.

It is a pleasure to report that all the officers of the department have given faithful and efficient service during the year.

Department of Law.

Instruction is given in this department on alternate days to members of the First Class. The course includes "Elements of Common Law," "Constitutional Law," "International Law," and "Military Law." With the brief time available for this course only a foundation in legal education can be acquired, but it is thought that with diligence on the part of the graduates they will be able to handle intelligently the ordinary legal questions they are apt to meet in actual service.

The following is the report of the professor of law, Lieut. Colonel E. A. Kreger:

The 1915-16 course in law, like that of the preceding academic year, included elementary, constitutional, international, and military law. The prescribed text-books were supplemented by the use of a pamphlet on the law of contracts, the Manual for Courts-Martial, and General Orders, No. 70, War Department, 1914.

The effort made last year to increase throughout the course the element of practical application of legal principles to facts and conditions with which the student will find it necessary to deal after he shall have become a commissioned officer was continued. Near the end of the year a limited amount of time was devoted to acquainting the members of the class with the proper method of consulting, in the solution of practical questions, such law books as are likely to be available for consultation by officers of the line.

For the more advanced sections of the class the periods ordinarily devoted to reviews were materially reduced. During the time thus saved, amounting to approximately four weeks, these advanced sections made a study of a series of leading cases selected with a view to emphasizing the more important legal principles discussed in the prescribed text-books, and also made a rather thorough study of the rules of land warfare as published by the War Department in 1914. The results were such as to suggest the advisability of pursuing a similar course next year.

The lecture course for the year consisted of one lecture on the law of contracts by Professor John Wurts of Yale University, two lectures on criminal law and procedure by Professor John W. Edgerton of Yale University, two lectures on the law of evidence by Professor Ralph W. Gifford of Columbia University, one lecture on the development of international law by Professor George G. Wilson of Harvard University, and a number of lectures by the head of the department.

In conclusion it is a pleasure to express my appreciation of the loyalty and zeal with which the assistant professor and instructors, Lieutenants Dawson, Slaughter, Cutrer, Torrey, and Lockwood devoted themselves to the work of the department.

Department of Practical Military Engineering, Military Signaling and Telegraphy.

Three classes at the Academy receive instruction in this department of one kind or another at various periods during the year. Its work is largely practical and is of great value in fixing in cadets' minds the meaning and purpose of their study in related subjects.

Below is the report of the head of this department, Lieut. Colonel M. L. Walker, Corps of Engineers, professor of practical military engineering.

During the year the general character of instruction given the cadets has been the same as during the preceding year.

First Class.—During the summer drill period—from July 5 to August 13—one-third of the class attended daily for instruction in reconnaissance and sketching. The following program was carried out on the dates noted:

- July 5, 6, 7, Position Sketch.
- July 8, 9, 12, Position Sketch.
- July 13, 14, 15, Position Sketch.
- July 16, 19, 20, Preliminary Combined Position Sketch.
- July 21, 22, 23, Road Sketch, dismounted.
- July 26, 27, 28, Road Sketch, mounted.
- July 29, 30, Aug. 2, Road Sketch, mounted.
- August 3, 4, 5, Combined Road Sketch, mounted.
- August 6, 9, 10, Combined Position Sketch.

The immediate vicinity of the reservation was used for all the above exercises except the 9th. For this last it was necessary to take the cadets to Congers, N. Y., there being no suitable area for such work more conveniently located.

The idea in the work in sketching is to take it up with the First Class immediately succeeding their work along this line as Second Class men in the department of drawing, so that the work progresses continuously. This proves quite a satisfactory arrangement and will be adhered to.

During the practice march of the Corps of Cadets, August 16–21, cadets daily constituted the reconnaissance and sketching detail; road sketches were made and reproduced daily, the work being creditable to the cadets and giving them a fair idea of what would be possible in field operations.

During September and October one-third of the First Class attended instruction on all drill days, work being devoted in September to military signaling and during October to improvised bridges, rigging, and use of tackle, and to becoming familiar with the general characteristics and methods of handling the various high explosives used in military demolitions.

From April 3 to May 24, 1916, the First Class attended practical military engineering instruction as in the Fall, the work covering the laying out and construction of a section of an infantry field work involving the fabrication

and use of all varieties of revetting materials, including re-inforced concrete. Various obstacles were employed and also the principal types of loop holes installed.

The interest of the cadets was much stimulated this year by the field work being a reproduction in part of a work in the line on the western front in Europe, which had actually been attacked.

A gallery was driven under the parapet and a mine placed and a portion of the work blown up.

Demonstrations were also given of trench mortar firing, mines as obstacles, fougass, and military demolitions.

Third Class.—This class attended practical military engineering instruction during the period of the summer encampment, one-third each day, from 8 a. m. to noon.

The work includes visual signalling, knots and lashings, the use of tackle, rowing, construction of bridges with the U. S. Bridge Equipage, and the operation of ferries with the regular bridge material and with improvised floats.

As a supplement to their course in surveying while Fourth Class men, the Third Class executed a hydrographic survey of the river front of the reservation.

Fourth Class.—During the last 66 days of the academic year this department alternates with mathematics.

The first twenty days were devoted to theoretical instruction, including written general review and the written examination of such cadets as did not make proficient on the general review. During the period of theoretical instruction a complete instrumental equipment was kept in each section room, and all cadets were encouraged to familiarize themselves with all instruments by actually handling them. In addition, during release from quarters, instruments were at all times at the disposal of the cadets under the supervision of qualified non-commissioned officers.

During the remaining thirteen days cadets attended instruction in surveying from 8 a. m. to noon, being required to do no study outside of these hours.

These four-hour periods are devoted to a series of exercises carried out in the field by the cadets, under the supervision of the instructors, the cadets rotating in the various duties but each cadet being required to keep the full notes which are each day turned in for inspection by the professor and instructors. The exercises are designed to cover the field of probable duties of army officers and are as follows:

1. Measurement of baseline and determination of declination of the needle.
2. Tracing out contours and plotting same.
3. Survey of a polygon by azimuth method.
4. Differential levelling and establishing a bench mark.
5. Simple triangulation.
6. Laying out a simple curve.
7. Plane table survey.
8. Profile levelling.
9. Transit and stadia traverse.

10. Staking out a building.
11. Plane table and stadia traverse.
12. Cross section levelling.
13. Adjustment and care of instruments.

The above does not indicate the order in which exercises are given, this being decided by the limitation of the instrumental equipment, but the work is so arranged that for each party, usually consisting of five cadets, a map of a small portion of the reservation is completed.

Through the courtesy of the Chief of Engineers, U. S. Army, a large number of surveying instruments were loaned from the Washington Barracks Depot for the period April 1–June 10, 1916, and the instruction was much facilitated thereby.

General.—During the year the equipment of this department along all lines has been maintained by expenditure of the annual appropriation of \$2,000.

With the appropriation of \$3,300 referred to in last annual report, a corrugated iron ponton shed has been erected, the assembling of the building having been done by men of the U. S. M. A. Detachment of Engineers. This gives storage room for a division of Reserve Ponton Equipage with transportation. There is still needed a suitable building to house a division of Advance Guard Equipage and it is proposed to ask for an appropriation for this purpose in the next annual estimates.

The Signal Corps has promptly supplied all material and apparatus needed for signal instruction.

Department of Ordnance and Gunnery.

The course in this department has been conducted very satisfactorily. There have been no material changes in the work covered. Following is the report of the head of the department, Lieut. Colonel W. H. Tschappat, professor of ordnance and gunnery.

Aside from minor changes in the subject matter made to bring it up to date the course in ordnance and gunnery was the same as for the preceding year. In addition to the theoretical work for each cadet, the course included 24 hours shop work in the machine and blacksmith shops during February and March, and two hours practical instruction in handling machine guns.

Visits were made in connection with the course to Sandy Hook Proving Ground on May 3 and to Watervliet Arsenal on May 9.

Ordnance Material.—The armament of the post has been kept in good repair during the year. Changes and alterations ordered by the War Department have been incorporated in the field and seacoast artillery at the post.

In addition to the regular allowance of ammunition for small arms target practice for officers and enlisted men and \$5,000 for such practice for cadets, the regular allowance of field gun ammunition was furnished for target practice for the field artillery officers stationed at the post and a liberal allowance of field and seacoast ammunition was furnished for target practice for cadets.

Ordnance Laboratory.—This group of buildings, comprising the ordnance barracks, machine, carpenter and blacksmith shops, storehouses, etc., was kept in good repair during the year. Some re-arrangement of machines for greater convenience of instruction of cadets was made.

Department of Military Hygiene.

The Third Class has one month's instruction in this department. The work is valuable and practical, and has been very satisfactorily conducted by Lieut. Colonel Henry A. Shaw, Medical Corps, and his assistants.

The following is the report of the head of this department:

The course in military hygiene commenced on September 1 and was completed October 6, 1915. Four officers of the Medical Corps were detailed for temporary duty as instructors during the course, Captains Philip W. Huntington, Joseph F. Siler, Arthur N. Tasker, and Charles W. Haverkampf.

The only important change in the course was the omission of the six lecture periods and the substitution of practical demonstrations of field sanitary appliances, and of first-aid work. Each section was taken into the field and shown the different methods of water sterilization in camp. Latrines of various patterns were dug and the methods of disposal of excreta demonstrated. Kitchen incinerators of various kinds were built to show the methods of the disposal of garbage in camp. The first-aid work was made practical by giving instruction to small groups of cadets in the emergency treatment of wounds, hemorrhages, fractures and accidents.

The recitations followed the prescribed textbook, "Keefer's Military Hygiene," emphasizing particularly personal hygiene, transmissible diseases and camp sanitation.

Department of English and History.

The course in this department has been carried out successfully and satisfactorily.

The following report is submitted by the head of this department, Lieut. Colonel L. H. Holt, professor of English and history:

The quota of instructors has been maintained at ten, five in each subject, thus allowing a continuance of small sections and careful attention to the individual needs of each cadet.

English.—As in previous years, the emphasis during the Fall term has been laid upon the principles of composition and the application of those principles in writing, and the emphasis during the Spring term upon several forms of literature. A new anthology of English poetry, prepared especially for this course, was used this Spring for the first time.

During the written general review period at the end of the work of the Fall term, the men at the top of class in English and history were excused from

the reviews and given a short course in argumentation, followed by four debates. Marked improvement in expression and delivery was noticed during the brief time the department was able to devote to the course.

The special course, introduced in 1914 for the first time, was continued this Spring. Thirty-three cadets having an average grade above 2.75 were included in the course. The scope of the dramatic reading was the same as in previous years. The readings in class were selected from contemporary and recent poets.

Lieutenant R. C. Richardson, Jr., who has continued during the year as assistant professor in English, deserves special mention for the loyalty and efficiency with which he has co-operated with me in the work of the department.

History.—The change in entrance requirements for history went into effect this year. The results of the examinations upon the period assigned were much the same in the percentage of failures and successes as the results of previous examinations.

The special course in history was continued this Spring along the same general lines of last year, but more time was given to the instructors for preparation of the talks, and written recitations and quizzes were inserted at intervals. It is expected that this special work will be further developed for the men standing at the top of the class.

By lectures, map study, and quizzes, the department has attempted to keep the cadets in the class familiar with the chief problems, political and military, which are now being fought out in Europe. Special emphasis has been laid upon those parts of the text book which describe conditions leading up to the present situation.

Lieutenant J. P. Bubb, who succeeded Lieutenant Lyon as assistant professor of history upon the latter's relief from duty at the Military Academy, deserves special mention for his loyalty and efficiency in the history course.

Lectures.—As in previous years, the teaching in the department has been supplemented by lectures. Among those who have lectured during the year are President Arthur T. Hadley of Yale University, Professor H. A. Beers, Professor A. G. Keller, Professor E. B. Reed, Professor J. C. Adams, Professor G. H. Nettleton, Professor H. S. Canby, and Dr. F. H. Green.

In conclusion, I wish to acknowledge the loyal zeal and efficiency with which the instructors have cooperated in the work of the department.

Children's School.

This school has been in charge of Captain R. G. Alexander, Corps of Engineers, also performing duty with the detachment of Engineers, and has been satisfactory in spite of difficulties. As will be seen from the following report, two grades of 37 pupils were forced to use the basement of the cadet chapel for a school room due to a lack of space in the present school building. This is most unsatisfactory in results. The room is poorly lighted by small windows on one side only, has no suitable toilet conveni-

ences, and is on a hill 150 or more feet above the homes of the children attending, and in the winter time is frequently accessible only to the larger and stronger ones able to wade through the snow. It is also distant from the school building, and the teacher is unable to have the help of the principal and other teachers. A new school building should be built in keeping with school buildings now built for our State public schools.

Following is the report of the officer in charge of the school:

There was no change from the preceding year in the teaching force nor organization of the school. The latter was as follows:

Grade	Number of Pupils in Grade	
8th and part 7th.	8th	8
Part 7th and 6th.	7th	14
5th.	6th	19
4th and 3d.	5th	26
2d and 1st.	4th	20
	3d	17
	2d	21
	1st	25
	Total	150
	Number of boys registered	76
	Number of girls registered	74

Regents' examinations were held in January and successfully passed by five pupils who at once entered high school in Highland Falls, N. Y.

It is believed that it will not hereafter be necessary to hold Regents' examinations in mid-year, thus eliminating a source of inconvenience to pupils desiring to enter high school. In the past special efforts have had to be made to advance pupils who were older than the usual age for completing grammar school. All such pupils have now been graduated and the average age of pupils in each grade is what it should be.

The progress of the pupils during the year was satisfactory in all subjects. The Palmer System of Penmanship was used with good results. Much practical work in sewing was accomplished by the girls of the higher grades, including the making of models and also full size dresses and other garments for themselves. The very small girls made considerable progress in the use and handling of the needle and in learning the simple stitches employed in ordinary needle work.

A patriotic entertainment, originally scheduled for Washington's Birthday, but postponed on account of bad weather and an epidemic of sickness, was given in Memorial Hall during the latter part of March. Considerable time out of school hours was devoted by pupils and teachers and the results were very praiseworthy.

For lack of room in the main school building, the third and fourth grades, as in the preceding year, attended in the basement of the cadet chapel and their work was seriously handicapped thereby. The room was not designed

for a school room and is only fairly satisfactory for the purpose. More than ever before the isolated and exposed location of the chapel materially cut down attendance in these two grades since the winter was an unusually severe one. The children attending there are small and cannot attend during the days of storm or thereafter until paths and roads through the snow can be dug out. The teacher there, in addition to the regular third and fourth grade work, had to instruct in sewing and writing without the assistance of the teachers specially qualified and designated to supervise that work in the other grades, and was at the same time deprived of the immediate support and assistance of the principal of the school.

It is earnestly hoped that the present school building, unsatisfactory in both size and arrangement, may be replaced in the near future by an adequate one, and it is believed that a building of the Social Center type now being built in many cities, would best fit the peculiar needs of the post. At present, for lack of any room, neither school entertainments nor joint exercises of the several grades can be held, nor is there any common place on the post for enlisted men and their families to meet for recreation and social pleasure.

With regard to salaries it is recommended that when possible the salary of the principal be increased to an amount equal to that received for similar work in neighboring towns. Otherwise it will be impossible to secure and retain a man of satisfactory qualifications and experience.

The appropriation of \$4,120 for the maintenance of the school was expended as follows:

Pay of principal.....	\$1080.00
Pay of four grade teachers.....	2400.00
Pay of janitor at chapel.....	100.00
Purchase of books, stationery and other supplies.....	540.00
Balance on hand at end of year.....	.....
Total.....	\$4120.00

Headquarters Office.

The work of this office has been satisfactorily and efficiently handled by Captain C. C. Carter, Coast Artillery Corps. His recommendations in the following report are concurred in:

The undersigned has continued since July 1, 1915, as Adjutant of the United States Military Academy, Secretary of the Academic Board, and in command of the U. S. Military Academy Band and Detachment of Field Musicians and the Non-commissioned Staff.

Headquarters Force.—The organization of the headquarters force has not changed during the past fiscal year except that one enlisted clerk has been attached to the disciplinary division for the purpose of accurately recording on index cards, cadet records from which information is often requested and which information in the past has been obtained through reference to at least three and often many more documents on file in the headquarters office, usually in different divisions. This work has progressed in a satisfactory manner and

will probably be completed in the ensuing fiscal year. About 2444 of these cards have been completed and filed and rough copies of 819 additional cards have been completed. This list when once finished can be easily kept up to date and will result in a material saving of time in the office in answering requests for information.

An additional man on extra duty has been placed in the binding division with a view to reducing, if possible, the cost of binding to the library appropriation. The average cost of binding books for the library when done by contract with outside binderies is something over 60 cents per volume, whereas if this work can be done at the Military Academy bindery the cost thereof for material and additional labor will be approximately 20 cents per volume. This experiment has been tried for something over two months and is working out satisfactorily. It is believed that before the end of the next year the bindery will be able to take care of all of the Military Academy binding including the library except a few volumes to be specially and elaborately bound. This will result in a saving of hundreds of dollars which can be used for the purchase of additional books for the Academy library.

An increase in the cost of paper has necessitated the strictest economy in the printing division and in some cases it has been necessary to authorize lighter paper in order to keep within the appropriation.

Formal recommendations with regard to increased pay for members of the office force were made and have been incorporated in the Book of Estimates and the Military Academy Appropriation Bill for the fiscal year 1917. Since the submission of these estimates the appropriation bill for the support of the Army has had tentatively inserted therein a clause as follows:

Hereafter headquarters clerks shall be known as Army field clerks and shall receive the same pay and allowances as now allowed by law to pay clerks, Quartermaster Corps, with the exception that Army field clerks at entrance into the Service shall receive but \$1,000 per annum for the first year of service; *provided further*, that Army field clerks duly assigned to and performing the duties of chief clerks shall receive \$250 per annum in addition to the regular pay of their respective grades while performing the duties of chief clerks; *and provided further*, that Army field clerks shall be subject to the Rules and Articles of War. *Provided*, that the clerks and messengers hereby provided for shall be employed and assigned by the Secretary of War to the offices and positions in which they are to serve and in the grades and salaries hereinbefore provided for the regular force of such clerks and messengers.

It is urgently recommended that every reasonable effort be made to have included under the provisions of this Act the clerks on duty at Headquarters, United States Military Academy. Until 1910 these clerks were carried as headquarters clerks, but under instructions from the War Department dated June 14, 1910, this office was directed to have the estimates for the pay of these clerks prepared and submitted with the Military Academy Appropriation Bill, which has been done since that date, but it is understood from an

indorsement dated War Department, May 15, 1911, that the transfer of these clerks to the Military Academy Bill on July 1, 1911, would not change their civil service status nor affect their rights or privileges in any way so far as known to the department. If the provision referred to above becomes a law and does not include the U. S. M. A. Headquarters clerks and the printing office force, it cannot be reasonably expected that they can be held in their present positions at their present pay. Many of the positions in this office are such that long tenure of office is absolutely essential to efficiency and it is entirely impracticable to put new employees in most of these positions. For a number of years persistent effort has been made to have the pay of certain of these clerks increased, but these efforts have been unsuccessful. In event the provision referred to above does not become a law the increases asked for in the regular estimates for 1917 should be authorized. With the increase in the Corps of Cadets, contemplated under recent legislation which will ultimately operate to more than double the Corps, an increased amount of work will be thrown where possible on all members of the office force and the increases in the personnel of the force will be kept to a minimum. During the ensuing year it is believed that no actual increase will be necessary, but if it is found that the present office force cannot keep all work up to date the detail of enlisted men to assist for the remainder of the year will be asked for and provision for additional clerks will be requested for the fiscal year 1918.

The office force both individually and as a body has rendered most efficient and loyal service. Little time has been lost through illness and leaves of absence authorized by law have been arranged in such ways as would create a minimum interference with office work. The work of all departments of the office has been satisfactorily performed during the past year, and current work has been kept up to date.

U. S. Military Academy Band.—Recommendation is again made that the band be increased by ten enlisted musicians graded as follows:

- Three at \$45 each per month,
- Three at \$36 each per month, and
- Four at \$30 each per month.

The band now consists of one leader, who is also the teacher of music, one band sergeant who is assistant leader, 12 enlisted musicians at \$45 each per month, 12 at \$36 each per month, and 16 at \$30 each per month. There has been no increase in the personnel of the band for sixteen years, at which time the strength of the Corps of Cadets was about 440 cadets; the strength of the Corps within another year will be nearly double this number. At reviews, parades, and other formations where the entire Corps is present, and which the band attends, the volume of music is not even now sufficient to give satisfactory march music. The number of brass instruments in the band has been increased as far as is commensurate with proper musical balance for a military band. The only practical way now of increasing the volume of this music is by adding additional numbers to the band—brass instruments to predominate in these additions.

The U. S. M. A. Detachment of Field Musicians.—The field music consists of one sergeant, one corporal and twenty-two privates. The proportion of

non-commissioned officers to privates is entirely too small for proper administration and does not admit of advancement in the field music. No hope can be held out to any private that he may within a reasonable length of time become a non-commissioned officer therein. Normally one additional sergeant and two corporals would be required for this organization, but in view of its peculiar duties it is believed better to add one non-commissioned officer, a corporal, and authorize ten privates, 1st class, with pay of a private 1st class, engineers, and 12 privates instead of 22 privates. With this additional non-commissioned officer proper administration can be carried out and with the 1st class privates something in the way of advancement can be held out for deserving members of this detachment. Under the present organization it is impossible to get desirable men with prior service to enlist for the field music and most of the men serve only one enlistment therein.

Beginning with the fiscal year 1918 it will be necessary on account of the increased Corps of Cadets to have the field music increased beyond that requested herein by six privates and one non-commissioned officer, preferably a sergeant. The organization should then be:

2 sergeants,	12 privates, 1st class,
2 corporals,	16 privates,

and a further increase will probably be necessary when the Corps has reached its ultimate maximum under recently enacted legislation.

The U. S. M. A. Band and Field Music are now and have been for many years under the direct command of the Adjutant of the Military Academy. Practically all of their military functions are performed with the Corps of Cadets which is commanded by the Commandant of Cadets or an officer of the tactical department. The band and field music may, of course, turn out with other units of the command serving as escorts, but in no case is such escort under the immediate command of the Superintendent or the Adjutant of the Academy. The only cases where the band and field music are actually under direction of the Adjutant of the Military Academy are when detachments thereof are used for non-military functions such as dances, receptions, etc. The weekly inspection of the band and field music is always performed by the Commandant of Cadets or by one of his assistants at the time of the inspection of the Corps of Cadets. All the duties of the field music are immediately under an officer of the tactical department.

In view of the foregoing and for the specific reason that it is believed that it will make for better administration it is urgently recommended that the command of the band and field music be turned over to the Commandant of Cadets to be exercised by an officer of the tactical department, preferably the assistant to the Commandant who has charge of all details with respect to the use of the band and field music and who performs for the Corps of Cadets so far as such arrangements are concerned the duties ordinarily performed by the Adjutant of a command.

Quartermaster's Department.

The work of this department has been efficiently and satisfactorily performed under charge of Major E. J. Timberlake, Quartermaster Corps. The report of the quartermaster quoted below is so complete as to require no comment:

Report of the operations of the Quartermaster Corps, quartermaster and disbursing officer, United States Military Academy, in charge of construction, and treasurer Special Contingent Fund, for the period from July 1, 1915, to June 30, 1916.

Quartermaster Corps.—The general duties of the Quartermaster Corps continued the same as reported for 1915. The addition of one sergeant, forage master, is urgently recommended.

Army Service Detachment.—This detachment has performed its multifarious duties in a generally satisfactory manner. The amount of work is considerably beyond the capacity of the detachment. The estimates for fiscal year 1917 carry an item increasing the detachment by 27 men, and also largely increasing the number of non-commissioned officers in the detachment. This is necessary to better organize the detachment for the character of the work required and the efficiency of the service rendered.

Civilian Employees.—The civil service rules made applicable to the U. S. Military Academy do not work to advantage for temporary employees. An effort was made to have them modified but without success.

Transportation.—The great demand in the work of hauling fuel, forage, freight, grading, road repair, police, etc., has been satisfactorily performed by the transportation at this post during this year. It is almost needless to say that this could not have been done without the five trucks on hand. With work of this kind increasing, two additional freight trucks will soon be required. Upon the delivery of a new auto-ambulance to the Medical Department in the near future the auto-ambulance now used by the Medical Department will be available for passenger transportation, and will fill a long-felt need. The Quartermaster General has furnished a Ford runabout for the use of the attending surgeon.

The past winter was such as to put out of commission for some time all our motor transportation. On December 13, 1915, there was a fall of snow amounting to 30 inches. It was two or three weeks after before the motor transportation could be operated. Several times during the winter the snow was such as to necessitate other than motor transportation, showing the need of retaining enough of horse-drawn transportation to meet such emergencies.

Post Cemetery.—The number of interments in the cemetery during the fiscal year was 28, making a total to date of 1605.

The care and maintenance is provided for in the Military Academy appropriations. The present appropriation, \$1,500, is not sufficient to maintain it in a suitable manner. The increase in the number of interments, and the increase in space occupied requires increase in the work. It is recommended that an appropriation of \$2,000 be asked in the 1917 estimates. In some

previous years this amount has been appropriated, and it is again very necessary.

Fire Department.—The Military Academy Appropriation Act, 1916, carried an item for the purchase of an automobile fire engine. This engine has been delivered and submitted to tests which it passed with great efficiency. It was sent to a fire in Highland Falls on the night of March 5, 1916, and did valuable work. There has been no fire on the post during the past year.

All buildings are now equipped with hand-chemical fire extinguishers. A fire apparatus house centrally located is badly needed. The present one is not adequate and its situation is the worst possible. It is recommended that the next estimates carry an item for a new building built on modern plans with hose-drying tower, etc.

Power Plant.—During the fiscal year 8195 tons of buckwheat coal have been purchased at a cost of \$22,946. Contract has been let to install two additional 440 h. p. boilers in accordance with present appropriation act. These two boilers will be equipped with automatic stokers, which will permit the use of a cheaper grade of coal, at the same time giving greater efficiency. The estimates for 1917 carry an item for installing automatic stokers under the present boilers. Other improvements are being made, all to result in greater economy and efficiency.

Heating and Ventilating System.—This system has been improved as funds would permit and throughout the past winter gave satisfaction. There was not a complaint against it received at this office.

According to records of purchase and condition of coal bunkers at this time as compared with the amount on hand a year ago, there was a reduction in consumption this year over last of 350 tons, which is a saving of \$980 or 4%. Other things being equal, the difference in weather conditions this year over last, should have caused about a 15% increase in consumption, so that it is estimated that the total saving is about 19%, or \$4,796.

Modern up-to-date heating plants have been installed in quarters 33 and 35 at a cost of \$1,197. Quarters 37 and 39 will have similar installations made in fiscal year 1917.

The old steel boilers in engineer barracks were replaced with new cast iron sectional boilers. Cost, \$503.

Gas Plant.—Two of the benches were renewed in August, 1915, at a cost of \$848. Repairs to roof, concrete floor in coal bin were made during the year at a cost of \$370.50.

The revenue derived from gas, coke, and tar is covered into the Special Contingent Fund and applied to the payment of employees at gas works, purchase of gas coal, if the appropriation is not sufficient, and for miscellaneous expenses not otherwise provided for.

Gas has been charged at the rate of 80 cents per 1000 cu. ft.; coke at \$3.00 per ton, and tar, if available, is sold to the highest bidder.

During the past twelve months 13,594,000 cu. ft. of gas, 123,461 bushels of coke, and 19,296 gallons of tar were manufactured. 1,608 tons of coal were used for this purpose.

Special Contingent Fund.—This fund is derived from rentals, and the sale of gas, electricity, coke, tar, wood, and miscellaneous sources. Expenditures from this fund are made under the direction of the Superintendent, under provisions of Chapter 212, R. S. Act of Congress, approved May 1, 1888.

Hotel.—The need of a new hotel is pressing. An appropriation for this is asked each year but Congress does not appropriate the funds. The hotel has been operated in a generally satisfactory manner by the lessee. Expenditures on hotel for fiscal year 1916 were \$105.35.

Forestry Department.—A woods foreman and four woodsmen have been employed during the year and other laborers hired from time to time as required; all paid from the Special Contingent Fund. The saw mill was run for about two months by a sawyer and laborers paid from the appropriation, "Repairs and Improvements." Since July, 1915, 1592 cords of wood; 125,000 ft. B. M. of logs; 450 chestnut fence rails; 5130 railroad ties have been cut. Some of this material has been already sold and the balance will be sold during the fiscal year 1917; the proceeds going to the Special Contingent Fund. The output of the saw mill amounted to 93,000 ft. B. M.

The following number of trees have been planted in the forest:

15,000 three year old Norway Spruce,
15,000 two year old Norway Spruce,
15,000 three year old Red Pine,
7,500 three year old White Cedar.

In addition to these, the shade trees in the main part of the post have been pruned and sprayed; some ten or twelve dead ones removed and about 300 new ones planted of different varieties.

Some fifteen of the large shade trees around the plain and in front of cadet mess have been given surgical treatment which will ensure their preservation for years to come.

Laundry.—The old laundry building is dangerous. There is a great liability of a catastrophe there at any time. Only recently all laundry work had to be stopped and workmen had to be sent in who worked all night shoring up and strengthening floors that had suddenly settled about three inches. A new building should be provided at once.

Public Works.—Estimates have been prepared and submitted to carry out the enlargement of the Academy made necessary by the great increase authorized for the Corps of Cadets. These estimates were based upon plans submitted by the Superintendent to the Board of Officers appointed by the Secretary of War November 4, 1915.

In the estimates for fiscal year 1918, it is recommended that they include the quartermaster storehouses and shops. The need of these buildings is urgent, the shops will be especially so, for if the plan for enlargement is approved, the present building used as pipe shop will have to be torn down among the first, and there is no place available for this material and workshop.

General Repairs and Upkeep.—The necessary repairs and improvements to public buildings and quarters have been made as funds would permit.

The porches to south barracks were rebuilt with concrete floors. Thirty rooms and eight halls in south barracks were refloored with composition flooring. Repairs to plaster, woodwork and painting were done throughout both barracks.

The cadet mess was altered so as to seat 770 cadets at one sitting. This is the maximum capacity of the present mess hall.

Two different materials were applied to the walls of headquarters and the bachelor buildings in an effort to waterproof them. So far both materials have proven efficient.

Roads.—With the limited funds available, the roads have been kept in fairly good condition. The main road from academic building to the hotel will have to be resurfaced. This work should begin September 1. Other roads, as the one to cadet chapel and the road out to Washington Valley needs rebuilding and will be done as funds permit.

Receipts and Disbursements.—Receipts and disbursements are shown in statements attached marked 1, 2, and 3.

No. 1. — Statement of receipts and expenditures pertaining to the Special Contingent Fund, U. S. M. A., for the fiscal year 1916.

July 1, 1915. Balance on hand		\$868.16
June 30, 1916. By amounts received:		
Rents:		
Hotel	\$100.00	
Post Office Department	200.00	
Stables	300.00	
Electric light plant	700.00	
Store and restaurant	250.00	
Western Union Telegraph Co.	60.00	1,610.00
Sale of:		
Wood, forestry	\$ 5,932.01	
Electric current and gas	11,449.11	
Coke	280.38	
Tar	517.70	
Railroad ties	697.50	
Miscellaneous receipts	1,204.40	
Wharfage dues	2,447.90	22,529.00
Total to be accounted for		\$25,007.16
June 30, 1916. Total expended		19,846.54
Balance June 30, 1916		\$ 5,160.62
<i>Note.</i> —Amount expended for the repair of south dock from sum collected for wharfage dues		\$ 1,665.49

No. 2.—Statement of funds pertaining to the Quartermaster Corps, at West Point, N. Y., received, disbursed and deposited during the fiscal year 1916, from July 1, 1915, to June 30, 1916.

	On hand July 1, 1915	Received since	Total to be accounted for	Disbursed and deposited	On hand July 1, 1916	Total disbursed, deposited and on hand
Pay of the Army	\$11,049.85	\$370,367.50	\$381,417.35	\$344,883.99	\$36,533.36	\$381,417.35
Pay of the Military Academy ..	39,918.85	755,995.23	795,914.08	730,145.62	65,768.46	795,914.08
Pay of Army Deposit Fund	1,894.38	13,305.62	15,200.00	15,200.00	.....	15,200.00
Soldiers' Deposits .....	.....	6,309.75	6,309.75	6,309.75	.....	6,309.75
Pay Collections .....	.....	8,246.09	8,246.09	8,246.09	.....	8,246.09
Supplies, Services and Trans- portation, Q. M. C. ....	.....	346,770.45	346,770.45	346,770.45	.....	346,770.45
Subsistence of the Army .....	.....	596.22	596.22	596.22	.....	596.22
Regular Supplies .....	.....	2,507.27	2,507.27	2,507.27	.....	2,507.27
Military Post Exchange .....	.....	237.20	237.20	237.20	.....	237.20
Horses for C. A. & E. ....	.....	150.00	150.00	150.00	.....	150.00
Barracks and Quarters	397.51	4,067.20	4,464.71	4,464.71	.....	4,464.71
Transportation of Army	6,236.16	1,131.07	7,367.23	7,367.23	.....	7,367.23
R. W. W., & D.	4.53	2,962.00	2,966.53	2,966.53	.....	2,966.53
Shooting Galleries & Ranges ..	150.75	332.00	482.75	482.75	.....	482.75
Disposition of Remains .....	.....	20.00	20.00	20.00	.....	20.00
Headstones, etc. ....	.....	11.50	11.50	11.50	.....	11.50
Income Tax .....	.....	121.22	121.22	121.22	.....	121.22
Miscellaneous Receipts .....	.....	2,599.68	2,599.68	2,599.68	.....	2,599.68
Totals	\$59,652.03	\$1,515,730.00	\$1,575,382.03	\$1,473,080.21	\$102,301.82	\$1,575,382.03

No. 3.—Statement of funds received and disbursed from appropriations for the United States Military Academy at West Point, N. Y., during the fiscal year ending June 30, 1916.

	Current and Ordinary Expenses	Miscellaneous Items and Incidental Expenses	Buildings and Grounds	No. Year, Buildings & Grounds	Totals
Balance on hand—July 1, 1915.					
Fiscal year, 1914-15	\$366.45				\$366.45
Fiscal year, 1915	8,405.94	2,657.63	\$2,154.06		13,217.63
Fiscal year, 1915-16	783.52	3,201.49			3,985.01
No year, buildings and grounds.				\$7,338.25	7,338.25
Received since July 1, 1915:					
Fiscal year, 1916	138,470.00	50,872.00	90,211.00		279,553.00
Miscellaneous receipts	105.60				105.60
Cash collections	12.31	32.00			44.31
Totals	\$147,777.37	\$57,129.57	\$92,365.06	\$7,338.25	\$304,610.25
Deposited since July 1, 1915:					
Fiscal year, 1914-15					
Fiscal year, 1915	\$1,982.23	\$126.70			\$126.70
Fiscal year, 1915-16	.02	43.47	\$1,111.91		3,137.61
Fiscal year, 1916	26.45				.02
Disbursements since July 1, 1915:					106.69
Fiscal year, 1914-15					
Fiscal year, 1915	6,429.17	239.75			239.75
Fiscal year, 1915-16	783.50	2,614.16	1,042.15		10,085.48
Fiscal year, 1916	126,695.54	2,897.10			3,680.60
No year, buildings and grounds		47,893.93	65,655.05		240,244.52
Balance on hand July 1, 1916	11,860.46	3,234.22	24,555.95	633.39	633.39
Totals	\$147,777.37	\$57,129.57	\$92,365.06	\$7,338.25	\$304,610.25

**Treasurer U. S. Military Academy and Quartermaster and
Commissary for the Battalion of Cadets.**

The duties of the Treasurer have been ably conducted by Captain George H. Estes, 20th Infantry. His report given below shows clearly the essential features of the business conducted by this department.

I fully concur with his recommendations with respect to a new cadet laundry.

The following report is submitted by the Treasurer:

Treasurer's Office.—Statement of business April 30, 1916:

Accounts receivable....\$	4,341.34	Accounts payable.....\$	38,157.82
Cadet store stock.....	66,835.66	Equipment fund.....	224,793.48
Cadet mess stock.....	15,504.32	Int. on equip. fund...	2,221.81
Cadet laundry stock...	1,428.61	Dialectic society.....	125.67
Cadet store.....	610.90	Glee club.....	.80
Treasurer's cash.....	189,573.95	Miscellaneous fund...	7.62
Pay due.....	29,300.00	Y. M. C. A.....	333.37
First Class club.....	184.95	Reserve fund, store...	37,144.80
Howitzer, 1916.....	1,336.87	Reserve fund, mess...	823.30
Tennis account.....	48.79	Reserve fund, laundry.	5,556.72
	\$309,165.39		\$309,165.39

The total business for the period from July 1, 1915, to April 30, 1916:

Receipts.....	\$416,702.23
Disbursements.....	351,675.75

Under authority of the War Department, the Treasurer on July 7, 1915, deposited with The Commercial National Bank, Washington, D. C., the sum of \$100,000.00 of the Equipment Fund of the cadets at an annual interest of 3% payable quarterly, the principal being secured by contract with the Commercial National Bank and bonds to the amount of \$111,800.00 which received the approval of the Secretary of War and which are deposited with the Treasurer, U. S. M. A. On April 30 the income derived from this fund, namely, \$2,221.81, was apportioned to each cadet in proportion to his equipment fund balance as shown by the records of the Treasurer's office, U. S. M. A. The average amounts received by cadets were as follows:

First Class.....	\$6.73
Second Class.....	4.70
Third Class.....	3.02
Fourth Class.....	1.32

The following was the condition of cadets' personal financial standing on April 30, 1916:

First Class, out of debt average	\$605.06 per man,
Second Class, out of debt average	\$50.29 per man,
Third Class, out of debt average	\$64.02 per man,
Fourth Class, out of debt average	\$17.23 per man.

In the case of the First Class the credit shown includes the equipment fund.

Attention is again invited to the desirability of strict enforcement of the regulations requiring the sum of \$160 to be deposited with the Treasurer of the Academy before the candidate is admitted as a cadet. This deposit has not been made in many cases, and unless it is done it simply means that those cadets who are in debt are carried along by loans from other more fortunate ones out of debt. In order that the cadets should be on the same financial basis and that no cadet, due to his larger deposit, should have the advantage of being able to purchase athletic supplies and other luxuries debarred to the cadets in debt, it is recommended that this requirement be strictly enforced as a pre-requisite for admission.

Cadet Store.—The effect of the European War has been sorely felt in the increase in cost of practically every item of uniform and equipment used by the cadets. By taking advantage of opportunities to place contracts for future deliveries and by buying in odd lots for cash, every effort has been made to keep down the increased cost to a minimum.

During the year improvements were made in the gymnasium belt, dress hat and rain coat without changing the uniform pattern. A new article of uniform, drill breeches, was made up in the cadet store shop and issued to members of the Corps. The cadet store building has recently been provided with exterior fire escapes for the safety of the men and women employed in the shops on the fourth floor.

Cadet Laundry.—The demand for a new building is most pressing. It has been necessary to close down on two occasions to shore up floors with beams and posts to prevent serious accident. The building was inspected on May 22, 1916, by Mr. Harry C. Sweeney, Engineer Inspector, Bureau of Buildings, New York City, with a view to determining whether it was in a condition to continue its use without endangering the lives of employes. He says:

“In conclusion will state that this building as constructed and equipped could not be erected in the City of New York under existing building laws, as it would be considered weak and of insufficient strength, besides not possessing proper protection in case of fire.”

It is doubtful if this building will last another year.

Cadet Mess.—The increase in cost of every item of food has increased the cost of board. The average cost per day for the period from July 1, 1915, to April 30, 1916, was 65 cents per day. For the previous fiscal year the cost was 64 cents per day. Every indication points to a still further increase in the cost of food supplies.

In anticipation of the enlargement of the Corps of Cadets the seating accommodations of the Mess Building have been increased to care for 770 cadets. This is the maximum that can be handled at one sitting with the present building and equipment.

The interior of the building has been repainted during the year and all the frames of the portraits of distinguished officers hanging in the main dining room have been regilded.

Following out the recommendation of the surgeon all mess employees who handle food supplies in any capacity are, prior to employment, subjected to

examination and test by the surgeon for typhoid and venereal infection, and thereafter monthly physical inspections are made by the same official. Sanitary drinking fountains and individual towel racks have been installed in the various wash rooms of employees.

Health and Sanitation.

The health of officers, cadets, and enlisted men has been excellent, while the percentages of daily sick, admissions to hospital, and days lost are slightly more than last year, there has been nothing connected with the ailments to indicate any lack of the most excellent sanitary conditions.

The report of the surgeon, Lieut. Colonel H. A. Shaw, Medical Corps, follows:

Corps of Cadets.—The health of the Corps has been excellent throughout the year. There were 579 hospital admissions during the year, equivalent to an annual admission rate of 1,000 per thousand, a decrease of 127 per thousand as compared with the preceding year; this is the smallest admission recorded during the past ten years. The non-effective rate, or the number of cadets constantly in hospital, was 13.82 per thousand, as compared with 19.83 per thousand in 1915; this is the smallest rate during the past ten years except in 1914 when it was 11.92.

The average number of days' treatment of each case was 5.0 as compared with 6.4 for the preceding year, 4.0 days for 1914, and 4.8 for the preceding four years. The following table shows the hospital admission rates and the non-effective rates per thousand for hospital cases for the past ten years:

Table I.

Year	Mean actual strength command	Cases	Rate per thousand	Non-effective rates per thousand hospital
1906-1907	440	682	1550	35.22
1907-1908	404	641	1586	32.17
1908-1909	422	992	2350	32.77
1909-1910	417	987	2366	35.73
1910-1911	407	780	1916	28.25
1911-1912	531	764	1438	17.70
1912-1913	515	587	1139	16.89
1913-1914	562	612	1088	11.92
1914-1915	612	690	1127	19.83
1915-1916	578	562	972	13.32

There were no cases of critical illness nor of dangerous injury under treatment during the year. A mild but extremely contagious epidemic of influenza occurred during December and January, lasting about one month and affecting about 16 per cent of the Corps; 108 cases were admitted to the hospital for treatment, the average duration of each case being about four days; there were no serious complications. Forty-one cases of contagious catarrhal

conjunctivitis were treated in hospital during March and April. None of the cases were at all serious. One case of laryngeal tuberculosis, occurring in a cadet on furlough, was transferred to Fort Bayard, N. M. Three cases of malaria appeared during the year, one a new case, the other two being recurrences from previous infections. Three cadets were discharged for physical disability, for valvular disease of the heart; one case followed an attack of articular rheumatism, in line of duty; the other two occurred previous to entrance into the Military Academy.

Of the 579 hospital admissions, general diseases including 108 influenza, furnished the greatest proportion, 135 or 23.01 per cent; injuries and other affections due to external causes furnished 132 or 22.79 per cent; diseases of the digestive system, 96 or 16.58 per cent, diseases of the respiratory system 79 or 13.64 per cent and diseases of the eye and ear, including 41 cases of conjunctivitis, 56 or 9.65 per cent.

Of the 132 affections due to external causes, the greatest proportion were as usual due to accidents during riding, the next most frequent were due to football, to gymnastic exercises, to badly-fitting shoes, to basketball, and to baseball, as follows:

Table II.

	1915	1914
Accidents during riding	43	49
Injuries due to football	25	36
Accidents during gymnastics	17	13
Injuries from badly-fitting shoes	7	11
Injuries due to basketball	4	7
Injuries due to baseball	7	3
Miscellaneous accidents and injuries	29	37
	132	156

The football season was marked by an unusually small number of accidents, most of them of a trivial nature, no injury being permanent. Twenty-five cases required hospital treatment entailing an absence of 159 days from duty, as compared with 36 cases and 221 days lost in hospital during the preceding season. The freedom of football players from serious accidents is gratifying and is to be attributed to the fine physical condition of members of the squad when active fall practice is begun, and also to the careful oversight on the part of the medical officer on duty with the squad and of the coaching staff. Accidents are far more likely to occur when a player begins to tire and when the fine edge of mental and physical fitness has begun to turn. If at that point the player is taken out of the game most of the serious accidents of football may be avoided. This is the policy which is followed at the Academy and which has given excellent results.

In the last annual report from this office, mention was made of the fact that badly-fitting shoes were the cause of much foot trouble particularly in the Fourth Class during summer camp. An effort was made to prevent these troubles in the incoming class by requiring that all new cadets be measured and that shoes of proper size be issued in accordance with the detailed instructions

prescribed by the War Department for fitting enlisted men. The practical results of this scheme have been exceedingly satisfactory. Captain H. C. Coburn, Jr., Medical Corps, on duty with the Corps during their week's practice march in August, reported as follows:

"In closing this report I desire to call especial attention to the exceedingly small number of foot injuries treated on this march. Only 8 cadets reported to the hospital during the entire week on account of blisters or corns due to marching and these were all of such trifling nature that no duties were missed. I consider this excellent showing due to the good work done this year in accurately fitting the Fourth Class with shoes of proper size immediately upon admission to the Academy. Last year many cadets reported daily with foot trouble, the bulk being made up of 4th classmen with all forms of injuries due to short shoes. The improvement this year was very noticeable and it is hoped that the good results may be perpetuated by the same careful supervision of footwear as was practiced this summer."

A minimum standard of vision has been fixed by the War Department for graduation at the Military Academy. The vision "shall not be less than 20/100 in one eye and 20/70 in the other, these defects to be entirely correctible by proper glasses." This is in accordance with the recommendation of Major S. H. Wadhams, Medical Corps, who was detailed by the War Department to make a special study of visual defects among cadets at the Academy.

Enlisted Men.—During the past year there were 231 admissions to sick report equivalent to an admission rate per thousand of 326 the lowest on record in recent years. The non-effective rate was also lower than in 1915, being 7.9 per thousand as compared with 9.35 for 1915. Both the admission and the non-effective rates are very considerably lower than for the Army at large. The following table shows the number of admissions, the admission rate and the non-effective rate per thousand among enlisted men for the past six years:

Table III.

	1911	1912	1913	1914	1915	1916
Admissions to sick report.....	622	401	415	302	359	231
Rates per thousand.....	825	626	603	468	501	326
Non-effective rates.....	18.87	14.81	15.26	11.25	9.35	7.90
Mean annual strength of command.....	649	648	688	702	716	708

The number of admissions for transmissible diseases was small including venereal 28, influenza 25, malaria 3, tuberculosis 3. The three cases of malaria reported were recurrent attacks; the three cases of tuberculosis were transferred to Fort Bayard, N. M., for treatment. No case of pneumonia was reported during the year.

Civilian Population.—Health conditions among civilians attached to this command have been very satisfactory. A mild epidemic of mumps occurred during December and January among the children of officers and enlisted men, numbering 42 cases. Nine cases of measles were reported during the year, 3 of chicken pox and one of whooping cough.

Sanitation.—The sanitary condition of the Post has been excellent throughout the year. The stringent measures against mosquito and fly breeding heretofore adopted have been successfully carried out. Only 8 cases of malaria occurred during the year of which 7 were recurrences of previous infection. Five cases were among cadets, equivalent to an annual admission rate of 8.6 per thousand, the lowest on record except in 1914; three cases were among enlisted men, an equivalent of 4.2 per thousand.

The Library.

The following report submitted by Major James E. Runcie, librarian at the Military Academy, is complete in itself and calls for no comment:

The library of the Military Academy consists practically of a few collections of books differing in their nature and purposes.

The first of these may be considered a general library of literature, history and art such as would be suitable for any educational institution. Our collection of this kind is excellent, but not adequate. It does not furnish facilities for study and research in the various fields of general literature and general history, but with judicious additions, including the best current works of this character, it is believed that it can be made fairly adequate for the purposes of the Military Academy as a special school.

Second: A collection of military works, including works in military history and the development of the art and science of war. This should be always a special feature of the library of the Academy and should contain substantially every military work produced in our country, every such work of material importance produced elsewhere, all manuscripts of military memoirs which can be procured, especially those which bear on the history of our own army and more especially during periods of war. These should be supplemented by a collection of military maps and prints. Our collection of this character, while considerable in quantity and excellent in quality, is far from being so complete as it should be to enable officers and military students to utilize it satisfactorily in their professional or literary work. Efforts have been made and will continue to be made to supply the deficiencies existing in the collection and to maintain it up to date by the acquisition of all current publications on the subjects stated.

The third collection is that of public documents, legislative and executive, from the general government and from the governments of the States. The present collection of such material is extensive and adequate, and it is kept up to date by the addition of all such publications which promise to have any permanent value.

The fourth part of our library consists of special collections on engineering law, chemistry, mathematics, and other sciences taught in the course prescribed for cadets. Inasmuch as each of the academic departments now possesses a library of its own relating to its special subjects it is therefore not deemed necessary to add extensively to the accumulations under those heads in the Academy library.

In addition to the above, there is a large collection of fiction in quantity believed to be adequate for the needs of the Academy for some years to come.

The number of volumes in the library on July 1, 1915, was 95,550. On June 30, 1916, the catalogues show 98,323 volumes, an increase of 2,773 volumes during the year. This is believed to be a satisfactory measure of growth for a library of this character.

Special efforts have been made to increase our collection relating to the history of the armies of the United States, Regular and Volunteer, and also to add to the material covering the history of the Confederate armies of the Civil War. These efforts will be continued as it is believed that this is an especially desirable feature for a library of this character.

Gifts.—In the course of the year the library has received many valuable and interesting gifts, among the donors of which (to whom the thanks of all graduates of the Academy are due) are the following: Colonel W. C. Church; Library of the U. S. Soldiers' Home; Dr. J. C. Rodrigues; Mr. Charles Allen Munn; Mr. Albert A. Hopkins; Mr. Randall Webb; Sir Gilbert Parker; Mrs. John Van Rensselaer Hoff; Miss Caroline H. Garland; Mrs. Rutherford Stuyvesant; Sergeant William Schneider; Mrs. J. Marsden Lawton; Colonel Charles Hernandez; General Enoch A. Crowder; Mr. T. R. M. Talcott; Colonel H. D. Borup; Major General William H. Carter; Brigadier General H. G. Gibson; Mrs. C. E. Fox.

Library Building.—The building in which the library is sheltered, the oldest of the academic buildings at West Point, is in need of repairs which have not been effected because the request made in the annual estimates for funds for that purpose have not been approved. The appropriation for maintenance and increase of the library is believed not to be available under a proper construction of the law for the repair of the library building. A library is not a building but is a collection of books and other printed or written material. The library building is a public building, its status in that respect being the same as any other public building at the Academy. It would seem therefore that the repairs to the library building should be provided for out of the general appropriation for the repair of all public buildings at the Post. Until this construction of the law is accepted no repairs can be made to the library building except at the cost of curtailing the duty of increasing and maintaining the library itself out of the appropriation for that purpose, which it is believed to be an illegal application of the money available.

Statistics of Circulation.—No means are available for keeping a record of the amount or character of the reading done in the reading rooms by cadets and others who use the library. It would not be possible to keep such a record without denying to readers free access to all the books on the shelves, and this, it is believed, would be highly undesirable. A record of books drawn from the library for outside reading is contained in the following table:

An examination of the following table discloses the interesting fact that the first five months in the year 1916 show, when compared with the corresponding months of the preceding year, a decrease of 20% in the number of works of fiction drawn and read by cadets and an increase of 25% in works other than those of fiction drawn and read by others than cadets.

Statistics of Library Circulation.

Month	CADETS				OTHER THAN CADETS				Total for month
	Fiction		Non-Fiction		Fiction		Non-Fiction		
1915	No. Vol.	Per cent	No. Vol.	Per cent	No. Vol.	Per cent	No. Vol.	Per cent	
Jan.	666	68	307	32	410	52	382	48	1765
Feb.	547	68	260	32	384	58	279	42	1470
Mar.	591	66	304	34	474	65	248	35	1617
April	451	67	218	33	353	48	380	52	1402
May	400	60	271	40	330	48	368	52	1369
June	179	72	70	28	284	55	227	45	760
July	162	73	61	27	300	57	232	43	755
Aug.	122	72	48	28	294	54	236	46	700
Sept.	218	62	136	38	322	46	378	54	1054
Oct.	376	62	235	38	365	50	369	50	1345
Nov.	357	68	168	32	364	49	390	51	1279
Dec.	489	70	207	30	304	41	440	59	1440
1916									
Jan.	510	65	272	35	393	44	508	56	1683
Feb.	419	62	254	38	420	50	424	50	1517
Mar.	553	61	350	39	467	46	549	54	1919
April	404	64	286	36	324	45	391	55	1405
May	329	57	247	43	296	51	286	49	1158

Museum.

The ordnance museum occupies several large rooms in the new headquarter building, and is open for visitors and cadets daily. It contains a most valuable collection of models of guns, sea-coast and field, and of small arms of all ages and kinds; also numerous military relics of value and historical interest, particularly valuable is the collection of flags, many of which are now displayed. The old flags of historical value are being repaired as fast as funds allow. Lieut. Colonel W. H. Tschappat, in charge of the museum submits the following report:

During the year the following flags have been repaired:

1. British King's Colors; captured during the Revolution. The funds for the preservation of this flag were supplied by the Priscilla Chapter, Daughters of the Revolution.
2. Anspach-Baireuth (German) Color; surrendered at Yorktown during the Revolution. The funds for the preservation of this flag were supplied by the Colonial Chapter, New York City, Daughters of the Revolution.
3. National Color, 3d Regiment of Riflemen, 1814-1815.
4. National Color, 1st Regiment of Light Artillery, 1808-1815.
5. National Color, 9th Regiment of Infantry, 1812-1815.
6. National Color, 15th Regiment of Infantry, 1812-1815
7. National Color, 22d Regiment of Infantry, 1812-1815.
8. National Color, 2d Regiment, U. S. Infantry, 1841-1847.

In addition to the above work was begun on May 16th on an Anspach-Baireuth (German) Color.

The following is a complete list of flags repaired to date:

1. British King's Colors, 7th Royal Fusiliers, captured during the Revolution.
2. British King's Color, approximately about one quarter of the flag, captured during the Revolution.
3. Anspach-Baireuth (German) Color; surrendered at Yorktown during the Revolution.
4. Anspach-Baireuth (German) Color; surrendered at Yorktown during the Revolution.
5. National Color, 1st U. S. Infantry, 1791-1792.
6. Regimental Color, 4th U. S. Infantry, 1796-1811.
7. Regimental Color, 11th U. S. Infantry, 1812-1814.
8. National Color, 1st U. S. Light Artillery, 1808-1815.
9. National Color, 9th U. S. Infantry, 1812-1815.
10. National Color, 15th U. S. Infantry, 1812-1815.
11. National Color, 22d U. S. Infantry, 1812-1815.
12. National Color, 3d U. S. Infantry, 1814-1815.
13. National Color, 2d U. S. Infantry, 1841-1847.
14. Blue Silk Guidon; Mexican War period.
15. Guidon, 1st Regiment of Mounted Riflemen, Mexican War.
16. Blue Silk Guidon, Civil War period.
17. Headquarters Flag, Cavalry Reserve Brigade, 1st Division, Cavalry Corps, Army of the Potomac; Civil War.
18. Five U. S. Artillery or Cavalry National Guidons; Civil War.

The following articles were received at the museum during the year:

- July 8, 1915.—Photograph of Indians, "Big Foot's Band of Warriors"; photograph of Indians, "Big Foot's Band at Grass Dance on Cheyenne River, August 9, 1890." Chinese hat, painted Moro Cloth; gift of Mrs. and General Samuel S. Sumner, U. S. Army, retired.
- July 16, 1915.—Bamboo-wound wooden cannon from Manila, P. I.; gift of Lieutenant Robert C. Cotton, S. C., U. S. Army.
- August 18, 1915.—Colt's revolver from China during the Boxer uprising; gift of 1st Lieutenant S. Davis Boak, D. C., U. S. Army.
- August 25, 1915.—Slocum revolver; gift of Messrs. Wm. H. Estler and James R. Voorhees, Morristown, N. J.
- August 30, 1915.—Collection of 14 Moro weapons, shield and provision basket which were collected by Captain R. Foster Walton, U. S. Army, retired, gift of Mrs. R. Foster Walton.
- September 9, 1915.—Walking stick made of one piece of smokeless powder; gift of Lieutenant H. M. Hobbs, A. C., U. S. Army.
- September 22, 1915.—Indian stone war club; gift of Mr. H. S. Parker, Cohasset, Mass.
- September 23, 1915.—Collection of 5 Moro weapons, gift of Mrs. E. H. Morris, New York City.
- October 12, 1915.—Fragment of flag with one star, of the Civil War flag of the 55th Regiment, N. Y. S. M., and Vols., transferred from the library.

- October 28, 1915.—Staff Corps sword with scabbard, worn by Colonel Symington, U. S. M. A., 1815, and model of 6-pdr., U. S. field gun, pattern of 1841, on a wooden carriage, made by Colonel Symington, gift of Mrs. John Symington.
- December 17, 1915.*—Collection of 25 Indian curios; gift of General B. J. D. Irwin, U. S. Army, retired.
- December 18, 1915.—Collection of 7 Moro curios; gift of Lieutenant Wm. W. Edwards, Cavalry, U. S. Army.
- January 6, 1916.—Four pieces of brown prismatic powder taken from a sealed case in the 6-in. magazine of the battleship "Maine", having been submerged for over 14 years; gift of Major James E. Runcie, U. S. Army, retired.
- January 18, 1916.—Dress coat with epaulets on shoulders, two epaulets, sword belt, sword-belt frog, two shoulder bars, two sword-scabbard rings, two spurs, service sword with scabbard, and dress sword with scabbard. These were formerly the property of and worn by Colonel Sylvanus Thayer; gift of Mr. Julius Moulton, St. Louis, Mo.
- March 20, 1916.—Model of outrigger fishing boat from Colombo, Ceylon, and a Porto Rican musical instrument, made from a gourd; gift of Col. John M. Carson, jr., Q. M. C., U. S. A.

During the year one double-door Library Bureau wall case, size 80"x 80"x16" was installed for the display of Indian curios, and one Library Bureau case with fittings, size 126"x80"x20" was designed for the display of four German Mercenaries flags that were captured during the Revolutionary War. This case has been ordered.

Water Supply.

The following report of Lieut. Colonel M. L. Walker, C. E., in charge of the water supply, is so complete that no comments are necessary:

The water supply system has given practically no trouble during the past twelve months, and is in excellent condition.

Water has been secured from Queensboro Brook, except the period July 24, 1915, to September 8, 1915, when it was necessary, due to the failure of the Queensboro supply, to draw on Popolopen Creek.

The sanitary conditions on both Queensboro Brook and Popolopen Creek have in the main been satisfactory, but constant inspection is necessary to see that these conditions are maintained.

The water throughout the year has been clear and soft and the filtered water satisfactory from a bacteriological standpoint. Examination of both raw and filtered water is made monthly by the surgeon, and a quarterly laboratory test is made through the courtesy of the New York State Health Department.

Referring to the remarks contained in my last annual report concerning the necessity for a separate water system for fire and power purposes, use in stables, etc., some steps looking to a rearrangement of our water supply will be urgently needed in the immediate future to care for the large increase in the number of cadets authorized by recent legislation.

The Palisades Interstate Park Commission has been authorized by the Secretary of War to construct three artificial lakes in Queensboro Brook for the impounding of its waters. The rights of West Point Water Supply are amply protected while the filling of these basins is in progress and when they are full, it is believed great benefit will result to West Point by enabling the supply to be drawn from Queensboro Brook the entire year. As previously remarked, water from our other sources, Popolopen Creek, is not nearly so good as that from Queensboro.

The consumption of water continues very large, but rarely exceeds 1,000,000 gallons per day, an improvement over preceding years. Effort is continuous to prevent waste, and the condition now appears satisfactory.

Lusk Reservoir was full to overflowing except 135 days during the year.

The maximum recorded daily consumption was 1,285,000 gals. January 9, 1916, and the minimum on September 21, 1915, 919,000 gals. The average has been 1,054,770 gals. per day. Total for the year 385,991,050 gals.

Personnel.—No change has taken place in personnel during the past year. My thanks are due to the officers, enlisted men, and civilians connected with the affairs for which I am responsible, who have one and all rendered satisfactory service.

Chaplain.

I regard the duties and influence of a chaplain at West Point as about the most important of any in the military service. There are now about six hundred cadets, and a population of about one thousand people on the Post to whom he ministers. He not only conducts the church services, Sunday schools, young men's clubs, girls' friendship society, and other social improvement organizations, but assists the Cadets' Y. M. C. A., which has an attendance of from 100 to 200 at its meetings and a membership including nearly the entire Corps of Cadets. His good influence in these and all the other pastoral duties common in all parishes cannot be over-estimated.

The pay of the chaplain is not at all adequate for this important position at West Point, nor commensurate with the work done or benefit derived, and should be increased from that of a captain, \$2400 to that of a major, \$3000.

Chapel Organist and Choirmaster.

The organist and choirmaster is another person who is inadequately paid. For five years my predecessor and myself have urged without success an increase in his pay from \$1200 a year to the pay and allowances (without the rank) of a second lieutenant.

The present incumbent, Mr. Frederick C. Mayer, is a musician and an organist of rare ability, and besides has a temperament and individuality that appeal most strongly and favorably to cadets. It is because of these attainments and qualities that he is able to maintain a voluntary choir of ninety cadets for chapel services and train them in music to a degree that has made this feature a pride and a delight to all who attend the cadet chapel services at West Point. Like the services of our present chaplain, the good and inspiring influences of the present choirmaster and organist cannot be over-estimated, and the modest increase asked in his pay is by no means a full measure for the benefits received by the cadets and others at West Point.

Detachments.

The following detachments are maintained at West Point as necessary in connection with the instruction of cadets, maintenance of buildings and grounds and as clerical and other help about the offices of various departments at the Academy:

The Detachment of Engineers,
The Detachment of Field Artillery,
The Detachment of Cavalry,
The Army Service Detachment,
The Quartermaster Corps.

The detachment of engineers is under charge of the professor of practical military engineering, and the engineer officers detailed to assist him. It furnishes the personnel for the assistance of these officers in instructing cadets, as well as the labor connected therewith in ponton bridges, surveying, signaling, telegraphy, etc., all as indicated in the report of the professor of practical military engineering on pages 25-27. It also does guard and other military duty.

The following report is submitted by Lieut. Colonel M. L. Walker, C. E.:

This organization is under the command of the professor of practical military engineering. It performs guard duty and some garrison police, assists in all cadet instruction, and itself receives practically the same instruction as is given to other engineer troops of the Army.

The authorized strength of the detachment is 100 men and the average strength during the year has been 95.75. Recruits were asked for and received in October, 1915, and March, 1916, to fill all vacancies. This has proved more satisfactory than having men dribble in throughout the year. The recruits

supplied have been excellent material and experience during the year indicates that better results are obtained from green recruits of good quality than from assignment of re-enlisted men.

* * * * *

As reported last year, the barracks are inadequate to house the detachment properly, there being space for but 70 men. At this time some 33 men are married, and are either supplied with married quarters or rent quarters for themselves in the neighborhood.

The barracks should be enlarged and modernized.

The gymnasium of the detachment has been ceiled with compo board, the expense being borne by the amusement association of the organization. It has further been repainted throughout and the woodwork finish much improved. The men now have an attractive gymnasium and assembly room.

The club for enlisted men mentioned in last annual report has been successfully maintained by the efforts of the Chaplain, assisted by Sergeant Williams of this detachment, the detachment commander co-operating. An attractive meeting place is provided for the enlisted men at the north end of the garrison and it is believed much good is accomplished thereby.

There has been an unusually large number of desertions (12) from the detachment during the past year. Seven of those men are known to have joined the Canadian troops for service in Europe.

It is believed the discipline and instruction of the detachment for the past year have been satisfactory.

Army Service Detachment.

This detachment is under the quartermaster and furnishes laborers, skilled and unskilled, for the upkeep of buildings and grounds, police, and the usual work about a military post. A material change in its organization with an increase of 27 in its personnel has been asked of Congress in the Military Academy Bill for 1917. The present organization is not adapted or properly balanced as to non-commissioned officers and privates for the work required of it, and its members are not sufficient for the work that should be done by the detachment, thus necessitating the hire of many civilians for double and treble the pay of men in this detachment doing the same kind of work. It is believed a saving will be made because of this if the detachment is reorganized and increased as asked.

Quartermaster Corps.

The Quartermaster Corps, in addition to the usual duties performed at other posts, also assists in the instruction of cadets in packing, etc.

The Cavalry and Artillery Detachments are each under the command of a line officer detailed for that purpose and who are each assisted by a lieutenant of the line. These detachments have charge of stables and animals and the horse and battery equipments used in cadet, as well as in their own instruction; they also furnish men to assist in such instruction and they perform both stable and post guard duty.

The artillery detachment should be materially increased. It has now about the same number of men as a field battery, but has three times the equipment in guns and some twenty more animals to care for. It not only performs all the duties connected with cadet drills, firings, etc., but is itself drilled and instructed the same as any field battery, and furnishes the personnel for service practice by the field artillery officers stationed at West Point.

Ordnance Detachment.—The following report is submitted by the commanding officer of this detachment, Lieut. Colonel W. H. Tschappat:

The work of this detachment consists principally in receiving and issuing ammunition for target practice; caring for seacoast armament at the post; repairing, altering and handling target material for cadet target practice; furnishing the enlisted personnel required in the museum; furnishing assistance in instruction of cadets in shop work, and keeping in good order the grounds and buildings pertaining to the ordnance laboratory. This work has been satisfactorily performed during the year.

Improvement to Roads and Grounds.

These improvements refer to the bridle-paths and roads connecting the wooded and hilly section of the reservation with the main roads. Following is the report submitted by Colonel M. L. Walker, C. E., on this subject:

This work was prosecuted during the year in accordance with the original plans designed by Olmstead Brothers.

The trail from Fort Putnam to Redoubt No. 4 was completed and surfaced throughout and is a valuable addition to the communications about the reservation.

In the southwest corner of the reservation, vicinity of the Cornwall cross roads, several short connecting trails were completed.

During the coming season it is proposed to work upon the trail circling the crest of Crow Nest and it is hoped to complete this in the one season.

With the prevalence of automobile traffic on all roads these trails are a real necessity for proper horseback exercise of officers stationed here and a great and increasing use is made of them for this purpose.

The Board of Visitors.

For the first time in two years a Board of Visitors from the House Military Committee visited West Point this year on May 31, consisting of the following members:

Honorable Ashton C. Shallenberger, Nebraska,
 Honorable Michael F. Farley, New York,
 Honorable Richard Olney, 2d, Massachusetts,
 Honorable Frank L. Greene, Vermont,
 Honorable Thomas S. Crago, Pennsylvania.

Ever since the law of March 4, 1909, became effective these visits have been made by committees selected from the Military Committees of Congress, and because of their other pressing duties their visits invariably have been too brief to obtain a thorough understanding of the conditions and necessities of the Academy.

I believe better results would obtain if these committees were composed in part of men prominent in educational work, and that these committees should visit the Academy in October or November while the academic duties are in progress, and remain here several days. Another matter in this connection appeals to me as important: some years ago it was the custom for the Board of Visitors to make a written report setting forth their views and recommendations as the result of their inspection. If these Boards composed as I recommend—part from the Military Committees of Congress, and part from men prominent in education—could remain here sufficiently long to become acquainted with the workings and needs of the Academy, and would make an independent written report thereon, I am sure it would be of assistance to Congress in making many of the appropriations for the Academy, and would also be of value to the Academy in its educational work.

Alumni.

There were 218 of the Alumni who visited the Academy this year during graduation week, as compared with 300 last year. Special efforts were made to induce them to come and it was gratifying to see so many of them with us, and to feel the splendid influence of their abiding faith and pride in our Alma Mater. There were reunion dinners at West Point by the Classes of 1865, 1866, 1867, 1875, 1876, 1881, 1886, 1890, 1891, 1901, 1904, 1906, 1909, 1911, and 1916. Two hundred attended the Alumni luncheon in

the West Point Army Mess. The Class of 1867 is among the most enthusiastic of those who return to their Alma Mater, and its members have, I believe, agreed to return for a reunion dinner at West Point at every graduation period. In this connection I am gratified to see the increasing interest and attendance at Alumni dinners held in New York, San Francisco, Fort Bliss, and Honolulu, this year about March 16, the anniversary of the creation of the Military Academy.

It is my hope that the Alumni will return to West Point in increasing numbers from year to year and give cheer and support to those here on duty, mingle their pride with ours and each others as loyal sons of the Military Academy, and if not at West Point then at the March Alumni dinners. There is much that the Alumni can do for the Academy in the support of its high ideals and best traditions, and they can do this better, whether in the service or out of it, if they will return often to their Alma Mater, imbibe anew the spirit of West Point, see what has been changed and what retained of the West Point they knew, not only in the buildings and grounds, but in the instruction, drilling, and handling of cadets.

Gifts.

The beautiful bronze equestrian statue of General Washington referred to in my last report as having been tendered as a gift to the United States Military Academy by a patriotic citizen, a veteran of the Civil War, was formally dedicated with appropriate ceremonies on Friday, May 19, 1916.

Major General Thomas H. Barry, U. S. Army, presented to the Military Academy for installation in the belfry of the Catholic chapel one of the bells that Aguinaldo had sent to Sablan during the insurrection against the authority of the United States. This particular bell is known as "San Pedro."

Acknowledgments.

The Superintendent's advisers and assistants in the conduct of the affairs of the Academy are the Academic Board, the Staff, and its assistants. Their advice and help have been efficient and loyal and always given in the spirit of harmony and cooperation for the best interests of the Academy.

To them and all others concerned in the administration of the Academy all thanks are due for such success as has been attained.

Owing to the expiration of my tour of duty as Superintendent of the Military Academy on June 30th, this will be the last annual report submitted by me, and I desire here to record my grateful thanks to all those who have served under me for their splendid assistance and loyal service.

One thing I feel it my duty to recommend for early and favorable consideration. The dignity of the position of the Superintendent of this Academy makes it very important that he should have the rank of a general officer, whatever his rank may be when detailed to this position. I recommend that the law which now gives him the rank of Colonel, Sec. 1310 Revised Statutes, be changed to give him the rank of Brigadier General.

C. P. TOWNSLEY,
Colonel, Coast Artillery Corps,
Superintendent.

