

ANNUAL REPORT

OF THE

COMMANDANT

OF

The Army Service Schools

AT

FORT LEAVENWORTH, KAS.

FOR THE

School Year Ending August 31, 1908

STAFF COLLEGE PRESS

TABLE OF CONTENTS

THE ARMY SERVICE SCHOOLS

Report of the Commandant.....	5
Report of the Assistant Commandant.....	6
Report of the Secretary.....	19
Report of the Librarian.....	21

THE ARMY SCHOOL OF THE LINE

Department of Military Art.....	24
Department of Engineering.....	34
Department of Law.....	40
Department of Languages.....	54

THE ARMY STAFF COLLEGE

Department of Military Art.....	63
Department of Engineering.....	75
Department of Law.....	79
Department of Languages.....	87
Department of Care of Troops.....	92

THE ARMY SIGNAL SCHOOL

Report of the Assistant Commandant.....	95
-----------------------------------------	----

THE ARMY SERVICE SCHOOLS

*Fort Leavenworth, Kansas,
October 16, 1908.*

*The Adjutant General, U. S. Army,
Washington, D. C.*

SIR:

I have the honor to transmit herewith the reports for the year ending August 31, 1908, of the Assistant Commandant of the Army Staff College and the Army School of the Line, who was also Acting Commandant of the Army Service Schools during the interim between the retirement on April 29, 1908, of the former Commandant, Major-General C. B. Hall, and my own assumption of command on the 14th of August following, as well as those of the Assistant Commandant, Army Signal School, the Secretary and Librarian of the school and the several instructors in the various departments.

Attention is respectfully invited to the recommendations along various lines contained in the above mentioned reports. The fact that they are made by well qualified officers who have been on duty at this institution one or more years entitles them to some weight.

Having but recently assumed command, I feel that I can better postpone until a later date the making of specific recommendations as I have not yet had sufficient time to be thoroughly familiar with the schools and the requirements thereof.

Very respectfully,
FREDERICK FUNSTON,
*Brigadier-General, U. S. Army,
Commandant.*

THE ARMY SERVICE SCHOOLS
FORT LEAVENWORTH, KANSAS

August 31, 1908.

*The Secretary,
The Army Service Schools.*

SIR:

I have the honor to submit the following report:

By General Orders No. 3, dated The Army Service Schools, April 13, 1908, I was detailed, in addition to my other duties, as assistant commandant of The Army School of the Line and The Army Staff College, relieving Major D. H. Boughton, General Staff.

On April 29, 1908, Major-General C. B. Hall, U. S. Army, Commandant of the Service Schools, was retired and I became acting commandant, which duty I performed in addition to my other work until August 14, 1908, when I was relieved by Brigadier-General Frederick Funston, U. S. Army, the present commandant.

THE SCHOOL STAFF

During the year Captain E. E. Booth, 7th Cavalry, has been the secretary of the schools. This duty has been exceptionally well performed. He is a graduate of the Army School of the Line and the Army Staff College and has been an instructor in the Department of Military Art, thus giving him a thoro knowledge of all the requirements and duties of his position. Captain Booth, by temperament, is also especially fitted for this sometimes trying position.

The library during the year has been under the charge of Lieutenant-Colonel E. B. Fuller, U. S. Army, retired. The library has been most efficiently

conducted and is one of the great advantages offered by the schools. It deserves and needs liberal support.

The assistant commandants were:

THE ARMY SCHOOL OF THE LINE AND THE ARMY
STAFF COLLEGE

Major D. H. Boughton, General Staff
Major J. F. Morrison, General Staff

THE ARMY SIGNAL SCHOOL
Major C. McK. Saltzman, Signal Corps

INSTRUCTORS

THE ARMY SCHOOL OF THE LINE

Department of Military Art

Senior Instructor, Major J. F. Morrison, General Staff

Instructors

Major E. C. Carter, Medical Corps, for Care of Troops, Senior Instructor, Department Care of Troops, Staff College.

Captain M. F. Steele, 6th Cavalry.

Captain R. D. Walsh, 9th Cavalry, for Hippology and instruction in riding only. Commanded his troop.

Captain Farrand Sayre, 8th Cavalry.

Captain M. E. Hanna, 3d Cavalry.

Captain Campbell King, 1st Infantry.

Captain O. L. Spaulding, jr., 5th Field -Artillery, for partial work only. Instructor, Department of Languages.

Captain A. L. Conger, 29th Infantry.

Captain D. K. Major: jr., 27th Infantry.

1st Lieutenant R. S. Fitch, 1st Cavalry.

Veterinarian S. L. Hunter, 2d Field Artillery.

DEPARTMENT OF ENGINEERING

Senior Instructor—Captain Edwin T. Cole, 6th Infantry

Instructors-Captain H. E. Eames, 10th Infantry

Captain J. A. Woodruff, Corps of Engineers

Captain C. D. Herron, 18th Infantry

Captain C. O. Sherrill, Corps of Engineers

DEPARTMENT OF LAW

Senior Instructor, Captain H. A. White, 11th Cavalry

Instructors-Captain Tenney Ross, 7th Infantry

Captain E. E. Kreger, Judge Advocate General's
Department (28th Infantry)

DEPARTMENT OF LANGUAGES

Senior Instructor, Captain Arthur Thayer, 3d Cavalry

Instructors-Captain J. A. Moss, 24th Infantry

Captain D. E. Aultman, 5th Field Artillery
Captain O. L. Spaulding, jr., 5th Field Artillery

Lieutenants Landa and Monter of the Mexican Army voluntarily assisted in Spanish. Attention is invited to Captain Thayer's report on this subject.

The instructors in the Army Staff College are the same as in the Army School of the Line, except that the Army Staff College has one department, the Care of Troops, not in the Army School of the Line. Major E. C. Carter, Medical Corps, was senior instructor of this department.

Of the instructors above named, the following have been relieved:

DEPARTMENT OF MILITARY ART

Captain M. F. Steele, 6th Cavalry
Captain Farrand Sayre, 8th Cavalry
Captain Campbell King, 1st Infantry
Captain R. D. Walsh, 9th Cavalry
Captain O. L. Spaulding, jr., 5th Field Artillery
Major E. C. Carter, Medical Corps

DEPARTMENT OF LANGUAGES

Captain O. L. Spaulding, jr., 5th Field Artillery

DEPARTMENT OF LAW

Captain E. A. Kreger, Judge Advocate General's Department, (28th Infantry), was relieved March 31, 1908.

Major Edward C. Carter, Medical Corps, is to be relieved by Major E. L. Munson, Medical Corps, August 31, 1908.

Captain Stephen H. Elliott, 11th Cavalry, Captain M. C. Kerth, 23d Infantry, and Captain G. F. Baltzell, 5th Infantry, have been detailed to the Department of Military Art. The work in this department previously done by Captain Spaulding will fall to Captain Aultman, who is also an instructor in the Department of Languages. Major Carter's work in this department falls to Major Munson.

Lieutenant G. C. Marshall, jr., 24th Infantry, has been detailed for duty in the Department of Engineering, and Captain C. E. Stodter, 6th Cavalry, to

the Department of Law. Major Munson has been detailed as senior instructor, Care of Troops, in the Army Staff College.

All the above details, except that of Major Munson and Captain Elliott, are from the graduates of of the last class of the Army Staff College.

ARMY SIGNAL SCHOOL STAFF

Assistant Commandant and Senior Instructor, Department Signal Engineering, Major C. McK. Saltzman, Signal Corps.

Senior Instructor, Department of Engineering, Captain Edwin T. Cole, 6th Infantry; also of the Army Staff College and Army School of the Line.

Senior Instructor, Department of Languages, Captain Arthur Thayer, 3d Cavalry; also of the Army Staff College and Army School of the Line.

Instructors

Captain A. C. Knowles, 30th Infantry

1st Lieutenant W. N. Hughes, jr., Signal Corps. Also commanding Company A, Signal Corps.

1st Lieutenant G. A. Wiczorek, Signal Corps.

Of the above, Major Saltzman, Lieutenant Hughes, and Lieutenant Wiczorek have been relieved and the following detailed: As assistant commandant, Major Edgar Russel, Signal Corps. As instructors, Captain A. S. Cowan, 20th Infantry; Captain J. B. Allison, 7th Infantry, also to command Company A, Signal Corps, and 1st Lieutenant V. D. Dixon, Signal Corps. Except Major Russel, all are graduates of last class of the Army Signal School.

The relief of so many instructors at one time is always embarrassing and it is hoped that the schools can soon have instructors for four years, instead of so generally for only two, and reduce the number of annual changes.

The earnest work and cordial coöperation of all the staff, not only for the brief time I was acting as commandant, but as I observed it during the entire school year was all the most exacting could have asked.

This harmony and effort by all of the staff to make the schools a success is largely responsible for the feeling here which is far from being the least of the advantages of the schools to the army.

THE ARMY SCHOOL OF THE LINE

Forty-two originally reported for this class, forty-one of the regular army and one from the Kansas State National Guard.

Of these, three did not remain during the year. One officer did not begin the course as the medical officers recommended against it as his eyes would not stand the strain. One was relieved during the year for physical disability incurred in line of duty, and the National Guard officer withdrew during the early part of the course because his company was mustered out and left him out of the service. The following thirty-nine officers graduated:

Captain T. O. Murphy, 19th Infantry
Captain F. LeJ. Parker, 12th Cavalry
Captain Jens Bugge, 28th Infantry
Captain LeRoy Eltinge, 15th Cavalry
Captain G. V. H. Moseley, 5th Cavalry
Captain S. B. Arnold, 1st Cavalry
Captain C. H. Bridges, 15th Infantry
1st Lieutenant J. A. Brockman, 17th Infantry
Captain R. J. Burt, 9th Infantry
Captain W. D. Chitty, 4th Cavalry
Captain J. W. Clinton, 12th Infantry
Captain C. F. Crain, 27th Infantry
Major C. E. Dentler, 23d Infantry
Captain W. M. Fassett, 13th Infantry
Captain J. H. Frier, 17th Infantry
Captain G. S. Goodale, 23d Infantry
Captain J. M. Graham, 19th Infantry
Captain Alonzo Gray, 14th Cavalry
Captain Willey Howell, 6th Infantry
Captain C. B. Humphrey, 21st Infantry
Captain R. E. Ingram, 10th Infantry
Captan Arthur Johnson, 13th Infantry
Captain F. L. Knudsen, 8th Infantry
Captain F. E. Lacey, jr., 1st Infantry
Captain R. C. Langdon, 3d Infantry
Captain D. T. Merrill, 7th Infantry
Captain William Mitchell, Signal Corps
Captain G. D. Moore, 20th Infantry

Captain P. H. Mulla, 14th Infantry
Captain J. C. Rhea, 7th Cavalry
Captain James Ronayne, 28th Infantry
Captain A. E. Saxton, 8th Cavalry
1st Lieutenant A. L. Singleton, 5th Infantry
Captain H. A. Smith, 15th Infantry
Captain G. E. Stockle, 8th Cavalry
Captain T. B. Taylor, 3d Cavalry
Captain F. W. Van Duyne, 4th Infantry
Captain F. L. Wells, 11th Infantry
Captain L. D. Wildman, Signal Corps

This class is the oldest in years and rank that has graduated from the school.

Their work was of a high order, twenty making distinguished grade. Practically all of the class seemed to have but one object—to get all the advantage possible from the course.

The Academic Board recommended twenty-four of the graduates for the next class of the Army Staff College of whom twenty-three remain. Captain Ronayne, on account of an injury sustained by his horse falling and from which he has not yet fully recovered, deemed it best not to undertake the course.

THE ARMY STAFF COLLEGE

There were twenty-four members in the present class; twenty-two of our own army and two of the Mexican Army as follows:

Captain C. D. Rhodes, 6th Cavalry
Captain H. R. Hickok, 15th Cavalry
Captain G. F. Baltzell, 5th Infantry
Captain S. G. Chiles, 11th Infantry
Captain C. E. Stodter, 9th Cavalry
Captain M. C. Kerth, 23d Infantry
Captain J. C. Raymond, 2d Cavalry
Captain C. D. Herron, 18th Infantry
Captain Upton Birnie, jr., 6th Field Artillery
Captain Bernard Sharp, 22d Infantry
1st Lieutenant L. S. Morey, 12th Cavalry
1st Lieutenant Bruce Palmer, 10th Cavalry
1st Lieutenant Rhees Jackson, 12th Infantry
1st Lieutenant S. O. Fuqua, 23d Infantry
1st Lieutenant M. E. Locke, 1st Field Artillery
1st Lieutenant C. F. Cox, 11th Cavalry
1st Lieutenant D. H. Currie, 5th Field Artillery
1st Lieutenant R. L. Collins, 8th Cavalry

1st Lieutenant R. E. Beebe, 14th Infantry
1st Lieutenant G. C. Marshall, jr., 24th Infantry
1st Lieutenant R. E. Fisher, 7th Cavalry
2d Lieutenant H. L. Hodges, 1st Cavalry
1st Lieutenant Jorge Landa, Mexican Army
1st Lieutenant Luis Monter, Mexican Army

The work of this class was most satisfactory. They accomplished all that was required and often more, and the requirements were all that we could expect in a year's hard work from selected officers.

The details of the work of this class will be found in the reports of the senior instructors.

THE ARMY SIGNAL SCHOOL

The class was composed of the following members:

Captain D. J. Carr, Signal Corps
Captain A. T. Ovenshine, 7th Infantry
Captain I. J. Carr, 28th Infantry
Captain J. B. Allison, 7th Infantry
Captain A. S. Cowan, 20th Infantry
1st Lieutenant F. W. Fonda, Signal Corps
1st Lieutenant V. D. Dixon, 5th Cavalry
1st Lieutenant G. E. Kumpe, 2d Infantry
1st Lieutenant J. Alfred Moss, Signal Corps
1st Lieutenant S. C. Megill, 4th Cavalry
1st Lieutenant J. E. Ware, 14th Infantry
1st Lieutenant B. D. Foulois, Signal Corps
1st Lieutenant P. J. Hennessey, 15th Cavalry
-2d Lieutenant R. S. Bamberger, 7th Cavalry
2d Lieutenant J. G. Winter, jr., 6th Cavalry

During the year the school moved into its new laboratory and have had better facilities for their work.

The work in this school has been very satisfactory. Major Saltzman was peculiarly fitted for conducting the school and shaping its course. While a specialist himself he always took a broad view of military problems and had a just appreciation of relative values.

The course was practical and thoro. I believe the work here during the past year has advanced us far on the way to a practical knowledge of the relation of the Signal Corps to the Line, and to the

solving of many of the problems of organization and equipment of the field signal company.

The schools are handicapped by our limited grounds as appeared in last year's annual report, and I wish again to call attention to it. I would recommend, however, that land on this side of the Missouri river adjacent to the present reservation be obtained rather than across the river.

The land mentioned on the east side of the Missouri river is particularly well adapted for maneuvers and possesses all the advantages mentioned by Major D. H. Boughton, General Staff in the last annual reports but it has some drawbacks. We are likely to be cut off from there by the spring floods during June when we want the ground most for school work, we are dependent on an old bridge that would be an expensive luxury to keep in repair if bought by the government, and expensive for tolls if not bought. By taking land on this side of the river our present reservation is available as part of the maneuver ground and less would have to be bought.

The use of the land for June, September and October only should be obtained. The land here if not cared for soon becomes an impassable wilderness. To keep a large reservation clear would cost a large sum annually to say nothing of the loss to the locality by so much fertile land being totally unproductive.

The present reservation should be as soon as practicable completely cleared of underbrush so that its complete area would be available.

I would recommend that the privilege of grazing cattle on the southern part of the present reservation be given to some reliable person on condition that all weeds and brush be kept cut close. Under proper regulations as to limits, herding, etc., it would in no way interfere with military work but

help it greatly, and in a very few years would probably kill out the wild hemp and other most objectionable weeds.

The great need of a suitable map for use at the schools has been referred to before. This it seems now will soon be remedied by the action of the U. S. Geological Survey, who expect to get out such a map.

This is of particular advantage to our "mailing list". This list of officers throughout the service, who desire copies of all our problems and exercises sent them and who are following our work, has grown to 500 and is still increasing. At present the maps used are generally photographic reproductions and are expensive and poor. Plates for such maps as we have had to use have not been made for many good reasons. With the completion of the Geological Survey map, which covers sufficient area so that we can use it exclusively for all but the division problems, the printed maps can be had for five cents each, and will be satisfactory in every way.

This mailing list has added much to the clerical labor of the secretary's office, but I believe it is labor well spent. That the list has grown is flattering to the schools and shows a growing interest throughout the army in professional study.

The need of good maps for the war game that could be distributed throughout the service is also worthy of consideration. This means of professional study is becoming more popular every year; it is compulsory in most armies but ours. Much help could be given its introduction if suitable maps were available and all problems solved here could be sent out.

During the past season the Department of Military Art organized a department war game, the instructors of that department to meet every Monday evening. Soon after starting, instructors of other departments and officers of the garrison joined.

Great interest developed in the work, and while it was kept up from November 1st until May the interest never flagged nor did the attendance fall off. This will be repeated the coming year.

It is recommended that the Army School of the Line class be increased at the expense of the Army Staff College class and that selected men from the Army Staff College class be then given further chance to properly fit themselves for general staff duty in time of war.

On graduation from the Army Staff College I recommend that at least one member of the class, to be selected by the Academic Board, be granted a year's leave on full pay to reside in Germany and study the language of the country, one in France and one in Spain for the same purpose. This is not as many as I believe should be sent, but it is sufficient to give the proposition a fair trial. This has been so frequently recommended by others and the reasons so fully set forth that it is not necessary to repeat them here. There is only this additional one to offer for this particular plan, that after the two years' course here the Academic Board can form a good idea of what men of the class are probably best fitted for General Staff duty in war, and can select men for the detail whose knowledge of foreign languages is apt to be most valuable to the army.

I recommend that on the graduation of the Army Staff College class such members as are so recommended by the Academic Board be assigned to duty for six months with a different arm of the service than that to which they belong. This would not increase the number of officers absent from duty with troops and could generally be accomplished without much changing of station. So many posts are now garrisoned by mixed commands that the plan could be

carried out in most cases and the officer be on duty where his own organization is serving.

An effort is made here to help the student officers acquire a knowledge of the use of the arms combined. But for a general staff officer a more detailed knowledge of the actual working of the arms is desirable, if not necessary. In other armies this plan is carried out, in some the details being much longer than proposed here, and in others shorter, as in England, where the six months is divided into three months with each of two arms.

For some time I have believed the usefulness of these schools could be largely extended by the introduction of classes taking a special course in addition to the regular classes. The plan to be about as follows:

Quarters to be provided, plainly furnished, for ten or twelve officers so that they need bring nothing here with them except their trunks and bedding rolls. That on September 1st a class for the special course of ten weeks report, at the end of ten weeks they return to their stations and on January 1st a second class report, and on March 15th a third, or if deemed best only two each year.

No change is intended with reference to the regular classes which remain the same as now, the above to be entirely additional work. There to be for the special classes no graduation, no diplomas, no grading, only a report to the Chief of Staff that the work of so and so was excellent, satisfactory or unsatisfactory. No work in the special course to excuse from any requirement on examination for promotion. The privilege of this course to be given to the oldest officers desiring it. That is if more apply than can be accommodated the detail, as a rule, be given to the seniors.

The country has here a valuable plant and we should get all out of it that we can. This additional course would be that much more return with practically no additional expenditure.

An officer coming here for only ten weeks in winter would not be greatly missed in his garrison. It would not mean a change of station as he would not move his household effects. It would be merely a very temporary detached service.

In that ten weeks, 110 days, devoted to special work in Military Art the best of that course could be covered. We would be nearly doubling the number of officers who have had the benefits of the tactical course.

There are many officers in our army who were denied the opportunity to come here earlier in life and who feel that they are too old to come here now for the complete course, their pride rather revolts at competing with their juniors for a grading, and that much in the course, with their rank, can scarcely be of practical value, and yet they would like part of the course. This would be their opportunity.

This recommendation is not made with the idea that these officers know less than the instructors here. But most officers of our service have had to acquire much of what is proposed in this course from study of various works, each working by himself. Each has developed in his own mind his own system and method. Uniformity of instruction and method in the army in these matters is most desirable and that is what is to be sought by this suggestion, not uniformity of ideas which is neither desirable nor possible.

It would benefit these schools to have such classes here; we would gain new ideas, see where we are failing in our work. In the service at large there would be more older officers who had been here, there

would be more uniformity in our tactical instruction, more sympathy and appreciation for the efforts of the school.

During my command of the schools I have been under great obligations to the post commander, Colonel Loughborough, 13th Infantry, and his staff. Every request made of them has been cheerfully and promptly granted.

The troops were always furnished whenever and wherever requested.

The apparent interest and willingness to work shown by the troops in the school exercises was all that could be asked.

Respectfully submitted,

J. F. MORRISON,

Major, General Staff,

Assistant Commandant.

THE ARMY SERVICE SCHOOLS
FORT LEAVENWORTH, KANSAS

August 31, 1908.

The Commandant,

The Army Service Schools.

SIR:

I have the honor to submit the following report pertaining to my office and duties as Secretary of The Army Service Schools, Fort Leavenworth, Kansas, for the fiscal year ending June 30, 1908.

I assumed the duties of secretary on August 16, 1907, relieving Captain M. F. Davis, detailed to the General Staff, to date August 15, 1907:

The sum of twelve thousand (\$12,000) dollars was allotted for the support of this institution for fiscal year 1908. Of this amount, nine thousand six hundred and seventy-two dollars (\$9,672.39) and thirty-nine cents was transferred to me by my predecessor. The entire allotment was expended as follows:

DISBURSEMENTS

Pay of enlisted men, extra duty.	\$ 3825.15
Furniture (office and library).	1040.43
Department of Engineering.	562.09
Department of Languages.	363.25
The Library (books and periodicals).	586.90
Stationery.	852.71
Papering, decorating, etc.	1144.12
Bookbindery.	281.17
Printing Office.	507.46
Rental of telephones.	113.45
Expressage, freight charges, telephone charges, etc.	67.85
Department of Military Art.	197.87
The Army Signal School.	220.69
Floor covering (linoleum, treads, rugs, etc.).	2236.86
	<hr/>
	\$12000.00

EMPLOYES

The service of the Secretary's office and its appendages has been as follows:

- 4 Civilian clerks
- 1 Civilian messenger
- 1 Sergeant of Engineers, in charge of instruments
- 2 Sergeants of Engineers, draughtsmen
- 2 Master Signal Electricians, draughtsmen
- 2 Sergeants of Engineers, bookbinders
- 4 Sergeants of Engineers, printers
- 8 Privates, printers
- 2 Sergeants, clerks
- 5 Privates: janitors

LIBRARY

During current fiscal year 154 volumes have been added to the library by purchase, 1,064 volumes by presentation and 273 volumes of public documents.

Respectfully submitted,

E. E. BOOTH,
Captain, 7th Cavalry,
Secretary and Disbursing Officer.

THE ARMY SERVICE SCHOOLS
FORT LEAVENWORTH, KANSAS

August 31, 1908.

To the Secretary,

The Army Service Schools.

SIR:

I have the honor to respectfully submit the following report regarding the operation of the library of The Army Service Schools and the Army Staff College for the year ended June 30, 1908:

The work of remodeling the Signal School laboratory which had necessitated the removal of the library to temporary quarters was completed the latter part of August, 1907, and the library was returned to its old quarters early in September.

In the meantime the new steel book-stacks had been purchased and set up, so that the books were transferred to them upon returning to the library rooms. These stacks are of the latest pattern of those manufactured by the Art Metal Construction Company and have given complete satisfaction. They consist of ten eighteen-foot double stacks, two twenty-one-foot wall stacks and two fifteen-foot wall stacks. These particular lengths and styles of stacks were selected in order that they would fit in the stack room of the new library building as planned. The ten eighteen-foot and the two twenty-one-foot stacks are of suitable strength to permit of three more tiers of stacks being put above them as planned for the new library and thus provide for future expansion. The eighteen-foot and twenty-one-foot stacks were set up in the old library room and the 15-foot stacks in the adjoining room, formerly a section room, there not being sufficient space for them in the main library room.

This adjoining room and the one across the hall—formerly Section Rooms “C” and “D”—having been assigned for library purposes, the former was made an officers’ study and the latter a map room.

These additional rooms, although too small for the purpose for which used, have afforded relief from the overcrowded condition of the library to a great extent, but still more space is needed, especially for the officers’ study.

At certain seasons of the year this room is used night and day by the Staff Class and it is impossible to accommodate all the members thereof with their numerous reference books and maps at the two comparatively small tables in this room.

As the book stacks will not hold all the books on hand, the surplus—principally government publications—are shelved in the map room, some of the old wooden stacks being used for that purpose. There are, however, still several boxes of pamphlets, etc., for which there is no room on the shelves.

The maps in this room are filed in the old racks that have been used here for many years and which are not suitable for the purpose in that the maps have to be rolled and as filed are not readily accessible. New map cases should be provided for the purpose of filing them flat, so that they can be properly indexed and be quickly found when needed.

All this leads up to the crying need of a new library building, not only to provide the much needed room but, as stated in my last annual report, to get this valuable adjunct to the schools into a fire-proof building at the earliest possible moment.

The work of carding the books has been continued by the only available assistant for this particular duty, Sergeant Harry Bell, Corps Engineers, and has been exceedingly well done. He has been greatly hampered in carrying on this important service in that

the other two assistants—one succeeding the other—were new to library work and in addition were not sober, reliable men and much of his time was taken up in doing the work usually performed by the second assistant. In addition to this, much of his time has been employed in making translations and in other lines, all of great importance to the schools. It is to be regretted that there is apparently no way of paying Sergeant Bell a greater salary, as the one now received by him is far from being commensurate with the services rendered.

List of Accessions for the Year Ending June 30, 1908

Public Documents and School Publications.....	136
Translations from Mil. Information Div.....	137
By Purchase.....	154
By Donation.....	1064
Total.....	<u>1491</u>

List of Donors

Volumes

Beach, Major L. H., U. S. Army.....	3
Boughton, Major D. H., U. S. Army.....	1
Coudert, F. R.....	1
Craig, Captain C. M., U. S. Army.....	10
Crafton, Rev., C. C.....	1
Cummins, Lieutenant J. M., U. S. Army.....	3
Fuller, Lieutenant-Colonel E. B., U. S. Army.....	3
Hall, Major-General C. B., U. S. Army.....	5
Kansas State Historical Society.....	2
King, Mrs. W. B. }	
McGregor, Mrs. Robert }	891
Rhodes, Captain C. D., U. S. Army.....	2
Saltzman, Major C. McK., U. S. Army.....	23
Sayre, Captain F., U. S. Army.....	6
Shaler, General Charles, U. S. Army.....	12
Shindler, Henry.....	27
Spaulding, Captain O. L., jr., U. S. Army.....	6
United States Cavalry Journal.....	8
Wilson, General J. H., U. S. Army.....	59
Woodruff, Captain J. A., U. S. Army.....	1
Total.....	<u>1064</u>

Very respectfully,

EZRA B. FULLER,

Lieutenant-Colonel, U. S. Army, retired,

Librarian,

ARMY SCHOOL OF THE LINE
DEPARTMENT OF MILITARY ART

Fort Leavenworth, Kansas,

August 31, 1908.

The Secretary,

The Army Service Schools.

SIR:

I have the honor to submit the following report of the work of this department for the year ending August 31, 1908:

I was detailed as senior instructor of the department August 15, 1907, and held the position during the year.

The work as a whole was very satisfactory, and for this result I am indebted to the efficient and hard work of all the instructors of the department which was more than seconded by the class.

The members of the class were earnest and zealous, and their work was of a high order.

The absence of friction and the hearty cooperation of both class and instructors to make the most of the course was very gratifying.

Of the 430 half days of the school year 170 were allotted to this department, and used as follows:

Troops in Campaign. . .	24	}	19 Conference and discussions. 4 Practical Problems. 1 Examination (Hygiene).
Tactics-Part I (Minor Tactics)	22	}	10 Conferences. 5 Map Problems. 7 Terrain Exercises.
Hippology	1	}	1 Examination. 12 Lectures.*
Weapons and Munitions of War.	16	}	13 Conferences. 2 Demonstrations. 1 Examination. 1 Lecture.

*Conferences usually from 9 to 10:30, and lectures from 11 to 12. Lectures not counted as half days.

Tactics-Part II	5	{	5 Map Problems.
			4 Lectures.
Tactics-Part III	3	}	25 Conferences.
			13 Map Problems
Tactics-Part IV	20	{	7 Map Problems:
			12 Terrain Exercises.
			1 Discussion.
Nap Maneuvers	15		
Maneuvers with Troops	10		
Military History..	19	{	16 Conferences.
			3 Examinations.
			34 Lectures.

Under the heading, Troops in Campaign, was grouped the instruction in Organization, Field Orders, Marches, Camps, Supply and Military Hygiene. Except in Hygiene the only examination was the solving of practical problems.

For convenience of keeping the records the course in Tactics was divided into parts. Part I or Minor Tactics dealt with forces of a single arm from a patrol to a battalion, squadron or battery. It included patrolling, advance guard, rear guard, outposts, convoys, infantry combat, cavalry combat, and the battery in action. In Part II the problems dealt with commands of two arms but not exceeding a total of one regiment. In Part III, Letters on Applied Tactics by Griepenkerl were studied and discussed and original problems then given the class to solve. The forces used were generally the mixed brigade. Part IV was a general review of the course in Tactics. Especially was this intended in the terrain exercises.

The course in Map Maneuvers (war game) was much extended this year. In addition to the fifteen scheduled, during the maneuvers with troops as only a part of the class could be used at a time with the troops, the others assembled for map maneuvers. The course was very satisfactory and successful.

My experience has convinced me that the War Game properly conducted is one of the best methods

of teaching or acquiring a practical knowledge of tactics.

Captain Sayre, 8th Cavalry, instructor in this department, has done a valuable work for our army in developing this game. He has worked hard and with great ability on it; he has profited by the experience of other armies, and from his own as an instructor here. The result is a system embodying the best of all adapted to our service. The system is simple, easily learned, is not tedious or slow, and the outfit is very cheap.

I believe the course as arranged for next year will be an improvement on this. It is proposed to have the war game exercises begin early in the course and after the map problems and terrain exercises of each part follow with the war games of the same class. The directing will be done by the Staff Class.

This work excited the keenest interest in the class and they expressed the opinion freely that it was very valuable to them.

In the maneuvers with troops the force on each side was one battalion of infantry and one troop of cavalry. Each member of the class in turn commanded the whole force, the cavalry, and the leading company of infantry. The work was excellent and the value of this class of work undoubted. It is to be regretted that more time and troops are not available for this class of work at the school.

The course in hippology was the same as the year before, and consisted of twelve lectures and quizzes and an examination. This course will be slightly changed next year, as explained below.

The course in Military History, Geography and Strategy consisted of thirty-four lectures, sixteen conferences and discussions and three examinations. These were all conducted by Captain M. F. Steele, 6th Cavalry, and covered all our own wars and recent

foreign wars. These lectures on our own wars are now being published and will be a valuable addition to our military literature.

For the next year some changes in the course will be made.

By the action of the Academic Board, approved by the War Department, the number of half days allotted to this department has been increased to 208 half days, and for the next year will be used as follows:

Troops in Campaign.	19	{	12 Conferences and discussions.
			5 Practical Problems.
			1 Terrain Exercise.
			14 Lectures.
Tactics-Part I	24	{	10 Conferences and discussions.
			7 Map Problems.
			7 Terrain Exercises.
Hippology.	3	{	3 Demonstrations.
			6 Lectures.
Weapons and Munitions of War	20	{	18 Conferences.
			1 Demonstration.
			1 Examination.
			2 Lectures.
Tactics-Part II	7	{	2 Conferences.
			5 Problems.
			4 Lectures.
Tactics-Part III.	34	{	24 Conferences.
			10 Map Problems,
Tactics Part IV	10	{	10 Map Problems
Tactics Part V.	25	{	5 Conferences
			10 Map Problems
			10 Terrain Exercises
Preparation of Problems	6	{	3 Conferences
			3 Problems
			1 Lecture
Conduct of War.	11	{	10 Conferences
			1 Examination
Military History, Geog- raphy and Strategy. . .	19	{	16 Conferences
			3 Examination
			34 Lectures
Map Maneuvers	18		
Maneuvers with Troops	12		

The changes to be made and reasons therefor are briefly as follows:

TROOPS IN CAMPAIGN

The scheme is to work in the subject matter bearing on any one subject in one place in the course, make it thoroly practical and do away with a written examination in Hygiene, submitting problems that require practical application of the knowledge. For example, under marches the medical officers will first give a lecture on the subject of marching troops, then the class studies the texts, the instructor supplementing the text with illustrations and examples taken from various authorities. The medical officer will then conduct a conference on "March Sanitation", then to follow a problem in which a force is to be marched from one point to another, a distance of several days' march, of which a road map is furnished.

In marking the problem both the sanitary and tactical features are considered, and will constitute the examination in both.

The same course is to be followed in all the subjects included under the head "Troops in Campaign".

Woodhull's Hygiene is studied in the Garrison School and should not be a text book here, but merely a book of reference; we want something more, something practical, application not theory alone, and above all we want to coördinate our work.

The above, of course, applies only to the course in Military Art in this school; in the Army Staff College there is, very properly, a separate and distinct course in Military Hygiene or Care of Troops with which this department has no connection.

It was desired to adopt the above scheme for the past year but it was impracticable as we could not have the services of a medical officer at the proper time and his part of the course had to be a thing apart. It has now been so arranged that this will not be likely to occur again.

In the study of Organization an addition of 6 lectures will be made to the course. One lecture on the general subject to precede the study of our own organization and later 5 lectures on the organization of foreign armies. These lectures were given during the past year to the Army Staff class but it is now proposed to transfer them to the Army School of the Line. It is believed that the change brings them where they properly belong. During the entire course references are made to foreign armies and some knowledge of their organization is necessary if the matter is to be clearly understood. Giving these lectures near the close of the Staff Class year brings it too late to be of help in the course itself. Besides it is thought a better understanding of army organization will be had by the class if at the time they are studying our own they also see how some of the other armies have worked out the problem.

The course in Tactics will be extended by the addition of the study of a series of divisional strategical and tactical problems and their solutions, after which the class will be required to solve 10 such problems, the U. S. G. S. maps being used. It makes the course much more complete and was necessary to prevent misconceptions that were liable to arise in the minds of the class if their work ended with the mixed brigade.

The officers now coming here are of the rank and age from which most of the divisional staff officers will be taken in case of a large war, the importance therefore of this extension of the course is apparent. It is to be regretted that it cannot be more extended.

The course in Hippology is to be changed by reducing the number of lectures and adding 12 hours of practical instruction. There will be six lectures on the horse, his conformation, care and management, and three half days (4 hours each) devoted to prac-

tical work in examining horses for soundness, age, etc., instruction in stable management and care of horses.

The instruction in training and handling horses is given in time devoted to instruction in riding.

One hour's physical exercise is required five days a week of all student officers, and the greater part of this is taken in riding under direction of an instructor by all the class not already proficient when they report. This latter part of the course is the same as it has been for some years past. Captain Robert D. Walsh, 9th Cavalry, had charge of the instruction for the past year, and the results were very satisfactory.

The course in Weapons and Munitions of War will be changed this year by submitting new pamphlets for those now in use. Captain O. L. Spaulding, jr., 5th Field Artillery, is preparing one on artillery, and Captain H. E. Eames, 10th Infantry, one on the infantry arm for use this coming year.

While taking little more time than the old course it will treat the subject somewhat differently. The endeavor will be to give better preliminary instruction to the study of tactics, give an idea of the use and power of the weapons and what can be accomplished with them.

The conduct of war is transferred to this course this year from the Staff College and takes eleven of the added half days.

The preparation of problems added to the course is believed to be important and valuable. Such a course was tried in the Army Staff College this past year and instructors and class were agreed as to its value. Only a part of this course is added to the **Army School of the Line**—the preparation of tactical problems for maneuvers. This is work very likely to fall to all of the class and the short time devoted to it is believed advisable.

The fundamental idea in this course has been for years to make it practical.

During the past year the value attached to this department in making up the standard was 400, divided as follows: Practical work, 295; theoretical, 105. During the coming year the value will be 500, divided as follows: For practical work, 405; theoretical work, 95. It is not to what one can memorize, but to what he can apply, that most value is given.

The work of this department has been greatly hampered for a lack of a suitable map. The one now in use is too small and very inaccurate. This, however, will be remedied during the year as the special U. S. Geological Survey map of this section will be completed and printed during the year.

Another need of the department is suitable war game maps. I now renew the recommendation made earlier in the year that the War Department furnish suitable maps for this purpose to all army posts. We are at present largely dependent on a German map made for this purpose.

Thru courtesy of the Chief of 2d (Information) Division, General Staff, the school received a map of the Gettysburg battlefield that makes an excellent war game map except that it is too small. The U. S. Geographical Survey has since kindly given us further help by furnishing advance sheets of their survey of country adjacent to Gettysburg, and from this Captain Cole, Senior Instructor, Department of Engineering has been enlarging the former map and has executed a map that as far as completed is superior for the purpose to any foreign map we have. I believe that when this map is completed the War Department should have plates made and the map printed for general distribution.

Captain Cole, Senior Instructor, Department of Engineering, has done a great deal to help the de-

partment in the way of maps, sketches, etc., and has cheerfully helped us all he could. If his department had a larger lithograph press its ability to help would be greatly increased.

The work of this department must be a growth, an evolution. It should increase in scope from year to year for some time to come. The amount of work required of the officers while here cannot be increased, all that is practicable is now obtained.

With the publication of Captain Steele's lectures these will become available to all who may desire to come here. I would recommend that after this book has been issued for one year or more, officers before being detailed to the Army School of the Line be required to pass an examination on the subject and that then these lectures be dropped from the course, and the work extended accordingly. But unless so required they should be retained in the course. They are a necessary foundation to future work especially in the Army Staff College. After this has been accomplished by degrees other requirements, to a limited extent, can be made for entrance. There are a few things in the course that one can learn as well at his station as here and this should be required.

In the same way, before being detailed to the School of the Line, an officer should pass a rigid physical examination and have his ability to take the course determined. This year two officers had to be relieved for physical disability, one before work had really begun. This subjects the government to unnecessary expense and deprives some one else of the opportunity to take the course.

The detailing members of the Army Staff College, on graduation, as instructors in this department has given us excellent men, but it has a serious drawback in that they can only remain two years.

The instructors can and will do better work after their first year, and bringing instructors here for four years will be an improvement. This may not be wholly practicable just now, but should be one of the objects of the department to be attained as fast as possible.

The support given me by the Chief of Staff and by General Hall, while commandant, left nothing to be desired, and, as already stated, the other instructors in the department were more than satisfactory; I am therefore left but myself to blame for all failures and short comings in the year's work.

Respectfully submitted,

J. F. MORRISON,
Major, General Staff,
Senior Instructor.

THE ARMY SCHOOL OF THE LINE
DEPARTMENT OF ENGINEERING

Fort Leavenworth, Kansas,

August 31, 1908.

The Secretary,

The Army Service Schools.

SIR:

I have the honor to submit the following report of the work of this department for the year ending August 31, 1908:

The following table exhibits the division of the allotted time to subjects with the weights assigned to each subject:

	Weight	Half Days																				
Military Topograp'y (Surveying)	<table style="border: none;"> <tr> <td style="border: none;">Theoretical</td> <td style="border: none;">{</td> <td style="border: none;">21 Conferences..... 00</td> <td style="border: none;">}</td> <td style="border: none;">23</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;">6 Partial examinations.. 30</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;">1 Final examination... 20</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Practical. . .</td> <td style="border: none;">{</td> <td style="border: none;">Makingsurveys and plotting notes of same so as to construct by exact methods a contoured map of an assigned area.</td> <td style="border: none;">}</td> <td style="border: none;">75 32</td> </tr> </table>	Theoretical	{	21 Conferences..... 00	}	23			6 Partial examinations.. 30					1 Final examination... 20			Practical. . .	{	Makingsurveys and plotting notes of same so as to construct by exact methods a contoured map of an assigned area.	}	75 32	
Theoretical	{	21 Conferences..... 00	}	23																		
		6 Partial examinations.. 30																				
		1 Final examination... 20																				
Practical. . .	{	Makingsurveys and plotting notes of same so as to construct by exact methods a contoured map of an assigned area.	}	75 32																		
Military Topograp'y (Sketching)	<table style="border: none;"> <tr> <td style="border: none;">Theoretical conferences</td> <td style="border: none;">00</td> </tr> <tr> <td style="border: none;">Practical military sketches.....</td> <td style="border: none;">100</td> </tr> </table>	Theoretical conferences	00	Practical military sketches.....	100	36																
Theoretical conferences	00																					
Practical military sketches.....	100																					
Field Forti- cation and Field En- gineering	<table style="border: none;"> <tr> <td style="border: none;">Theoretical</td> <td style="border: none;">{</td> <td style="border: none;">15 Conferences..... 00</td> <td style="border: none;">}</td> <td style="border: none;">16</td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;">4 Partial examinations.. 20</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"></td> <td style="border: none;">1 Final examination... 15</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Practical. . .</td> <td style="border: none;">{</td> <td style="border: none;">Field problems in Fortifi- cation and Engineering. . .</td> <td style="border: none;">}</td> <td style="border: none;">40 23</td> </tr> </table>	Theoretical	{	15 Conferences..... 00	}	16			4 Partial examinations.. 20					1 Final examination... 15			Practical. . .	{	Field problems in Fortifi- cation and Engineering. . .	}	40 23	
Theoretical	{	15 Conferences..... 00	}	16																		
		4 Partial examinations.. 20																				
		1 Final examination... 15																				
Practical. . .	{	Field problems in Fortifi- cation and Engineering. . .	}	40 23																		
Total for year	<table style="border: none;"> <tr> <td style="border: none;">Theoretical 85</td> <td style="border: none;">}</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">Practical .. 215</td> <td style="border: none;">}</td> <td style="border: none;">300 130</td> </tr> </table>	Theoretical 85	}		Practical .. 215	}	300 130															
Theoretical 85	}																					
Practical .. 215	}	300 130																				

I was detailed as senior instructor of the Department August 15, 1907. As there was no definite adopted schedule, I was left free to assign the work

as I desired, without, of course, overstepping the limits prescribed in the General Order for the government of the schools. This opportunity for rearrangement was fortunate, as the class, being composed entirely of officers above the grade of lieutenant, made some readjustment desirable, although not as much as might at first thought appear to be the case.

The claim was advanced by some that all of the class, being above the grade from which officers would usually be detailed for work such as is taught by the department, should be exempt from that work, especially the theory and practice of exact surveying, it being for them a mere academic exercise and having no proper place in a practical course.

There are several answers to this argument. This one would, I think, be of sufficient importance to justify the retention of the course: In spite of the great advances made in the art of military sketching since this department was established and the considerable number of graduates who are competent sketchers, I have noted that the lieutenants coming for examination for promotion come hungering for information on the subject of sketching. They have lacked proper instruction in the subject in the garrison schools. In order to give this information, it is necessary for the graduates of this school to themselves become proficient in all branches of the work including the theory and practice of instrumental surveying, for without knowing that, to the limited extent to which it is here taught, the acquirement of proficiency in sketching is difficult. The graduates must be proficient sketchers or proficiency in this art which has been increasing year by year will be lost unless a special school for lieutenants be established which would, of course, be absurd to suggest.

But this is far from being the only reason for not abandoning or even seriously abridging the

course. The "Captain" says "It is not part of my duty to survey or sketch, therefore, I waste time. I want particularly, the Military Art course." I think few graduates will deny that the work in this department is the key to the study of Military Art. Nearly all theoretical study of war, even problems involving detachments, must be on contoured maps, while under present conditions all considerable engagements must be directed by the general and his staff on a map showing the ground as it is with all its relief. There is but one way to become a first-class map reader, and that is by first becoming a map maker. This point cannot be here argued but the great facility of the members of the staff class in using maps would seem to be sufficient to prove the truth of the assertion.

I believe it would be very undesirable to cut out any of the surveying or sketching course.

On the subject of the study of any manual of field fortification and field engineering, I am of the opinion that as all captains have passed examinations in this subject they would derive no benefit from further study of such book. There is nothing in such a book requiring explanation and it has no proper place in the course. With proper authority, the study of this subject by book has been dropped and a few subjects under this head will be treated by lecture, notably the examination and determination of the strength of ordinary roadway bridges, with reference to their ability to carry the loads accompanying the column and the different expedients for temporarily or permanently strengthening them. This I consider a subject of far greater importance to the line officer than bridge building altho he will doubtless have to build many simple bridges and the knowledge acquired in the first exercise will be of great value to him in this work.

The manner of conducting the practical part of the work in Field Fortification and Field Engineering was changed. Formerly it had been the practice to have student officers do all this work themselves. I was convinced that this was not giving the best results. In much of the work it was impossible to change details sufficiently often to have each man get a good idea of the whole work. For instance, captains and majors carrying balk were not apt to be interested in the whole construction of a pontoon bridge. I was able to arrange for much of the practical part of the work to be given in the form of demonstrations by companies of the 3d Battalion of Engineers. These demonstrations were carefully worked up and I have never seen the student officers betray the same amount of interest in the work when they were themselves engaged in it. They followed every detail, asking many questions and showing every desire to profit by the demonstrations. Among the demonstrations a particularly valuable one, from both the Engineering and Military Art points of view, was one in demolitions. The idea which seems to be prevalent is that dynamite is a terrible substance and that if it is possible to get a man in such position that he can place a stick or two of it in contact with anything belonging to an enemy, destruction naturally follows.

Captain M. J. McDonough, Corps of Engineers, worked up this demonstration with the special idea of showing how little harm even dynamite can do, unless properly placed. He fortunately procured a supply of most of the commercial forms of steel from an old wrecked bridge. This enabled a fine illustration to be made of the proper placing of the dynamite. In the case of a lattice girder, several heavy charges of dynamite were fired in contact with it but not being properly placed, they did no harm whatever. The demonstration also included the demolition of wooden

pile and truss bridges, trees, the various obstacles and finally the firing of a heavy mine to breach a parapet.

I can not too highly express my obligation to all of the officers of the 3d Battalion of Engineers for their sincere and hearty co-operation in all the work of this department in both classes.

The system of conferences was adopted for all section room work. Partial examinations were given at frequent intervals, the greater part of the total weight of the subject being determined in this way—not leaving the standing on the subject to be determined at long and wearing examinations.

The sketching was better than ever before. It improves year by year by gradual development, much of the success of this course being due to the individual field instruction given by the Staff Class. I look for still further improvement in this line for several years at least.

I have, during the past year, had charge of what might be called the Map Reproduction Department. This has embraced all the photographic work, blue and black printing, copying, enlarging and constructing of maps, and lithographic work for illustrating pamphlets, problems, approved solutions, etc. With the great increase in the use of maps in the Military Art Department, the growth of the mailing list, the demand for war game maps, etc., this work has become very important and it is well that it should be under the direction of one officer, as much more work can be done than when orders go to the working force from many sources. My connection with this work I regard as personal and not a part of the work of the Department of Engineering. In any future disposition of this work it is important that the officer placed in charge of it should know the work, rather than that he should be with any particular department.

The lithographic process was in charge of a detail from the engineer battalion under Lieutenant John A. Holabird, who, starting out without knowledge of the process, has made himself and several of his enlisted assistants experts.

The instructors in the department for the year were:

Captain H. E. Eames, 10th Infantry

Captain C. A. Sherrill, Corps of Engineers

both graduates of the Staff Class, and detailed for duty August 15, 1907. To both of them my thanks are due for hard work and untiring devotion to their work. This work was harder than that of the instructors in any previous year on account of the increased amount of the examination papers to be marked and the fact that all work in the course in sketching was examined and criticized before the next similar problem was given. Besides all of their regular work, they both wrote interesting and valuable pamphlets for the department during the year.

The attitude of the class to the department was admirable in every way. While some few of them in the beginning held the idea mentioned in the first part of this report, it in no way interfered with the earnestness of their work.

In conclusion I wish to call attention to the fact that in the coming year but fifty out of two hundred and seventy-five points are decided by work that might, with any fairness, be called theoretical. Even in this work most of the questions in the examinations by which the mark is determined are practical problems based on the book but which no amount of mere memorizing would enable the student to solve. In the Staff Class all the assigned time, except ten lecture hours, is spent in the field.

Respectfully submitted,

EDWIN T. COLE,

Captain, 6th Infantry,

Senior Instructor.

THE ARMY SCHOOL OF THE LINE
DEPARTMENT OF LAW

*Fort Leavenworth, Kansas,
August 31, 1908.*

*The Secretary,
The Army School of the Line.*

SIR:

I have the honor to submit the following report of the work of this department for the school year ending August 31, 1908:

ALLOTMENT OF TIME

Elementary Law	- -	16	half days
Criminal Law	- - - -	11	" "
Law of Evidence	- -	23	" "
Moot Courts	- - - -	6	" "
Total	- - -	56	" "

A weight of 150 was assigned to this department and distributed as follows:

Elementary Law	- -	35
Criminal Law	- - - -	25
Law of Evidence	- -	65
Moot Courts	- - - -	25
Total	- - -	<u>150</u>

The same time has been assigned to the Department for the ensuing year, but the weight to be given to the course, having been reduced to 125, will be distributed as follows, subject to the approval of the commandant:

Elementary Law	25
Criminal Law	20
Law of Evidence	55
Practical Exercise and moot courts,	...	25
Total	<u>125</u>

The list of lessons for this year in the first three subjects above mentioned was the same as for last year. This list will remain the same for the ensuing

year with the exception of the subject of Criminal Law. Hereafter the text book for this subject will be Hawley & McGregor's Criminal Law. This book has been adopted because it is briefer and more suitable for our work than Clark's, the one used heretofore.

The following is a list of the lessons for the ensuing year:

Course in Elements of Law

(Smith's Elementary Law)

November

- 1 16, (P.M.) To bottom page 25; omit footnote page 19; interpolated sheet on martial law, read only.
- 2 17, (P.M.) To bottom page 55; notes on pages 27, 28, 32, 40, 46 and 53, read only.
- 3 18, (P.M.) To bottom page 81; Chapter V, read only.
- 4 19, (P.M.) To bottom page 109.
- 5 20, (P.M.) To bottom page 141; omit Chapter XII.
- 6 23, (P.M.) To bottom page 169; sections 231, 232, 235, 236, 238 and 239, read only.
- 7 24, (P.M.) To bottom page 192; sections 251 to 258 inclusive read only.
- 8 25, (P.M.) To bottom page 218; omit sections 331, 332 and 333.
- 9 30, (P.M.) To section 407, page 243,

December

- 10 1, (P.M.) To bottom page 268.
- 11 2, (P.M.) To bottom page 301.
- 12 3, (P.M.) To bottom page 329; omit sections 522, 523, 524, 525, 526, 527, 534, 541 and 542; section 539, read only.
- 13 4, (P.M.) Review-Lessons 1 to 4 incl.
- 14 7, (P.M.) Review-Lessons 5 to 8 incl.
- 15 8, (P.M.) Review-Lessons 9 to 12 incl.
- 16 9, (P.M.) Examination.

Course in Criminal Law

(Hawley and McGregor's Criminal Law)

December

- 17 10, (P.M.) To "Criminal Intent", page 25.
- 18 12, (P.M.) To "Bills of Attainder", page 56.
- 19 14, (P.M.) To "Attempts", page 90.
- 20 15, (P.M.) To Chapter IV.
- 21 16, (P.M.) To bottom of page 140, and from "Deadly Weapon", page 143, to Chapter VI.

December-Continued

- 22 17, (P.M.) To "Kidnapping", page 164, and from "Ar-
son", page 174, to Chapter VI.
- 23 18, (P.M.) To "False Pretense", page 212, and from
"Robbery", page 233, to "Receiving Stolen
Goods", page 237.
- 24 19, (A.M.) From "Perjury", page 245, to "Maintenance
and Champerty", page 251; from "Escape",
page 260, to Chapter IX; and from "Nui-
sances", page 291, to bottom of page 294.
- 25 21, (P.M.) Review—Lessons 17 to 20, inclusive.
- 26 22, (P.M.) Review—Lessons 21 to 24, inclusive.
- 27 23, (A.M.) Examination.

Course in Law of Evidence
(McKelvey on Evidence)

January

- 28 5, (A.M.) To bottom page 17.
- 29 7, (A.M.) To bottom page 53.
- 30 12, (A.M.) To bottom page 77.
- 31 14, (A.M.) To bottom page 117; sections 41 to 47, in-
clusive, 50, 51, 52 and 55, black letter text
to be learned, explanatory text read only;
omit sections 58, 61 and 63.
- 32 19, (A.M.) To bottom, page 147; omit pages 121, 122, 123,
and 124 to "Admissibility", and section 68;
sections 71 to 75, inclusive, read only.
- 33 21, (A.M.) To bottom page 164.
- 34 26, (A.M.) To bottom page 192; sections 104 to 113, in-
clusive, black letter text to be learned, ex-
planatory text read only.
- 35 28, (A.M.) To bottom page 215.

February

- 36 2, (P.M.) To bottom page 235.
- 37 4, (P.M.) To bottom page 252.
- 38 9, (P.M.) To section 160, page 281; omit sections 151
and 152.
- 39 11, (P.M.) To section 170, page 299.
- 40 16, (P.M.) To bottom page 323.
- 41 18, (P.M.) To bottom page 349; omit sections 201 to 205,
inclusive.
- 42 23, (P.M.) To section 225, page 371.
- 43 25, (P.M.) To section 244, page 391.

March

- 44 2, (P.M.) To bottom page 414.
- 45 4, (P.M.) To section 277, page 435.
- 46 9, (P.M.) Review--Lessons 28 to 31 incl.

- 47 11, (P.M.) Review-Lessons 32 to 37 incl.
48 16, (P.M.) Review-Lessons 38 to 41 incl.
49 18, (P.M.) Review-Lessons 42 to 45 incl.
50 23, (A.M.) Examination,

The system of instruction remains the same as it has been during the last three years. There is no section room work but the entire class is assembled for lectures. These lectures are explanatory of the lesson assigned for the day, and at the close of the lecture a conference takes place between the instructor and the class, the instructor asking questions upon points in the lesson and giving the members of the class full opportunity to question him as to involved points.

No memorizing of the text is required but the members of the class must have such a thorough knowledge of the subject that they can meet practical problems upon the subjects covered by the lessons. This requires a working knowledge and not a memory knowledge. I am happy to report that in the opinion of the officers who have just finished the course, the department has been able to eliminate the objectionable features of the "speck" system.

To show the character of the examination questions I quote the following as fair samples of this year's examinations:

ELEMENTS OF LAW

Question 3, Partial Examination No. 1:

In California recently several applications for naturalization were received from natives of British India. The question having thus arisen, whether Hindoos could lawfully be naturalized, was referred to Attorney General Bonaparte for decision. Had you been Attorney General what would have been your decision and why?

Question 5, Partial Examination No. 1:

Discuss briefly the meaning of the sentence "Enlistment changes the status of the person enlisting?"

Question 13, Final Examination :

On your moving into quarters in a new post a newspaper is left on your porch every morning by a newsboy. You

read the paper. At the end of the month you are sent a bill for one month's subscription. Must you pay? Give reasons for your answer.

Question 14, Final Examination:

What is the meaning of the word "Limited" when used in the advertisements of the firm Cassell & Co. Limited?

Suppose you are a member of the officers' club at your post. For what debts of the club may you be held responsible?

CRIMINAL LAW

Question 4, Partial Examination No. 1:

A soldier of previous excellent character is tried by general court-martial for assault with intent to kill his company commander. He admits the facts, but proves to the satisfaction of the court that for some time before the occurrence charged, his mind was constantly imbued with the insane delusion that his company commander intended to give him such a poor character on his discharge as would prevent his reenlistment, and that he had tried to kill his company commander in order to prevent such injustice. If you were a member of the court, how would you vote on the general issue, and why?

Question 4, Partial Examination No. 2:

In *People vs. Freel*, the court instructed the jury as follows: "You will observe that the difference between murder and manslaughter is that in manslaughter there is no intention whatever, either to kill or do bodily harm. The killing is the unintentional result of a sudden heat of passion, or of an unlawful act committed without due caution or circumspection." In what respect do these instructions fail to correctly state the law?

Question 12, Final Examination:

A, a military convict working on a military reservation under charge of B, a sentry, attempted to escape and ran off the reservation in the direction of a town, about half a mile distant. B, being unable to prevent A's escape in any other way, called "Halt" two or three times and then fired upon A. B's rifle was loaded with what is known as a "guard cartridge", which has a comparatively short range. The bullet missed the escaping prisoner, but struck and instantly killed a man who was about fifty yards in front of A, though not plainly visible to B at or before the time he fired. As counsel for B at his trial for involuntary manslaughter, what principle of law would you invoke in his defense? Give a brief synopsis of your argument to the court.

LAW OF EVIDENCE

Question 2, Partial Examination No. 4:

In Judge Brumback's court in Kansas City recently, Samuel Krashin, a small boy, was called to the witness stand. C. A. Loomis, an attorney, asked the boy:

"If you do not tell the truth, under oath, what will happen?"

"I would commit a sin?"

"And what would God do to you if you committed such a sin?"

"I don't know?"

Mr. Loomis objected to the boy's testimony on the ground that the boy did not know what God would do to him if he lied.

(a) Should the boy, under the above circumstances, have been permitted to testify?

(b) Give, in your own language, a general rule as to the admissibility of the testimony of children.

Question 3, Partial Examination No. 4:

In a court-martial the accused offers the testimony of a certain John Jones. The judge-advocate objects to the swearing of the said John Jones as a witness on the ground of infamy, produces an authenticated copy of the judgment of a district court of Kansas adjudging Jones guilty of robbery, and proves that this judgment has never been reversed and that no pardon has ever been granted to the said Jones.

(a) Would you, as a member of the court, vote to allow Jones to testify?

(b) Why?

Question 4, Partial Examination No. 4:

Suppose in the above case the judgment had been one of a district court of the United States.

(a) Would you vote to allow Jones to testify?

(b) Why?

Question 6, Final Examination :

A soldier makes a confession to his company commander. The company commander offers no inducements and makes no threats; neither does he warn the soldier that anything he may say will be used against him,

(a) What is your opinion of the admissibility of the confession?

(b) Give the reasons for your opinion.

Question 7, Final Examination :

Set forth a statement of facts showing a dying declaration to be used before a court-martial.

Question 10, Final Examination :

Private William Jones, Troop A, 1st Cavalry, is charged with entering the orderly room of his troop on March 15, 1908, and while there opening a letter addressed to the 1st sergeant of the troop and taking therefrom \$50.00 in cash, the property of said sergeant. It was shown in evidence that Jones spent money lavishly on March 19th and 20th, while on pass.

The judge-advocate, offered the letter as evidence that the money was contained therein, a statement to that effect appearing in the letter.

The accused objected to the introduction of the letter as evidence upon that point.

Frame the objection you would make as counsel for the accused.

A new feature introduced were the partial examinations, so-called. These consisted of five questions upon certain portions of the text, varying from three to six lessons, and were answered on those review days when these portions of the text were covered. Two hours were allotted to the partial examinations. The result of the partial examination is simply to extend the general examination and cover more thoroughly the entire text. While it increases the labor of the instructor almost three fold I consider it the greatest improvement made in the law course during the last four years and on no account should these partial examinations be discontinued.

MOOT COURT EXERCISES

The first moot court exercise consisted of work in preparing the writs that a judge-advocate of a general court-martial may have to prepare.

The second exercise consisted of work in preparing the vouchers that a judge-advocate of a general court may have to prepare.

The third and fourth exercises consisted of practical court-martial work. Three general courts were constituted from the class, and the instructors acted as judge-advocate and counsel for each court. The

following were the situations which developed which the members of the court had to decide:

SITUATION NO. 1

TIME, 15 MINUTES

The court is seated, called to order, and the roll called. The roll call discloses the fact that the following named members are absent:

Captain James Smith
2d Lieutenant D. T. Jones

and the cause of their absence is unknown.

The judge-advocate: "May it please the court, the prosecution is ready to proceed with the trial of Military Convict John Logan, who is now before the court?"

The president: "The court is ready to proceed."

The judge-advocate, addressing the accused, Military Convict John Logan: "Do you desire counsel?"

The accused: "Yes, sir; I want to have Mr. James Grimes, of Chicago, as counsel."

The judge-advocate: "May it please the court, James Grimes, whom the accused desires as counsel, deserted the service of the United States on January 25, 1897, while serving as a sergeant, General Service, on recruiting duty at San Antonio, Texas, and this the prosecution is prepared to prove. For this reason the prosecution objects to his acting as counsel in this case?"

The accused, after a short conference with Mr. Grimes: "Although Mr. Grimes did desert from the Army, as stated by the judge-advocate, he was granted a deserter's release on June 10, 1900, and therefore is now legally competent to act as counsel. His knowledge of military law and procedure would be a great help to me in this trial?"

The judge-advocate: "May it please the court, the prosecution admits that Mr. Grimes has been granted a deserter's release, as stated by the accused, but nevertheless maintains that, because of his desertion, he is not a proper person to act in even a quasi-official capacity before this court."

The accused: "Mr. Grimes has come all the way from Chicago at his own expense to assist me, and I trust that the court will not deprive me of his services."

The judge-advocate: "May it please the court, the prosecution submits the issue without further remark."

Do you vote to sustain the objection of the judge-advocate? Give, briefly, the reasons for your decision.

SITUATION NO. 2

TIME, 10 MINUTES

The judge-advocate, addressing the accused: "Do you desire any other counsel?"

The accused: "I would like to have Captain Richard Roe, 17th Cavalry, as counsel?"

The president: "If there is no objection Captain Roe will act; there appears to be none,"

The judge-advocate, (after reading order convening the court) addressing the accused : “Do you object to trial by any member present named in the order convening the court?”

The counsel : “May it please the court, the accused objects to the court proceeding with the trial until all the members named in the order are present. Two of the officers detailed as members are now absent; no reason or excuse for their absence has been given; and, because the accused is of right entitled to trial by the full court, as constituted by the convening authority, he ought not to be compelled to submit to trial before a court composed of fewer members than the number originally detailed.”

The judge-advocate : “May it please the court, the prosecution submits the issue without remark.”

Do you vote to sustain the objection of the accused? Give, briefly, the reasons for your decision.

SITUATION NO. 3

TIME, 10 MINUTES

The judge-advocate, addressing the accused: “Do you object to any member present?”

The counsel.: “May it please the court, the accused objects to Chaplain Dunn because (1) a chaplain has only assimilated and not real rank and therefore is legally incompetent to sit as a member of a general court-martial; (2) it is contrary to the customs of the service, the unwritten military law, for a chaplain to sit as a member of a general court-martial?”

The judge-advocate : “May it please the court, the prosecution submits the issue without remark.”

Do you vote to sustain the challenge of the accused? Give, briefly, the reasons for your decision.

SITUATION NO. 4

TIME, 10 MINUTES

The judge-advocate, addresssing the accused : “Do you object to any other members present?”

The counsel : “May it please the court, the accused objects to Contract Surgeon Brown on the ground that he is not a commissioned officer and consequently is legally incompetent to sit as a member of this court-martial.”

The judge-advocate : “May it please the court, the prosecution submits the issue without remark. ”

Do you vote to sustain the challenge of the accused? Give, briefly, the reasons for your decision.

SITUATION NO. 5

TIME, 15 MINUTES

The judge-advocate, addressing the accused: “Do you object to any other member present?”

The counsel : “The accused does not object to any other member. ”

The members of the court and the judge-advocate are duly sworn and the charges, alleging escape from confinement, read to the accused.

The judge-advocate, addressing the accused : “How do you plead to the specification?”

The counsel : May it please the court, the accused desires to enter a plea in bar of trial, because he was discharged the service of the United States on March 19, 1906, pursuant to the sentence of a general court-martial, which also sentenced him to six months confinement, and therefore he is now a private citizen, and as such, by virtue of the provisions of Section 2, Article III, of the Federal Constitution, is entitled to a jury trial. And the facts alleged as to his discharge, the accused is prepared to substantiate?

The judge-advocate : "May it please the court, the prosecution admits the discharge of the accused as stated by counsel, but nevertheless maintains that jurisdiction to try military convicts for offenses committed by them during service of sentence is conferred on general courts-martial by Section 5 of the Act of June 18, 1898, which section is printed in full on page 126, Manual for Courts-martial, 1905."

That part of Section 2, Article III, of the Constitution, relied upon by the accused, reads as follows:

" . . . The Trial of all Crimes, except in Oases of Impeachment, shall be by Jury . . . "

Do you vote to sustain the plea of the accused? Give, briefly, the reasons for your decision.

SITUATION NO. 6

TIME, 20 MINUTES

The judge-advocate, addressing the accused: "How do you plead to the specification?"

The counsel : May it please the court, the accused desires to enter a plea in bar of trial on the ground that the offense with which he is charged is by pars. 346 and 348, Manual of Guard Duty, made punishable at the discretion of the commanding officer, in accordance with the punishments therein authorized, and therefore said offence is not legally triable by a general court-martial?

The judge-advocate : "May it please the court, the prosecution submits the issue without remark?"

Paragraphs 346 and 348, Manual of Guard Duty, read as follows :

"346. A prisoner who violates any of these rules, is insolent, insubordinate, disrespectful, impertinent, disorderly, uses indecent or profane language, who escapes or attempts to escape, will be punished at the discretion of the commanding officer, as the gravity of the case may demand, by-

- (a) Being deprived of a meal
- (b) Being locked in his cell when not at work
- (c) Forfeiture of good conduct time previously earned
- (d) Performing extra hard or disagreeable labor
- (e) Performing extra hours' of such labor
- (f) Solitary confinement on bread and water diet

Such solitary confinement on bread and water will not exceed fourteen consecutive days at any one period and will not be repeated until an interval of fourteen days shall have elapsed?

"348. Any prisoner who attempts to escape will be reduced to the third class, and will suffer forfeiture of all good conduct time previously earned. A recaptured prisoner will receive the same punishment. "

Do you vote to sustain the plea of the accused? Give, briefly, the reasons for your decision.

SITUATION NO. 7

TIME, 10 MINUTES

The judge-advocate, addressing the accused: "How do you plead to the specification?"

The counsel: "May it please the court, the accused objects to trial on this charge because it does not appear thereon who preferred it. Unless charges are signed by the officers preferring them, there is nothing to show that the investigation, prescribed in the first sentence of par. 962, Army Regulations, 1904, has been properly made?"

The judge-advocate: "May it please the court, the prosecution submits the issue without remark?"

Do you vote to sustain the objection of the accused? Give, briefly, the reasons for your decision.

SITUATION NO. 8

TIME, 10 MINUTES

The judge-advocate, addressing the accused: "How do you plead to the specification?"

The counsel: "May it please the court, the offense charged is alleged to have been committed more than two years before the arraignment of the accused, to wit, on the 4th of April, 1906, and therefore the accused submits that he ought not now to be called upon to answer for same?"

The judge-advocate: "May it please the court, the prosecution submits the issue without remark?"

Do you vote to sustain the plea of the accused? Give, briefly, the reasons for your decision.

SITUATION NO. 9

TIME, 10 MINUTES

The judge-advocate, addressing the accused: "How do you plead to the specification?"

The counsel: "Not guilty?"

The judge-advocate: "And to the charge?"

The counsel: "Not guilty".

Sergeant William Wilson, Company N, 31st Infantry, a witness for the prosecution, is duly sworn and his direct examination begins.

The judge-advocate, addressing the witness: "Do you know the accused? If so, state who he is."

The witness: "Yes Sir, I know him. He is John Logan, a military convict."

The judge-advocate: "Please state the circumstances of the escape of the accused from the guard house at Fort Leavenworth, on or about April 4th, 1906."

The counsel: "May it please the court, the accused objects to this question * * *"

Frame the objection of the accused in the words he should use in stating it to the court.

SITUATION NO. 10

TIME, 15 MINUTES

The judge-advocate: "May it please the court, the prosecution, because of the sickness of three of its material witnesses, is compelled to ask for a continuance for three days?"

"The counsel: "May it please the court, the accused does not object to such continuance."

The court decides to continue the case of Military Convict John Logan until 10:00 A.M., April 13th, and proceeds to the trial of Corporal Harry West, 170th Company, Coast Artillery. Corporal West is brought before the court, selects counsel, and the court, by sustained challenges, is reduced to four members.

The judge-advocate, addressing the accused: "Do you object to any other member present?"

The counsel: "The accused does not object to any other member."

The court directs the judge-advocate to report at once to the convening authority that it is reduced below the legal minimum, and proceeds to other business. Two hours later the court again meets for the trial of Corporal West and an order from the convening authority, detailing two extra members for the trial of this case, is read by the judge-advocate in the presence of the accused and his counsel. The newly detailed members take their seats.

The judge-advocate, addressing the accused: "Do you object to being tried by either of the two officers named in the order I have just read?"

The counsel: "The accused does not object to either of them."

Write out any statement or objection which you, as a member of the court, would make at this stage of the proceedings.

SITUATION NO. 11

TIME, 20 MINUTES

The court and judge-advocate are duly sworn and the accused arraigned on charges laid under the 47th Article of War, to which he pleads "not guilty?"

The judge-advocate offers in evidence the deposition of one Abrath Barth, of Des Moines, Iowa.

The counsel examines the deposition and objects thereto as follows: "May it please the court, the accused objects to the introduction of this deposition in evidence, because it does not appear on its face that the oath was administered to the witness by any one legally authorized to administer oaths. While the order on the second page thereof designates Captain Claude Jones, Signal Corps, the summary court at Fort Des Moines, as the person to take the deposition or cause it to be taken, it does not follow that Captain Jones was a trial officer, summary court, at the time he administered the oath to Mr. Barth. Captain Jones does not sign the jurat as a trial officer, summary court, but only as Captain, Signal Corps?"

The judge-advocate: "May it please the court, the prosecution submits the issue without remark,"

Do you vote to sustain the objection of the accused? Give, briefly, the reasons for your decision.

SITUATION NO. 12

TIME, 15 MINUTES

The prosecution has rested, and the examination by the court of the first witness for the defense is in progress, his direct and cross --examination having been concluded.

The counsel : "May it please the court, the accused objects to Lieutenant Black on the ground that the tenor of his questions, his manner and general demeanor indicate very clearly that he is greatly prejudiced against the accused and has already formed a fixed opinion as to his guilt."

Lieutenant Black : "May it please the court, I had absolutely no bias for or against the accused at the time of his arraignment, but I must confess that the evidence introduced by the prosecution has practically convinced me of his guilt."

The judge-advocate : "May it please the court, the record shows that the accused failed to challenge Lieutenant Black when the opportunity therefor was afforded him before the court was sworn, and the prosecution submits that his failure to challenge at the proper time now estops him from entering any objection to a duly sworn member of the court."

Do you vote to sustain the challenge of the accused? Give, briefly, the reasons for your decision.

SITUATION NO. 13

TIME, 15 MINUTES

The judge-advocate : "May it please the court, I regret to announce that while the court was considering the challenge to Lieutenant Black the accused managed to elude his sentry and has effected his escape."

State briefly what, under these circumstances, should be the procedure of the court.

The fifth exercise consisted in practice in preparing reports upon an assumed state of facts in the Philippines charging certain soldiers with intimidation and robbery. The object of this exercise was to determine the ability of the officers along the line of investigating complaints and reporting thereon. The instruction in this subject was given by pointing out what were considered errors in the reports submitted.

During all these exercises officers were allowed to consult such books or papers as they desired, no effort of memory being required. The officer was simply expected to find the law or regulation on the subject, in his reference books and apply it. It is to

LIBRARY
THE GENERAL SERVICE SCHOOLS
FORT LEAVENWORTH, KANSAS

be regretted that more time cannot be devoted to these exercises. But such can hardly be done until more time is allotted the department. The theoretical course for the Line class is now curtailed and crowded into such a short period that any further cutting of the course or shortening of the time of instruction would destroy the continuity off the whole and make the instruction very superficial. By actually sitting on these courts and having questions that are continually arising on courts-martial brought to their attention and actually doing the work the students from this school will acquire a method of meeting questions that will render the thoroughness and excellence of instruction manifest to every one. The development of the law course at this institution lies along the practical exercises, combined with the partial examinations. An effort will be made the ensuing year to incorporate practical exercises into the partial examinations.

The department was fortunate in securing the the services as instructor of Captain Tenney Ross, 7th Infantry, a lawyer of experience, who handled the criminal law course and most of the moot court work. His duties will be more extended the ensuing year by taking nearly the entire course in Elements of Law.

Very respectfully,

HERBERT A. WHITE,

Captain, 11th Cavalry,

Senior Instructor.

THE ARMY SCHOOL OF THE LINE

DEPARTMENT OF LANGUAGES

Fort Leavenworth, Kansas,

June 30, 1908.

The Secretary,

Army School of the Line.

SIR:

I have the honor to submit the following report of the work of this department in Spanish during the the present school year of 1907-8:

ALLOTMENT OF TIME

Out of a total of 430 half days, there was allotted to Spanish seventy-four half days, beginning January 6th and ending April 3d.

TEXT-BOOKS

Traub's "Pronunciation and Verb"

Marion and Des Garennes' "Introducción á la Lengua Castellana"

Altamira's "Eco de Madrid? (Used for sight reading and conversation.)

I.C.S. "Spanish Conversational Lessons", Parts I-VII.

Interpolated sheets prepared in the department.

ALLOTMENT OF ASSIGNED WEIGHTS

To Spanish was assigned a weight of 150, distributed as follows:

Nine oral tests	70
Written examination	40
Oral examination	40
	<hr/>
Total ..	150

The nine oral tests were distributed through the course at approximately regular intervals; they varied in value from 2 for the first test to 10 for each of the later tests. The seven phonographic records

were for instruction purposes only and no values were assigned them.

The list of lessons herewith shows the amount of work required of the class:

DEPARTMENT OF LANGUAGES
ARMY SCHOOL OF THE LINE
1907-8

List of Lessons and Exercises (in Spanish)

Text A is "Traub's Pronunciation and Verb?"

Text B is "Introducción á la Lengua Castellana".

Interpolated sheets marked (*) are for reference only.

NOTE 1.—"General Review" and "Oral Test" always apply to lessons from preceding oral test only.

NOTE 2.—Oral Tests 1, 2, 3, 4, 5, conducted personally by Head of Department.

Oral Tests 6, 7, 8, 9, conducted by Instructor and Assistant Instructors in two rooms.

NOTE 3.—Recitations are two hours long. The hour after recitation, to include Lesson 36, devoted to instruction of assembled class on next recitation work. From Lessons 40 to 69, this hour devoted to lectures on the Spanish Language, Customs, etc.

December

P.M.

- 1 (13) Text A to bot. p. 5. Examples for pronunciation only.
- 2 (16) Text A to par. 44, p. 7. Examples for pronunciation only.
- 3 (17) Text A to par. 58, p. 9. Examples for pronunciation only.
- 4 (18) Text A to bot. p. II. Examples for pronunciation only. Spanish Conversational Lessons, (*I.C.S.*), Part I, Lesson I.
- 5 (19) General Review of pronunciation, Text A and Part I, Lesson I, Spanish Conversational Lessons (*I.C.S.*), Text B—Repaso de Sonidos, p. 5; Ejercicio de Pronunciación pp. 7, 12, 18, 24, 30, 38, 45, 52, 60, 67, 75, 84, 91 *, * 100. (*Nombres Geográficos.)
- 6 (20) Oral Test I.
- 7 (21) Text A — pars. 63-66 incl., and *interp. sheets, "Simple Tenses? Text B—Lección Primera.—From beginning to ejercicio de verbos.

December-Continued

P.M.

- 8 (23) Text A-par. 82, (1st conj. only) thro. indic. mood; par. 84 to subj. mood. Text B—Lección Primera.—To end. *Interp. sheet “Pron. Subj.” to bot. p. 8.

January

P.M.

- 9 (6) Text A-Subj. and Imp. moods of par. 82 (1st conj.) and of par. 84. Text B—Lección Segunda.—To ejercicio de verbos. *Interp. sheet “Dem. Adj. and Pro.”
- 10 (7) Text A-pars. 87-88; omit compound tenses. Text B—Lección Segunda.—To end. Interp. sheet, “Demons. Adj. and Pro.”
- 11 (8) Text A-pars. 89-90; omit compound tenses. Text B—Lección Tercera.—To ejercicio de verbos. *Interp. sheet, “Poss. Adj.”
- 12 (9) Text A-pars. 91-92; omit compound tenses. Text B—Lección Tercera.—To end. *Interp. sheet, “Poss. Pro?”
- 13 (10) Text A-General Review.—Text B-Lecciones Primera, Segunda, Tercera.
- 14 (11, A.M.) Oral Test 2.
- 15 (13) Text A-par. 82 (2d conj.); par. 93 omitting compound tenses. Text B—Lección Cuarta.—To ejercicio de verbos. *Interp. sheet, “Comparatives” to bot. p. 7.
- 16 (14) Text A-par. 82 (3d conj.); par. 94, omitting compound tenses. Text B — Lección Cuarta.—To end. *Interp. sheet “Personal Accusative?”
- 17 (15) Text A-Rev. of Hablar ; also pars. 72-80 incl. and par. 83. Text B—Lección Quinta.—To “ejercicio de verbos. *Interp. sheet, “comp. and superl.” bot. p. 7 to end.
- 18 (16) Text A- Rev. of Comer; also pars. 72-80 incl. and par. 83. Text B—Lección Quinta.—to end. *Interp. sheet, “Obj. Pers. Pro? to par. 23, p. 8.
- 19 (17) Text A-Rev. of Vivir; also pars. 72-80 and 83. Text B—Lección Sexta, to ejercicio de verbos. *Interp. sheet, “Obj. Pers. Pro.” to par. 29, p. 14.
- 20 (20) Text A-par. 81. Text B—Lección Sexta.—To end. *Interp. sheet, “Article”.
- 21 (21) Text A-General Review.—Text B-Lecciones Cuarta, Quinta, Sexta.
- 22 (22) Oral Test 3.
- 23 (23) Text A-Pars.85, 86, and *interp. sheet. “Compound Tenses? Text B—Lección Séptima.—To ejercicio de verbos. *Interp. sheet, “Obj. Pers. Pro? to end.

January-Continued

P.M.

- 24 (24) Text A-Par. 87-94 incl., compound tenses only.
Text B—Lección Séptima.—To end. *Interp.
sheet, "Noun"
- 25 (25, A.M.) **Lecture** on *orthographic changes. pp. 40-71
incl. Text B—Lección Octava.—To ejercicio de
verbos. *Interp. sheet, "Relative Pro."
- 26 (27) Text A-Par. 114. *Interp. sheet, "Ser and Estar".
Text B—Lección Octava.—To end.
- 27 (28) Text A-Par. 115. Text B—Lección Novena. —To
ejercicio de verbos. *Interp. sheet, "Agree-
ment Subj. with Verb".
- 28 (29) Text A-Par. 116-123. Text B Lección Novena.—
To end.
- 29 (30) Text A-General Review, omitting orthographic
changes. Text B-General Review-Lecciones
Séptima, Octava, Novena.
- 30 (31) Oral Test 4.

February

P.M.

- 31 (3) Text A-Par 128. Text B—Lección Décima.—To
bot. p. 71; omit from 1. 6, p. 70, to end "Lec-
tura," and from "Cuántas horas" p. 71 to bot. p.
71.
- 32 (4) Text A-Par. 129-132 incl. Text B—Lección Déc-
ima.—To e n d . *Interp. sheet, "Adjective".
- 33 (5) Text A-Par. 133. Text B—Lección Undecima-
To ejercicio de verbos; omit from mid. p. 78 to
end "Lectura," and from mid. p. '80 to end
"Conversación."
- 34 (6) Text A-Par. 138. Text B—Lección Undecima. —
To end. *Interp. sheet, "Cardinal and Ordinal
Numbers. "
- 35 (7) Text A-Par. 139. *Interp. sheet "Ser and Estar".
Text B—Lección Duodécima.—To ejercicio de
verbos. Omit from top p. 87, to end "Lectura,"
and last eight lines "Conversación".
- 36 (10) Text A—*Interp. sheet "Reflex. Subs. for Passive.
Text B—Lección Duodécima.—To end.
- 37 (11) Text A-General Review.—Text B-General Re-
view-Lecciones Décima, Undecima, Duodécima.
- 38 (12) Oral Test 5.
- 39 (13) *Written Examination.*

NOTE—Text B, beginning with Lesson 40, is Spanish Con-
versational Lessons (I. C. S.)

February

P.M.

- 40 (14) Text A-Pars. 142, 143, 144. Text B—Part 1. Lesson II, to bot. p. 20. From this lesson to end of course, Reading at Sight and Conversation in Eco de Madrid and other books.
- 41 (17) Text A-Pars. 146, 147. Text B—to mid. p. 27. Record II.
- 42 (18) Text A-Pars. 150-155, incl. Text B-Part 2. Lesson III, to bot. p. 10.
- 43 (19) Text A-Pars. 156, 163, 165. Text B-To end p. 17.
- 44 (20) Text A—Pars. 167, 168. Text B-Lesson IV, to bot. p. 28. Record III.
- 45 (21) Text A-Pars. 157, 172, 175. Text B—to top p. 35.
- 46 (24) Text A-General Review. Text B-General Review.—Lessons II, III, IV.
- 47 (25) Oral Test 6.
- 48 (26) Text A-Pars. 158, 176, 177. Text B—PART 3. Lesson V, to bot. p. 13. Record IV.
- 49 (27) Text A-Pars. 159, 178, 179. Text B—to bot. p. 23.
- 50 (28) Text A-Pars. 160, 180, 181. Text B-Lesson VI, to bot. p. 35. Record V.

March

P.M.

- 51 (2) Text A-Pars. 161, 182, 184. Text B—to bot. p. 45.
- 52 (3) Text A-Pars. 185, 186. Text B-Part 4. Lesson VII, to drill p. 12.
- 53 (4) Text A-Pars. 187, 188. Text B—to rev. and convers. p. 27.
- 54 (5) Text A-Pars. 189, 190. Text B—to end p. 29. Record VII.
- 55 (6) Text A-General Review. Text B-General Review.—Lessons V, VI, VII.
- 56 (g) Oral Test 7.
- 57 (IO) Text A-Pars. 191, 192. Text B-Part 4. Lesson VIII, to drill p. 38.
- 58 (11) Text A-Pars. 193, 195. Text B—to rev. and convers. p. 48.
- 59 (12) Text A-Pars. 196, 197. Text B-Part 6. Lesson IX, to bot. p. 9.
- 60 (13) Text A-Pars. 199, 200. Text B—to rev. and convers., p. 18.
- 61 (16) Text A-Pars. 201, 202. Text B-Lesson X, to bot. p. 33. Record IX.
- 62 (17) Text A-Pars. 205, 206, 207 (to be read only). Text B-To rev, and convers., p. 43.
- 63 (18) Text A-General Review. Text B-General Review. Lessons VIII, IX, X.

March-Continued

	P.M.			
64	(19)	Oral Test 8.		
65	(20)	Text A-General Review.	1	Text B-Part 6, Lesson XT, to par. 10, p. 7.
66	(23)	“ “ “	“	Text B-To rev. and comers., p. 15.
67	(24)	“ “ “	“	Text B-Lesson XII, to drill, p. 31. Record XI.
68	(25)	“ “ “	“	Text B-To rev. and comers., p. 42.
69	(26)	“ “ “	“	Text B-Part 7. Lesson XIII, to drill, p. 14.
70	(27)	“ “ “	“	Text B-To rev. and convers., p. 26.
71	(30)	Text A-General Review.		Text R---General Review.-Lessons XI, XII, XIII.
72	(31)	Oral Test 9.		

April

	P.M.	
73	(1)	Oral Examination.
74	(2)	Oral Examination.

ARRANGEMENT OF CLASS FOR INSTRUCTION

The class was divided into five sections; in the beginning the arrangement was in alphabetical order and the sections were equal in size; after the second oral test (fourteenth lesson) the class was rearranged into sections according to relative proficiency, as nearly as that could be determined, the sections numbering 10, 9, 8, 6 and 6, respectively. The instructors changed sections from week to week. It was thought that by having each section composed of members of about the same state of advancement, better instruction could be given than by having students of all stages of advancement combined in the same section; also that the more advanced sections could, within limits and without loss to the students composing them, be made larger than those of a lower grade of proficiency, thus permitting the instructors of the latter to devote more time to each individual, and imparting the greatest amount of instruction to those who most needed it.

¹Verbs, between pars. 142-207, to be selected by instructora.

The results obtained under the new arrangement proved the wisdom of its adoption.

The periods of class-room work were of two hours each, with an intermission of ten minutes between the hours. The special effort in the class-room was toward practice in conversation; ten minutes of each class-room period during the middle and latter part of the course was given up to dictation.

The oral tests were conducted in about the same manner as they were last year; for the first three tests, the limit of time was five minutes; for the fourth and fifth, ten minutes divided into parts of five minutes each; for the last four and for the two oral examinations, fifteen minutes divided into three parts of five minutes each. Two instructors heard and marked each part of the test.

The oral test is a very trying ordeal; it would be entirely satisfactory, were it not for the absurd and yet utterly uncontrollable stage fright that takes possession of nearly all the student officers, especially in the earlier tests.

The work of this class in this department has been very satisfactory. Many of the student officers had had some Spanish, either as students or in a practical way, and some were well advanced; the necessity of having all pursue exactly the same course, prevented the students most advanced in Spanish from getting as much out of the time devoted to that language as they could have gotten, had they been permitted or required to pursue a more advanced course. At least half of this class could, with profit to themselves and to the government, have pursued a more advanced course.

The highest percentage obtained during the course was 99.67, and the lowest 84.26.

Up to the fortieth lesson of the course, the class was assembled in the lecture room after the daily

class-room work, and the lesson for the following day gone over.

The phonograph was used in connection with the I. C. S. Conversational Lessons.

Although attendance at class-room work was open to officers of the post, not a single post officer availed himself of the opportunity to brush up his Spanish. Several officers signified an intention of attending the recitations, but it appears that they could not get away from their post duties with sufficient regularity to warrant their pursuing the course.

The course of class-room work was supplemented by lectures given by Captain J. A. Moss and Captain D. E. Aultman, instructors in the department. Captain Moss delivered a series of five lectures, illustrated by stereopticon views, covering descriptions of Madrid, Spanish Bull Fights, San Sebastian, the Escorial and Toledo. The lantern slides were prepared by the Second Division of the General Staff from views and pictures obtained by Captain Moss last summer while on a visit to Spain. Toward the end of the course, Captain Aultman delivered two lectures in Spanish on the history of Spain. All the lectures were very interesting; Captain Aultman's two Spanish lectures were particularly applicable to the closing of the course, as by them the student officers were enabled to determine how much the course had advanced them in their ability to understand continuous discourse in the Spanish language.

The department is very much indebted to Lieutenants Jorge Landa and Luis Monter of the Mexican Army, students of the Staff Class, for voluntarily joining the department as instructors in Spanish. Their addition to the corps of instructors enabled the class in Spanish to be divided in five sections instead of three. These officers displayed keen interest, great patience and intelligence in the class-room and

their conscientious work was productive of excellent results.

The work of the three regular instructors, Captains James A. Moss, 24th Infantry, D. E. Aultman, 5th Field Artillery, and C. L. Spaulding, jr., 5th Field Artillery, has been of the same high order as has heretofore characterized the work of the instructors of this department.

As the presence of Lieutenants Landa and Monter among the corps of instructors has shown the very great advantage of having native instructors associated with the regularly detailed army instructors in the teaching of languages, it is earnestly recommended that steps be taken to provide this department with one native instructor in Spanish.

There can no doubt that the department would be greatly benefitted by having a native Spaniard among its corps of instructors. A recommendation to this effect is embodied in the department's report of the Staff Class work.

A very much needed change that would work for the betterment of instruction in Spanish is the putting in of an advanced course in Spanish in the School of the Line, along with the elementary course. It is believed that this could be done without injury to the proper grading of students in the Line Class, by giving a slightly lower value to the elementary course than is given to the advanced course; this difference of values would probably call attention very emphatically to the importance of Spanish, and might, in a great many cases, cause officers who are contemplating entering the school, and who have had no Spanish, to take up the study of that language before coming here.

Respectfully submitted,
ARTHUR THAYER,
*Captain, 3d Cavalry,
Senior Instructor.*

THE ARMY STAFF COLLEGE
DEPARTMENT OF MILITARY ART

*Fort Leavenworth, Kansas,
August 31, 1908.*

*The Secretary,
The Army Service Schools.*

SIR:

I have the honor to submit the following report of the work of this department for the year ending August 31, 1908:

Of the 430 half days of the school year, 177 were allotted to this department, This does not include the time given to the staff ride, July 1st to 16th inclusive.

It was utilized as follows:

Conduct of War (Von der Goltz)	7
Organization of foreign armies.	5
Duties of the General Staff	10
Military History-(Conferences and 2 Lectures)	12
Troop Leading	16
Preparation of Problems.. . . .	7
Reviewing problems, School of the Line.	35
Tactical and Strategic problems	18
Tactical rides.. . . .	14
Map Maneuvers (War Game)	27
Preparation and discussion of original papers.	21
Preparation for Staff Ride	5
	177

Little need be said in explanation of this table.

The lectures on the organization of foreign armies will be repeated this coming year, but as stated in my report of the course in the School of the Line, these lectures will be transferred to the latter school.

The Duties of the General Staff. This part of the course was introduced this year, as I believed it essential. The book used as a text, Von Schellendorf, is not a text book in the ordinary use of the term, and

was not so intended. Portions of the book were assigned each day to be carefully read and the conference was devoted to a discussion of the text which was supplemented by outside matter. I believe great value was derived from this part of the course, and this opinion is shared by the class. After careful consideration I am convinced it is a better way to handle the subject than by a course of set lectures and it will be repeated the coming year.

The course in Military History was another innovation and was a success. One campaign (The Peninsular, 1862) was taken. The course was preceded by two lectures on Historical Research. A large scale map was prepared for us by the Engineering Department covering the theatre of operations. All movements of the armies were followed day by day to the conclusion of the campaign. The method of historical study now adopted in all great universities was adapted to military research. Every move and the reasons therefor were sought and credibility of testimony weighed. The class did not accept second-hand accounts but sought corroborative testimony or information from original sources. One campaign so studied is more valuable to a military student than many more superficially studied. The College Library is well supplied with necessary books. Captain A. L. Conger, 29th Infantry, was the instructor in charge and developed the course; it was fully planned and carried out by him. The class did splendid work and spent many extra hours in the library looking up information.

So successful do I believe it to have been that in the next year thirty-nine half days will be given to this work and three preliminary lectures instead of two. This can not replace the course in the Line School but naturally follows it. The Line School course is a necessary preparation for it.

Our profession is largely empiric and a careful and correct study of Military History is most important. Not a memory stored with names and dates, but a knowledge of important campaigns.

In the course in Troop Leading (De Vernois) we were again indebted to the Engineering Department for a large map, which enabled Captain M. E. Hanna, 3d Cavalry, to conduct the course on somewhat different lines than heretofore. Captain Hanna made the course very interesting and profitable. While the text was followed, the movements of troops were kept as in the War Game, on the large map and other problems were given the class.

The course in the Preparation of Problems was introduced this year and was found a valuable addition to the course. A lecture was given by Captain Farrand Sayre, 8th Cavalry, on the general subject and then a map was given the class and a list of troops supposed to be in camp on the terrain covered. The first problem was to prepare a program for the camp. These were submitted, criticized and returned to their authors. Then followed a conference in which a general discussion of the various solutions followed and a problem for the first exercise was required to be submitted by a given date. This was criticized and discussed in the same way as the first and so on thru the course.

Only seven half days were given to the work and covered only tactical maneuver problems. This year it is proposed to extend the course to nine half days and to require map and war game problems as well. Part of this course after this year will be in the School of the Line.

The reviewing of the map problems of the Line Class was continued as before, but modified by requiring individual work instead of committees.

Each officer was given generally two solutions of

each problem to review and criticize; it must be his individual work. This was found to be an improvement. Another innovation was not giving out "an approved solution" until after the problems were returned. There will be no change in this part of the course for the ensuing year.

The tactical and strategical problems this year were taken from Von der Goltz, Gیزیcki and others. The problem was given the class to solve and then the solution was given out.

This part of the course is to be slightly changed for the ensuing year.

A collection of problems is being made with their solutions. These are selected from the best we can find. They will be studied and discussed in the class as is Griepenkerl in the School of the Line and followed by original problems with American troops, using the U. S. Geological Survey maps. This has the advantage of better preparation before undertaking to solve these higher problems, the use of our own organization and equipment, and the use of the same maps that must be depended on in war. I recognize fully the drawback that after these problems are solved the approved solution cannot carry the weight of the others, but we have the others to study and I believe the change is correct.

The number of tactical rides was increased over last year, but were otherwise unchanged and will remain the same next year.

Map maneuvers (war game), 27, includes both the tactical problems with varied forces and the historical and strategical games. As this course this year was so much increased in the School of the Line, all of the minor tactical problems will be omitted in the Staff College course, but the class will get valuable practice by directing the same class of games for the Line Class.

At the beginning of the course in September each member of the class was given a subject upon which he was to write a paper to be read before the class and by the class discussed. They were to make notes and to collect data as opportunity offered during the year and toward spring nine half days were allowed them to complete their papers. The papers were generally excellent and the most valuable part was the discussions brought out and the subjects for thought introduced.

The subjects for this year's papers were:

SUBJECT.	<i>To Whom Assigned.</i>
1. The Proper Training of an Inf. Company.	Capt. Baltzell
2. The Proper Training of a Cav. Troop.	Capt. Hickok
3. Infantry Tactics in the Attack.	Capt. Kerth
4. Infantry Tactics in the Defense.	Lieut. Marshall
5. Tactical Use of Modern Field Artillery	Lieut. Currie
6. Use of Heavy Guns with Field Armies.	Lieut. Locke
7. Use of Machine Guns with Infantry.	Capt. Chiles
8. Use of Machine Guns with Cavalry.	Lieut. Hodges
9. The French Invasion of Mexico.	Lieut. Monter
10. Cavalry raids, their value as shown by History.	Capt. Raymond
11. Battle Losses.	Capt. Herron
12. The Organization of the Mexican Army.	Lieut. Landa
13. Divisional Cavalry and Its Use.	Lieut. Morey
14. Employment of Cavalry Divisions.	Capt. Stodter
15. Tactical Lessons from the War in Man- churia.	Capt. Sharp
16. Tactical Lessons from the War in South Africa.	Lieut. Fuqua
17. The Transport Service with a Field Army.	Lieut. Jackson
18. Land Defense of our Sea Coast Forts.	Lieut. Cox
19. Small Arms Ammunition Supply.	Lieut. Beebe
20. Field Artillery for our Army in War.	Capt. Birnie
21. Independent Cavalry.	Lieut. Palmer
22. To What Extent can we use the Signal Corps in War.	Lieut. Collins
23. Use of Mechanical Transport in War.	Lieut. Fisher
24. How Best to Instruct the Officers of our Army in Tactics.	Capt. Rhodes

The class was taken this year for a Staff or Historical Ride from Manassas to Gettysburg.

The ride was announced to the class at the beginning of the school year and each member assigned the part he must discuss and the requirements made

that careful study of all the campaigns involved was required of those to go. While five half days were allowed for preparation, it was but a small fraction of the time expended on it by the class. During the spring the Staff Class has, in other departments, much work that does not require preparation to be made at home. These evenings were what was counted on for preparation for this ride, and not amiss.

The work of the class on this ride, its extent and thoroughness, the complete grasp they got of this part of our Military History, was one of the most satisfactory things to me in the year's work. The ride was profitable to all concerned and I earnestly recommend that they be continued as long as such satisfactory results are obtained.

Before leaving Fort Leavenworth, Lieutenant Fitch gave a lecture on the Military Geography of Virginia.

PROGRAM FOR THE STAFF RIDE

- July 3d. Wagons at train for baggage; horses, with lunch. Class to Bull Run field at the Henry house.
Papers on:
First Bull Run—Captain Baltzell.
Gainsville—Lieutenant Cox.
Groveton—Lieutenant Fisher.
Second Bull Run—Captain Raymond.
Camp at Gainsville, ten miles.
- July 4th. Move to Delaplane, twenty-one miles.
- July 5th. Move from Delaplane to Front Royal. eighteen miles.
Papers on :
Front Royal and retreat to Winchester—Lieutenant Morey.
- July 6th. Wagons to Middletown, nine miles. Class to Tom's Brook via Strasburg, and return via Strasburg to Middletown, twenty-seven miles.
Papers on :
Tom's Brook—Captain Herron.
Fisher's Hill—Lieutenant Collins.
- July 7th. Move from Middletown to Winchester, thirteen miles.
Papers on :
Cedar Creek, before leaving for Winchester—Lieutenant Beebe.
Kernstown, en route—Captain Kerth and Lieutenant Currie.

- July 8th. Remain all day at Winchester.
Papers on :
 Winchester-Captain Hickok.
 Opequon-Captain Stodter.
Sketch of Jackson's campaign in the valley-Captain Major.
Sketch of Early's campaign in the valley--Captain Conger.
- July 9th. Move to Harper's Ferry, via Charleston, twenty-eight miles.
Papers on :
 The Capture of Harper's Ferry-Lieutenant Landa.
 Events Leading to Antietam-Captain King.
- July 10th. Wagons to Sharpsburg, twelve miles. Class to Crampton's Gap, via, Pleasant Valley, nine miles; then to Turner's Gap, seven miles; then to Sharpsburg for camp. Total for class, twenty-four miles.
Papers on:
 Crampton's Gap-Lieutenant Locke.
 Turner's Gap-Captain Rhodes.
- July 11th. Remain at Sharpsburg.
P a p e r s o n :
 Federal Right-Lieutenant Fuqua.
 Federal Left-Lieutenant Monter.
- July 12th. Wagons direct to Hagerstown. Class via Williamsport.
- July 13th. Move to Fairfield, twenty miles.
Papers on :
 The Retreat from Gettysburg--Captain Sharp.
 Events Leading to Gettysburg-Captain Sayre.
- July 14th. Move to Gettysburg, seven and a half miles.
Papers on :
 The First Day's Fight-Lieutenant Jackson.
 July 2d--Culp's Hill--Captain Birnie.
- July 15th. At Gettysburg.
Papers on :
 The Battle of July 2d--The Federal Left-Lieutenant Palmer.
 The Battle of July 3d--Left and Center-Lieutenant Hodges.
 July 3d--Culp's Hill--Captain Chiles.
 Review of the Battle of Gettysburg-Lieutenant Marshall.
- July 16th. Allowance of a day for delays en route, or for seeing Gettysburg more thoroughly. In the latter case, the two last named papers to be read on this date.

The above program was carried out.

The following problems were given out and the solutions submitted were discussed by instructors and class. In most cases the discussions were very complete:

- I. As Chief of Staff for General McClellan, draw up the order that should have been issued after obtaining the "lost order" September 13th.
2. As Chief of Staff for General Lee, issue the order that should have been issued the night of September 14th, at termination of Battle of South Mountain.
3. As Chief of Staff for General McClellan., write the order that should have been issued the evening of September 16th.
4. Write the order for General Lee's withdrawal after the Battle of Antietam.
5. Take the situation of the troops as it existed the evening of June 30, 1863—As Chief of Staff for General Lee, submit a plan of action.
6. Same as above except as Chief of Staff for General Meade. Submit a plan of action for him.
- 7a. Was the position taken by General Sickles with his Corps July 2d, faulty? In other words, is his claim as to the position correct?
- 7b. With modern arms would the advanced position be better than the one ordered by General Meade?

The above problems were solved by class on the ground after a study of the same and hearing the papers and discussions relating to the battles in question, but without other preparation or warning.

In addition to the work scheduled, we were fortunate in having Colonel Maccomb, 6th Field Artillery, to deliver a course of two lectures on Modern Artillery. These were a very valuable addition to our course and such a course of lectures shall be had next year.

Commander W. L. Rodgers, U. S. Navy, thru the courtesy of his department, delivered a course of three lectures on the combined action of the Army and Navy. They were of great interest to all, and the importance of proper consideration and thought of this subject by the staff class is undoubted. It is hoped that similar lectures may form a part of next year's course.

For this year this department is allotted 181 half days, which will be used as follows:

Conduct of War	7
Duties of the General Staff	10

Military History	39
Troop Leading	18
Preparation of Problems	9
Reviewing problems, directing war games and umpiring for School of the Line.	35
Tactical and Strategical problems (6 conferences, 15 problems.	21
Tactical Rides.	10
Map Maneuvers.	8
Preparation and discussion of original papers.	12
Problems, Fortress Warfare.	12

There will be three lectures on the subject of Historical Research and five on the organization of foreign armies.

The map maneuvers are greatly reduced and those that are left are of larger units. As the coming class has already had so much of this work in the Line School it is not necessary to retain it there. The class will be at the more advanced work of directing and umpiring the games of the Line Class.

The time allowed for original research is apparently greatly reduced, but is more apparent than real. Owing to the large size of the Staff Class and the small size of the Line Class, the half days assigned for reviewing problems and umpiring will not be fully taken up by this work and can be utilized for study and research. It is not proposed that there be less of this kind of work, but if anything, more. A subject will be assigned to each member of the class as was done last year.

In the latter part of the course twenty-two half days will be given to a general problem involving fortress warfare, but including much more, as it is intended to bring out most of the problems arising to an invading force that must attack a fortified position. This is to be a joint problem by the Departments of Military Art and Engineering, and of the twenty-two half days assigned to it twelve are taken

from those allotted to this department and ten from the Engineering Department.

In the Staff College course an effort is made to look at the various problems from the point of view of the staff officer. To try to give the class an idea of the problems that must in war confront the man who is acting as Chief of Staff for a division or larger unit.

After this year, the time allotted this department in the Army Staff College will be reduced by twenty-nine half days, the time being given to the Department of Languages in exchange for part of the additional time allotted to this department, Army School of the Line. This, however, is compensated for by the Line Class having part of the work now in the Staff College course while in the School of the Line.

The change is believed for the best interests of the Army and the Schools. We will need many more line officers than staff officers and as much as possible of the course that pertains to line duty should be given that class. All officers need and require such information, whether they get it here or elsewhere, they can use it always. The other duty will fall to most but seldom, if ever. The effort, it appears to me, should be made to put all of the complete course that is not of particular advantage to the line officer in the staff course, and vice versa. This was the object in view by the Academic Board in its recommendation of the above change.

This leads to a further recommendation that the relative size of the classes be changed. Is not the Staff Class too large?

The drain upon the army for officers for detached service is so great, and the accommodation at the schools so small that the aggregate number of student officers here must be restricted. Only a limited number of those who desire to come here can do so.

By decreasing the number in the Staff Class a corresponding increase can be made in the Line Class. More officers that desire it can have the advantage of the course and all of that part of it most essential to the line officer. With a large line class and smaller staff class closer selection is made and more work in a given time can be had of the staff class. We want as large a number as we can get of highly trained line officers, the number of general staff officers required will always be limited.

It would be desirable to have all get both years, for nothing a soldier knows comes amiss, but every man who takes the Staff College course takes the room here of some other who could have had the Line Class.

I believe the staff course is valuable, important, and necessary to our army and the best men for it from the line class should take it. My recommendation to reduce its size is made only for the reason that I believe the army will be better off by having more officers who have had additional training.

The instructors in this department are the same as in the School of the Line. What was said in my report there as to their work applies equally here, as well as of others.

The change of instructors at two year intervals bears harder on the work in the Staff College even than in The School of the Line.

In both schools the text book is such a minor part, so much depends on the instructor, that he should remain here four years to give him time to do his best work.

I do not believe in a longer term than four years in this department. In this department new thought, new ideas must be brought in, the department should not be allowed to get in a rut or satisfied with its work.

The cordial sympathy and support given by the class and their efficient hard and zealous work was most gratifying, and heartily appreciated.

Respectfully submitted,

J. F. MORRISON,
Major, General Staff,
Senior Instructor.

THE ARMY STAFF COLLEGE
DEPARTMENT OF ENGINEERING

Fort Leavenworth, Kansas,

August 31, 1908.

The Secretary,

The Army Service Schools.

SIR:

I have the honor to submit the following report of the work of this department for the year ending August 31, 1908:

I was detailed as senior instructor of the department August 15, 1907, and held the position during the year.

As there was no fixed and definite schedule adopted for the work, I had considerable latitude in assigning duties for the 107 half days allotted the department for the year. The time was occupied as follows:

	Half Days
Problem 1.-Surveying. An instrumental survey of an assigned area to be graded, laid out in streets, including running of curves and determination of cut and fill.	13
Acting as assistant instructors in the survey problems of the School of the Line.	4
Problem 2.-Surveying. An accurate instrumental survey of an assigned area, including triangulation and base line measurements. Under the supervision of the instructor the officers of each party were required to determine all the details of the instruments to be used and the plans for laying out the work to the best advantage.	24
Map reproduction.-By demonstration and lecture, the methods of enlarging, reducing, copying and printing maps were explained.	2
Military history, conferences of the engineer features of the history work of the Military Art course	3
Field problems in Fortification	32

Military Sketching -Advanced course.	19
Acting as assistant instructors of School of the Line in Sketching.	10
	107

In addition to the above work lectures were given as follows, ten lecture periods having been scheduled in addition to the 107 half days:

Captain Woodruff:

- Lecture—Permanent and semi-permanent fortifications from the earliest times to the end of the Franco-Prussian War.
- Lecture-Permanent fortifications of the present time.
- Lecture-The Siege of Port Arthur (in three lectures).
- Lecture-Field Fortifications of the Russo-Japanese War.
- Lecture-Sea Coast Defenses.
- Lecture-Principles of Sea Coast Defense; illustrated by the fortifications of New York Harbor.
- Lecture-The repair and strengthening of ordinary roadways and bridges necessary for fitting them for military purposes
- Lecture-Post and camp water supply and sewage disposal.

The last two lectures were given by Captain M. J. McDonough, Corps of Engineers, who was making a special study of the subjects and kindly consented to lecture on them.

Reviewing the above program I find little to criticize in it.

The first survey problem was put in at a time when nothing else was ready. It undoubtedly served to increase the information of the class on the subject, but the time can and will be employed in more important work.

The few days of Military History were found to be interesting and instructive. It was found impracticable to schedule the time for next year for this purpose, but the department will join with the Military Art department in a Fortress Warfare problem which will, while requiring considerable reading on the same lines as the history work, call for consider-

able originality in the application of the acquired knowledge.

The Field Problems in Fortifications were, I consider, the most valuable addition made to the Staff Class course in this department.

Most of them were problems in fortification such as would have to be worked out by line officers. The simpler ones involved a statement of a military situation on ground accessible from the school, in which a force was required to hold a bridge or important point for a specified short time against a much larger force, successful resistance to which, in the open, would, under ordinary circumstances have been impossible.

These problems were worked on the ground, a small map being used only for recording the solutions of the different members of the class. The solutions involved all matters pertinent to the complete fortification of the position and the tactical requirements, such as division into sectors, location, strength, cover for firing lines, supports, reserves, location—use and protection for artillery, disposition and use of cavalry—engineers and signal troops, communication, approaches, clearing, obstacles and demolition. Generally three half days were assigned to a problem, the first and second being devoted to a thorough examination of the terrain involved and the third to a discussion of the problem on the ground. At such time admissible lines were staked off and a thorough criticism of them made.

Later problems involved situations where the line officers had charge of the details of fortifying part of a general line prescribed by higher authority.

These problems were highly satisfactory to the class, involving a work of a nature which had been previously neglected. They were submitted to some prominent officers of the Corps of Engineers and highly commended.

In the sketching course the work was most excellent and several new opportunities for comparison, leads me to believe that the maps turned out by the Staff Class, are, in addition to the rapidity of their construction, the equals in accuracy of any maps in existence or which will ever be available, except over small areas.

The use of the Staff Class as instructors in sketching is most advantageous. It gives members of the class confidence in their own powers and affords assistance to the School of the Line class which it would be impossible for them to get with any reasonable number of regular instructors.

But few changes are recommended for next year. A little better arrangement of the time, cutting out the first survey problem and putting in the Fortress Warfare problem are all that I can suggest. Each year brings fourth its developements in a new school but the course now seems to be admirably adapted to a Military Staff College.

For the improvements made in the work of the department in the Staff Class, I can claim little credit, except in an executive and advisory capacity. The instruction has been in charge of Captain J. A. Woodruff, Corps of Engineers, and all the details of the instruction as well as preparing new lines of work have been under his charge. In the course in Fortification, which I think one of the greatest improvements in the Staff Class from its beginning, I can claim no credit except for putting it in the course and giving Captain Woodruff a quite general idea of what I wanted. That it has proved such an immediate success from the very beginning is due entirely to his most admirable handling of the subject.

Respectfully submitted,

EDWIN T. COLE,

Captain, 6th Infantry,

Senior Instructor.

THE ARMY STAFF COLLEGE
DEPARTMENT OF LAW
Fort Leavenworth, Kansas,
August 31, 1908.

The Secretary,
The Army Staff College.

SIR :

I have the honor to submit the following report of the work of the department for the school year ending August 31, 1908:

The time allotted to this department was sixty-six days. This time was utilized as follows:

Course in *Constitutional Law*
(Black's Constitutional Law)

November

A.M.

- 1 (19) To bottom of p. 26; U. S. Constitution-Preamble.
- 2 (20) To bottom of p. 50; Constitution-Articles V. VI and VII, and Amendment X.
- 3 (22) To bottom of p. 71.
- 4 (23) To sec. 68, p. 99; Constitution-Article II and Amendment XII.
- 5 (26) To bottom of p. 122.
- 6 (27) To sec. 91, p. 148; Constitution-Article III and Amendment XI.

December

A.M.

- 7 (3) To bottom of p. 166.
- 8 (4) To "Navigation", p. 191; Constitution-Article 1.
- 9 (6) To middle of p. 218.
- 10 (7) To bottom of p. 243.
- 11 (9) To bottom of p. 290, omitting all of Chapters XI and XII, except secs. 131 to 133, Inclusive; Constitution-Article IV.
- 12 (10) To "Regulation of Railways", p. 350, omitting all of Chapter XII&except secs. 136 to 140,inclusive.
- 13 (II) To bottom of p. 374.
- 14 (13) To bottom of p. 396.

December-Continued

P. M.

- 15 (13) To sec. 178, p. 413.
16 (16) To bottom of p. 442, omitting secs. 186 to 192, inclusive.
17 (17) To sec. 205, p. 464; Constitution-Amendments I, II, XIII and XIV.
18 (18) To sec. 213, p. 485.
19 (19) To "General Warrants", p. 503; Constitution—Amendment IV.
20 (20) To bottom of p. 521; Constitution-Amendments III and VII.
21 (21) To bottom of p. 539; Constitution-Amendment xv.
22 (23) To bottom of p. 564.

January

A.M.

- 23 (6) To sec. 257, p. 585; Constitution-Amendments V and VI.
24 7, P.M.) To bottom of p. 603; Constitution--Amendments VIII and IX.
25 (8) To bottom of p. 632.

Course in *Military Government and the Laws of War*
(Birkhimer's Military Government and Martial Law)

January

P.M.

- 26 (9) To bottom of p. 44; Instructions for the Government of Armies of the United States in Time of War, paragraphs 667-672.
27 (13) To bottom of p. 69; Instructions, etc., paragraphs 680-704-809-817.
28 (15) To bottom of p. 100; Instructions, etc., paragraphs 673-677, 712- 714.
29 (17) To bottom of p. 131; Instructions, etc., paragraphs 715-744.
30 (21) To bottom of p. 174.
31 (23) To paragraph 211, p. 206; Instructions, etc., 708-711.
32 (27) To bottom of p. 243.
33 (29) To bottom of p. 267; Instructionous, etc., 705, 707.
34 (31) To bottom of p. 301; Instructions, etc., 750-808.

Februrary

P.M.

- 35 (4) To bottom of p. 350; Instructions, etc., 745-749.
36 (6) To bottom of p. 369; Instructions, etc., 678-679.

Course in *Martial Law*
(Birkhimer's Military Government and Martial Law)

February

P.M.

- 37 (10) To bottom of p. 418.
38 (12) To bottom of p. 437; Ex parte Milligan, 4 Wall. 2.
39 (14) To bottom of p. 456; Johnson vs Jones, 44 Ill., 155.
40 (17) To bottom of p. 480; Luther vs. Borden, 7 How. I.
41 (18) To bottom of p. 489; Lieber-The Justification of
Martial Law.
42 (19) To bottom of p. 524.
43 (20) To bottom of p. 559.
44 (21) To bottom of p. 580; Commonwealth vs Shortall
206 Penn. 165.
45 (21) In re Boyle, 6 Idaho 609; In re Moyer 85 Pac. Rep.
190; Moyer vs Peabody, 148 Fed. Rep. 870.
46 (25) Ex parte Field, Fed. Cas. 4761; Ex parte Benedict,
Fed. Cas. 1292; Griffin vs Wilcox, 21 Ind. 370;
In re Kemp, 16 Wisc. 360.
47 (62) McCall vs McDowell, Fed. Cas. 8673; Milligan vs
Hovey, Fed. Cas. 9605; Mitchell vs Clark, 110
U. S. 633.

Course in *The Use of the Army in Aid of the Civil Power*

February

P.M.

- 48 (27) Lecture-The relations of the Military to the Civil
Authority.-Brig. Gen. C. B. Hall.
49 (28) Lieber—The Use of the Army in Aid of the Civil
Power, to the bottom of p. 34; Army Regula-
tions, paragraphs 455-457, 483-488.

March

P.M.

- 50 (2) Lieber-to bottom of p. 59; Digest of Opinions of
the Judge-Advocates General, paragraphs 483-
493.

Original Research

March

P.M.

- 51 (3) Solution of Problems.
52 (4) “ “ “
53 (5) “ “ “
54 (6) Preparation of Papers.
55 (9) “ “ “
56 (10) “ “ “
57 (11) “ “ “

March-Continued

	P. M.				
58	(12)	Discussion of Problems.			
59	(13)	“ “ “			
60	(16)	Preparation of Papers.			
61	(17)	“ “ “			
62	(18)	“ “ “			
63	(19)	“ “ “			
64	(21, A.M.)	Review and Discussion of Papers.			
65	(23)	“ “ “ “ “			
66	(25)	“ “ “ “ “			

H. A. WHITE,

Captain, *11th Cavalry*,
Senior Instructor.

Fort Leavenworth, Kansas,
November 8, 1907.

As will be noticed the text books for the course are Black's Constitutional Law and Birkhimer's Military Government and Martial Law. However, these books serve more as a guide to lessons than as books of study, the course being largely one of cases. The method employed was daily assignment of a case to each of two officers, who, upon the day following, reported the results of their work to the class. These reports were not reduced to writing. They consisted of a brief statement of facts, and an outline of the reasoning leading up to the decision, followed by the decision itself and the pointing out of the legal principle upon which the case turned. Cases were selected so as to illustrate some portion of the subject that was assigned for discussion for the day.

In addition to this work committees of two or three members of the class each, were designated from time to time during the course to prepare brief reports upon questions of interest arising during the discussions, as well as upon questions of regular military practice that were being constantly referred to the department for decision. These reports were read and discussed in the class room. A partial list

of subjects thus covered by discussions is herewith given:

The proper course to be observed by the Judge-Advocate of a general court-martial, in order that the interests of the government may be fully protected without invading the rights of the accused.

The proper course to be observed by counsel before a general court-martial, in order that the rights of the accused may be fully protected and that counsel may, at the same time, not fail in his duty to the government.

In the present state of the law, is the editor or publisher of a newspaper, subject in time of war, to punishment for conveying military information to the enemy through the medium of the paper? If so, how?

What modification, if any, of the present law should be enacted, in order that the government may effectively prevent the press in time of war from spreading information valuable to the enemy?

On December 1, 1907, A. B., a civilian doing business in Leavenworth, Kansas, was arrested and brought before a United States Commissioner for buying from C. D., a private soldier in the U. S. Army, a serviceable military overcoat which had been regularly issued to the soldier on November 1, 1907, immediately after his enlistment. In view of the adverse decision in the case of the United States vs. Michael 153 Fed. Rep. 609, you have been detailed to assist the U. S. District Attorney in the prosecution. Brief the case.

Discuss the scope and application of Section 1343, Revised Statutes of the United States.

How may obedience to an order of the President calling the militia into the service of the United States be enforced? How may neglect or refusal to obey such an order be punished?

Effect of the decision in Grafton's case upon military jurisdiction.

What means of redress for injuries to persons or property not warranted by the laws of war, are open to persons owing allegiance to a government at war with the United States?

Under present conditions, a United States soldier on guard at a detached post near Batangas, P. I., shoots and kills one of three natives approaching his post. The soldier claims to have fired in the performance of his military duty and in self defense, under a reasonable apprehension that the natives were about to attack him with deadly weapons and with deadly intent. Nevertheless the civil authorities charge him with assassination in violation of the Philippine Penal Code (murder under our law) and he is brought before the Court of First Instance at Batangas for trial. May that court lawfully try and determine the case.

Make a digest of the cases studied during the current course in martial law.

This work is along the lines upon which this institution must be developed. Officers detailed for the Staff College must understand that their province is more that of creative education than that of simply acquiring knowledge. The idea of the department has been to inculcate habits in the officers of patient and thorough investigation and then make the officers apply the knowledge thus gained to the betterment of our profession.

The Military in Aid of the Civil Power; Martial Law; Military Government and the Laws of War.

The course in these subjects is believed to be the most exhaustive given at any institution, native or foreign. Last year the students prepared a set of papers upon the subject of martial law. This year they prepared a set upon the subject of military government. These sets have been bound and filed

with the department. This was done with a view of subsequently preparing a book upon these subjects. The loss of the instructor, Captain Kreger, has delayed this important work. But I recommend that this idea be not lost sight of in the detail of officers as instructors, and that at some subsequent time a suitable book be prepared on these subjects by the department.

The library has only one set of U. S. Supreme Court Reports and has none of the Federal Reports. To overcome in some measure this deficiency, Captain Kreger compiled a few cases on martial law as follows:

Luther vs. Borden, 7 How. 1.
Ex parte Milligan, 4 Wall. 1.
Johnson vs. Jones, 44 Ill. 142.
In re Boyle, 6 Idaho, 609.
Commonwealth vs. Shortall, 206 Pa. 165.
In re Moyer, 85 Pac. Rep., 190.
Moyer vs. Peabody, 146 Fed. Rep. 870.

This compilation answered the purpose as well as could be expected, but for a complete equipment of the library I recommend that the Federal Reports be purchased as soon as funds are available. We will then be in a position to better employ the whole working capacity of the student officers of the Staff College. It will also then be much easier to prepare a suitable work on these subjects for the army. No work can probably be prepared that will surpass Birkhimer's for the wealth of material contained, but a much better work can be produced in that the matter may be better arranged and the form made more attractive.

REMARKS

The interest shown by the student officers in the successful prosecution of the course was all that could be asked. The original intention was to spend approximately one hour per session in class room

work. However, the discussions were usually continued for two hours, but inasmuch as the class-room work was discussion and not recitation, the interest never flagged.

I wish to express my appreciation and commendation of the Assistant Instructor, Captain E. A. Kreger, Acting Judge Advocate. A more competent instructor or one who would give greater effort to his work could not be found. Burdened as I was with the duties of the head of the department, and with class-room instruction of the Line Class, I rested almost entirely upon Captain Kreger for the successful handling of the work in the Staff College. In my opinion it will be impossible to improve upon his methods.

The detail of Captain C. E. Stodter, 9th Cavalry, has been requested.

Respectfully submitted,

HERBERT A. WHITE,

Captain, 11th Cavalry,

Senior Instructor.

THE ARMY STAFF COLLEGE

DEPARTMENT OF LANGUAGES

Fort Leavenworth, Kansas,

June 30, 1908.

*The Secretary,
Army Staff College.*

SIR :

I have the honor to submit the following report of the work of this department for the school year 1907-8:

ALLOTMENT OF TIME

Out of a total of 430 half days, 64 were allotted to this department. The Staff Class work in languages began September 2d and ended December 12, 1907. Class-room work was in periods of two hours each with an intermission of ten minutes between the hours.

ASSIGNMENT OF VALUES

In the Staff Class course there are no assigned values to subjects and therefore no marks and no grading.

ELECTIONS OF LANGUAGES BY THE CLASS

As all the members of the Staff Class were graduates of the School of the Line and had passed satisfactorily in Spanish, none took Spanish this year.

The following officers elected French: Captains Birnie, Chiles, Herron, Hickok, Raymond, Rhodes and Sharp, Lieutenants Beebe, Collins, Currie, Fuqua, Hodges, Locke, Marshall, Landa and Monter, Total 16,

The following officers elected German: Captains Baltzell, Kerth, Stodter, Lieutenants Cox, Fisher, Jackson, Morey and Palmer. Total, eight.

FRENCH

The Staff Class of sixteen members was argued by seven from the Signal School, making a French class of twenty-three in all. During the first hour of the class-room period, one half of the French class was taught by Captain Thayer and the other half by Captain Moss. During the second hour the entire class was taught by Captain Moss.

Text-Books—French

De Peiffer's "Pronunciation," pp. 7—24, 44—50.

Castarede's "French Verb," pp. 1-132.

I. C. S. "Conversational Lesson? Parts I-X.

Guerber's "Contes et Legendes," Ire Partie.

C. Fontaine's "Douze Contes Nouveaux."

(The last two books were used for sight reading and conversation).

Class Room Work

The work in the class room was made as practical as possible. Some time was given to sight reading and some to dictation but the larger part was devoted to conversation. The phonograph was used in accordance with the I. C. S. system of instruction, except that pronunciation was taught and fixed by class room work and not by the phonograph.

One serious criticism applies to the French course of this year, and that is that only one course of study was prescribed, and of necessity that course was one designed for the beginner in French. Many of the student officers had had considerable previous work in that language and were in a position to take an advanced course; the time spent by these officers on a beginner's course was not as profitable as it should have been. Perhaps it is nearer the fact to say that they did not have to put as much time on French as they were expected to devote to that subject; consequently they did not get the benefit from their French course that they should have derived.

To overcome this objection it is proposed hereafter to divide the French class into two parts, one consisting of those who have had some practice or study in the language; the other of those who have had little or no acquaintance with the language. To the former will be given an advanced course and to the latter an elementary or beginner's course.

The French course was supplemented by interesting lectures on Paris, Versailles, Biarritz and Fontainebleau, by Captain Moss. These lectures were descriptive and were illustrated by stereopticon views. The slides were prepared by the Second Division of the General Staff from pictures, views, etc., obtained by Captain Moss last summer while on a visit to France.

GERMAN

The German section of eight members, argued by three members of the Signal Class, was taught by Captain O. L. Spaulding, Jr.

Text-Books

- I. C. S. "Conversational Lessons"-Part I-IX.
- Interpolated Sheets prepared in the department.
- Muller and Wenckebach's "Gluck Auf."
- Stern's "Geschichten vom Rhein."

(The last two books were used for sight reading and conversation.)

Class-Room Work

The class-room work in German was conducted similarly to that in French; every effort was toward practical conversation.

As there were no students who had had previous work in German of any consequence, there was no need for an advanced course in this language.

Remarks on Staff Class Work in Languages

While the work in both French and German in the Staff Class, was on the whole, quite as good as could be expected from the brief course of sixty-four

lessons, yet it is certain that the beginner of a foreign language cannot be advanced very far in so short a course.

It was very noticeable that those students who had found Spanish very difficult, also found the new language, whether French or German, very difficult. Whatever may be the cause, it is a fact that some students learn languages with comparative ease, while others learn only with the greatest difficulty. To give the student who finds language study very difficult, two short courses in different languages in two consecutive years serves no useful purpose. He will not absorb enough of either one to awaken his keen interest and desire for further progress, and furthermore, the acquired material of the two languages will be in almost inextricable confusion in his mind. For these reasons it seems that a second language should not be taken up until considerable ease in simple conversation has been acquired in the first.

From the conversational standpoint, Spanish is the most important of modern languages for our army officers, and until they have acquired fair ease in its use, they should not attempt, under ordinary circumstances, the acquisition of a second language. It is proposed that, beginning with the next year, those officers of the Staff Class who have not acquired ease in conversation in Spanish, shall, in the Staff Class year, continue their study of Spanish, instead of taking French or German.

The instructors of the department,

Captain James A. Moss, 24th Infantry, in French,
Captain Dwight E. Aultman, 5th Field Artillery, in
Spanish,
Captain Oliver L. Spaulding, Jr., 5th Field Artillery,
in German,

gave to their work a devotion and conscientiousness that is highly commendable. This devotion to work added to their very good knowledge of the languages

they were teaching gave as good results as the limits of time and the necessarily restricted character of the courses permitted.

RECOMMENDATIONS

One of the necessary conditions for the prosecution of a successful course of instruction in a foreign language, particularly in the acquirement of a conversational knowledge, is instruction in small sections or classes. During the past year the section in German and particularly the section in French, were much too large for great success. In a section of eight members using a class-room period of one hour and forty minutes, the division of time among the members gives to each one only twelve and a half minutes as his share of the time that the instructor can devote to him individually, or the maximum amount of the time in the period that each student can have for actually talking the language that he is trying to learn. In order to obtain the greatest success in this instruction, the number of instructors in the department should be increased.

In the School of the Line this year, the department had the aid of Lieutenants Landa and Monter of the Mexican Army in the instruction in Spanish. The addition of these native instructors was a great advantage, not only to the class under instruction, but also to the regular instructors of the department. The improvement in the department would be so great, through the addition of one native instructor for each language taught, that I earnestly recommend that provision be made for the addition to this department of three suitable civilian instructors, one native Frenchman, one native German and one native Spaniard or native of Spanish America.

Respectfully submitted,

ARTHUR THAYER,

Captain, 3d Cavalry,

Senior Instructor.

THE ARMY STAFF COLLEGE
DEPARTMENT OF CARE OF TROOPS

*Fort Leavenworth, Kansas,
March 4, 1908.*

*The Secretary,
Army Service Schools.*

SIR:

I have the honor to submit the following report of the work done in the Department of the Care of Troops in the Army Staff College for the scholastic year ending 30 June, 1908.

The senior instructor in this department held sixteen conferences, all of which were in the form of lectures, with the Staff Class. A list of these lectures and of the subjects which they covered is found below:

DEPARTMENT CARE OF TROOPS
THE ARMY STAFF COLLEGE

1907-8

List of Lectures

January

- P.M.
- | | | |
|----|-----------|--------------------------------------|
| 1 | (6) | Selection of soldiers. |
| 2 | (8) | Clothing. |
| 3 | (10) | Shelter. |
| 4 | (14) | Food-Its preparation. |
| 5 | (16) | Water-Supply. |
| 6 | (18,A.M.) | Exercise-Training-Work. |
| 7 | (20) | Sanitation in garrison. |
| 8 | (22) | Sanitation in camp and on the march. |
| 9 | (24) | Sanitation in battle. |
| IO | (28) | Sanitation in battle. |
| 11 | (30) | Sewage disposal methods. |

<i>February</i>	
P.M.	
12 (3)	} Prophylaxis against special communicable dis - eases.
13 (5)	
14 (7)	
15 (11)	
16 (13)	Effects of heat and cold.

E. C. CARTER,
Major and Surgeon,
Senior Instructor.

The lecture on water supply was given by Lieutenant (now Captain) Charles F. Craig, Assistant Surgeon, United States Army, who is an acknowledged specialist on the subject.

The Senior Instructor endeavored to embody in each lecture the results derived from experiences of officers of our own and of various foreign armies. To do this properly required extensive reading and epitomizing, but it is believed that the results fully justified the expenditure of time and energy.

In lecture No. 6 on "Exercise, Training, Work", the writings of our best known trainers were consulted when available.

The four lectures on Prophylaxis against special communicable diseases are perhaps a new departure in military hygiene. The class, however, through its senior member expressed to the senior instructor in this department, its appreciation of these lectures and its satisfaction in obtaining the practical medical knowledge necessary to enable its members to guard their troops against diseases which are likely to prevail in certain regions. Among the communicable diseases discussed were malarial and yellow fever, typhoid fever, cholera, the dysenteries, the plague, the eruptive diseases, and diseases of venereal origin.

The final lecture, No. 16, on the effects of heat and cold was especially intended to furnish the information necessary to safeguard troops engaged in operations in the topics.

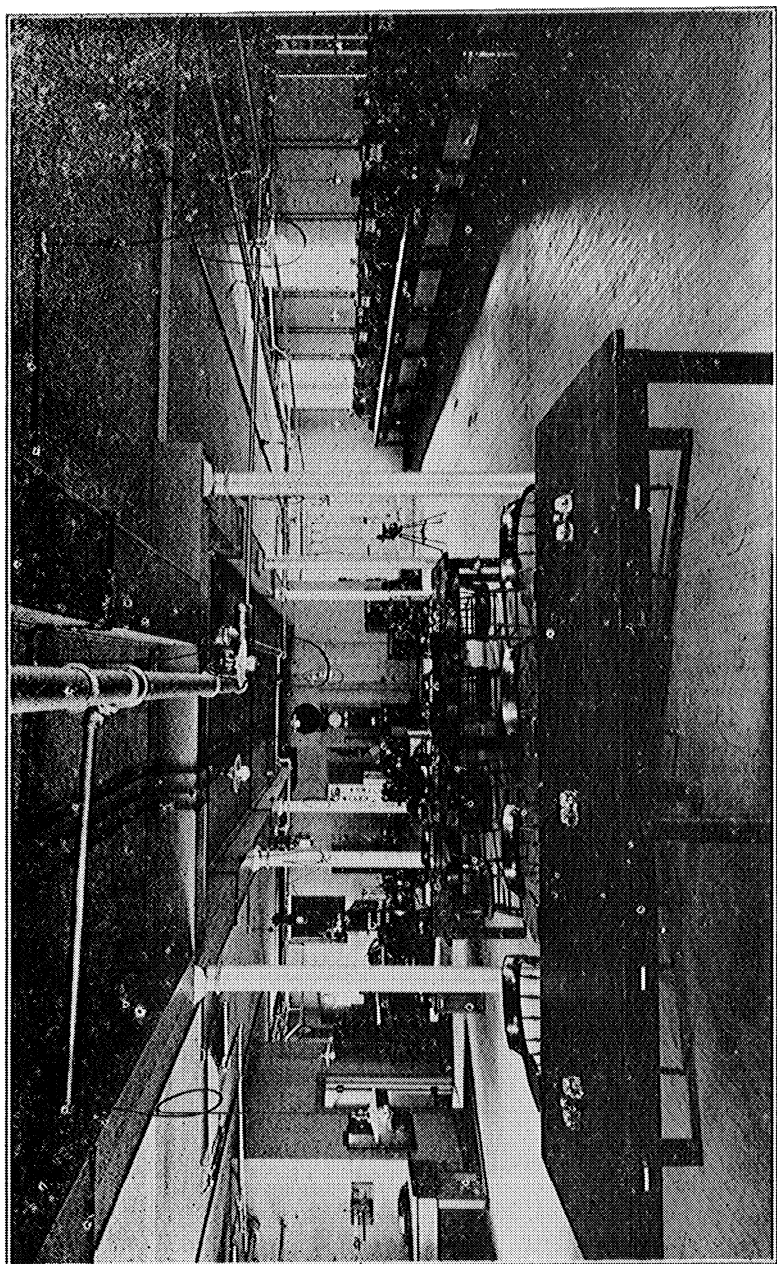
That part of the Department of the Care of Troops which was discussed in the Army School of the Line will be reported upon by the senior instructor in the Department of Military Art.

Very respectfully,

E. C. CARTER,

Major, Surgeon, U.S. Army,

Senior Instructor, Department Care of Troops.



THE ARMY SIGNAL SCHOOL

OFFICE OF THE ASSISTANT COMMANDANT

Fort Leavenworth, Kansas.

August, 15, 1908.

*The Secretary,
Army Signal School.*

SIR:

I have the honor to submit the following report of the work of the Army Signal School for the current school year ending this date:

The following instructors were assigned to duty with the school by proper authority:

Major C. McK. Saltzman, Signal Corps: Senior Instructor
Department of Signaling and Signal Engineering.

Captain E. T. Cole, 6th Infantry, Senior Instructor
Department of Topography.

Captain Arthur Thayer, 3d Cavalry, Senior Instructor,
Department of Languages.

Captain A. C. Knowles, 30th Infantry, Instructor
Department of Signaling and Signal Engineering.

First Lieutenant W. N. Hughes, Jr., Signal Corps, Instructor
Department of Signaling and Signal Engineering.

First Lieutenant G. A. Wiczorek; Signal Corps, Instructor
Department of Signaling and Signal Engineering.

STUDENT OFFICERS

The following student officers reported on August 20, 1907, pursuant to War Department orders and were graduated June 30, 1908:

Captain D. J. Carr, Signal Corps

Captain A. T. Ovenshine, 7th Infantry

Captain I. J. Carr, 28th Infantry

Captain J. B. Allison, 7th Infantry

Captain A. S. Cowan, 20th Infantry

First Lieutenant F. W. Fonda, Signal Corps

First Lieutenant V. D. Dixon, Signal Corps

First Lieutenant G. E. Kumpe, 2d Infantry

First Lieutenant J. A. Moss, Signal Corps

First Lieutenant S. C. Megill, 4th Cavalry

First Lieutenant J. E. Ware, 14th Infantry

First Lieutenant B. D. Foulis, Signal Corps

First Lieutenant P. J. Hennessey, 15th Cavalry

Second Lieutenant, R. S. Bamberger, 7th Cavalry

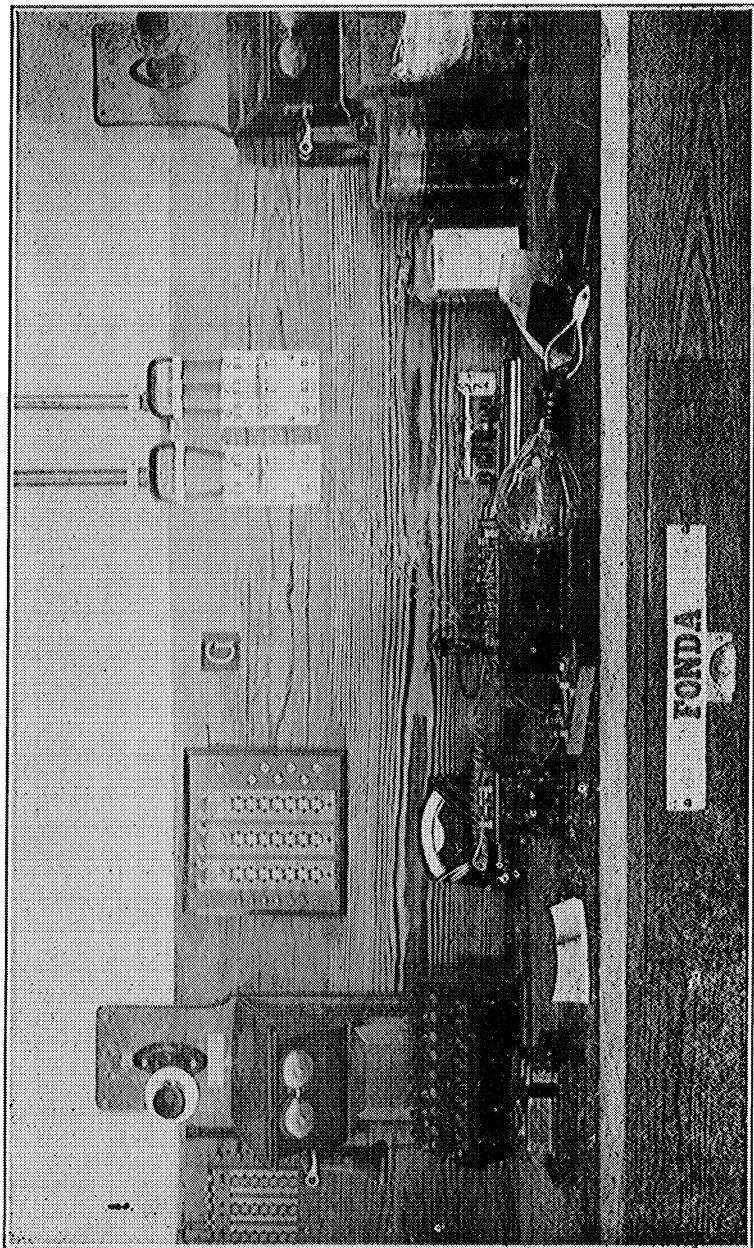
Second Lieutenant J. G. Winter, Jr., 6th Cavalry

OBJECT OF THE SCHOOL

Owing to the increasing need for rapid and accurate electrical means for the transmission of information in campaign and the necessity for the development of a practical system for the use of electrical field lines of information in our army, the Army Signal School was first suggested by the late Colonel Arthur L. Wagner, U. S. Army, and the school established at Fort Leavenworth, Kansas, August 15, 1905, by Major General J. Franklin Bell, U. S. Army, then Commandant of the Army Service Schools.

From its inception, the object has been to perfect a system of electrical field lines of information whereby orders and intelligence could be quickly transmitted between the larger units of an army in the field; to train officers in the use of these lines, and to make research and original investigation into all matters pertaining to military signaling. In short, the object of the school has been to develop ways and means for making signal troops in campaign as useful as possible to the line of the army.

In accomplishing this work, appeal has been made to the originality of the student officers and an effort made to cultivate a desire to improve existing conditions and methods. The student officer has been constantly invited to personally investigate the apparatus and machinery of the school and to contribute his ideas toward perfecting it. As a result, the work of the school during the year has been eminently satisfactory and the success attained has been largely due to the remarkable enthusiasm and zeal developed in the student officer by this system of creative education. Under this system, no marking system is necessary and officers are constantly found at work in the electrical workshop before and after prescribed hours.



THE COURSE OF INSTRUCTION

In the course of instruction, only sufficient theory has been included as was necessary to give the student officers a thorough working knowledge of the principles involved in the use of apparatus and machinery of the Signal Corps—“just enough theory to do the thing practically.” Theoretical instruction was given by means of recitations, lectures, conferences, reviews and written exercises. All recitations and conferences were made as practical as possible, the theory studied being almost invariably demonstrated by the use of apparatus or instruments set up in the section room.

Due to the interest of the student officers, there was a tendency developed during the year for those sessions scheduled as “recitations” to become “conferences” wherein the instructor and student officer discussed and investigated the apparatus or instruments described in the lesson assigned for the day.

Competitive examinations having been eliminated from the course and the marking system abolished, the student officer is impressed from the beginning that “written exercises” are not a test of memory but rather an indication of his ability to exercise originality in working out by deduction and analysis any problem given him. Formulas, diagrams, etc., are furnished him and in most of the work he is permitted to refer to his text as he would to a table of logarithms in the solution of a problem in mathematics. These written exercises have still another purpose to subserve. They indicate to the instructor the stumbling points and often suggest where a little more time might be profitably devoted to the same subject matter.

Copies of four “written exercises” are appended herewith as examples. A list of the lectures delivered before the School is also appended.

DEPARTMENT OF SIGNALING

Theoretical and practical instruction was given in Military Signaling with the following devices:

- (a) The Field Telegraph.
- (b) The Field Telephone.
- (c) The Field Buzzer.
- (d) Wireless Telegraphy.
- (e) Visual Signaling.

ALLOTMENT OF TIME

Theoretical.	42 half -days
Practical	81 half-days

In addition to the ordinary routine instruction in the operation of the various types of apparatus used in transmitting information in the field, many practical field problems were given illustrating the various systems of field lines of information. In order to make each problem simulate actual conditions as nearly as possible, the student officers were given an order presenting a military situation requiring lines of information for a large force of troops. A trained company of the Signal Corps, properly mounted and equipped, was in attendance and the student officers detailed to various duties with the company, were required to actually lay many miles of lines per day and to operate the same. These problems have demonstrated the great military value of the "buzzer" operated on the field wire lines rapidly laid on the ground from automatic wire carts. The department is provided with wireless telegraph sets designed for transportation in the field on pack mules. These sets proved effective for distances not exceeding twenty-six miles. The student officers were required to take these sets into the field, set them up and operate them. Notwithstanding the great improvements made in wireless telegraph sets during the past two years, the many field problems of the Signal School demonstrated the superiority of the field wire lines over the wireless telegraph as it exists to-day for service with an army in the field.

DEPARTMENT OF SIGNAL ENGINEERING

In this department, thorough instruction was given in the fundamental laws or principles underlying electrical engineering to the extent necessary to enable the student officers to gain a thorough knowledge of the electrical apparatus used by the Signal Corps.

ALLOTMENT OF TIME

Theoretical.	84 half-days
Practical.	104 half days

The course included instruction in

- (a) Practical Electricity.
- (b) Signal Corps Manuals.
- (c) Alternating Currents.
- (d) Oil Engines.
- (e) Fire-control Apparatus.
- (f) Practical Laboratory Work
- (g) Photography.

The practical work of this department is conducted in a well equipped electrical laboratory or work shop in which the student officers spend most of their scheduled time during the fall and winter months. Each officer is assigned a work bench, tools and apparatus and performs many experiments in electrical testing and measurement. During this course the student officers are required to dismantle, "take to pieces," reassemble, and operate telephones, buzzers, dynamos, switchboards, oil engines, transformers and many other pieces of apparatus in order to insure a thorough working knowledge of their construction and repair.

In the work of this department in the laboratory, the invitation to original investigation and research is constantly extended to the student officer.

DEPARTMENT OF TOPOGRAPHY

During the past year the instruction in this department, has been under the charge of the senior instructor, Department of Engineering, Army School

of the Line, and has embraced the methods of topographic road and position sketching, both mounted and on foot, by individuals and by parties, the compilation and reproduction of field sketches and maps, and the selection and location of defensive positions and entrenchments, both from the map and on the ground.

DEPARTMENT OF LANGUAGES

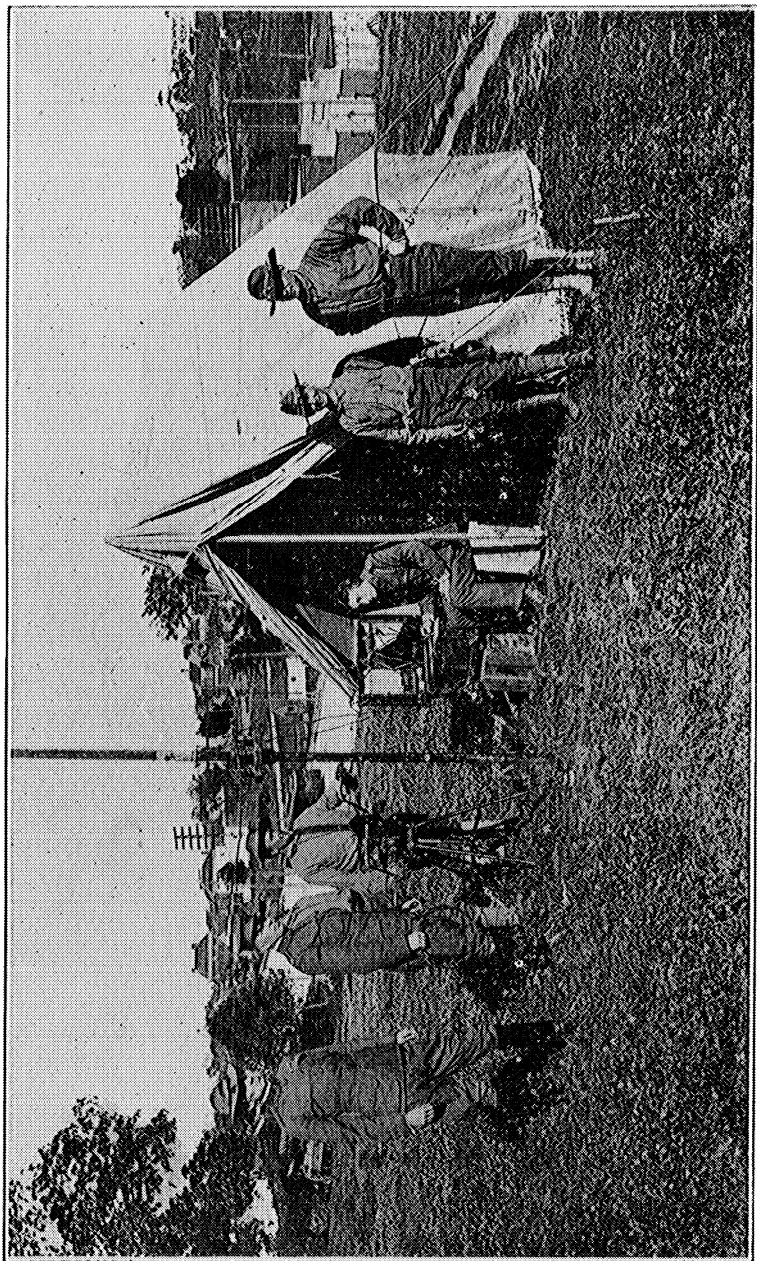
During the year, the instruction in this department has been under the charge of the senior instructor, Department of Languages, Army School of the Line. All student officers who had not a good conversational knowledge of Spanish were required to receive instruction in that language. Other officers were permitted to select either German or French.

THESES

During the school year, each student officer was required by paragraph 33, General Orders No. 211, War Department, 1907, to select some special subject for original investigation and study and to present the results of his research in the form of a thesis. The resources of the school and of Company A, Signal Corps, were placed at the disposal of the student officer. Although a small amount of time was scheduled for this work, each thesis represented a large amount of individual effort made outside of the scheduled time. The experience gained by each officer in this class of original investigation makes this type of instruction the most valuable feature of the school's work and each of the following named theses is a valuable contribution to the literature pertaining to military signaling.

LIST OF THESES

"Should Signal Corps Troops be Stationed at Posts with Troops of the Line or at Posts by Themselves?" By Captain D. J. Carr, Signal Corps.



FIELD WIRELESS STATION OPERATED BY STUDENT

“Should the Buzzer be Issued to Troops of the Line?” By Captain A. T. Ovenshine, 7th Infantry.

“Maintainance of Communication in the Field? By Captain I. J. Carr, 28th Infantry.

“The Use of the Signal Corps as an Aid to Maneuvers? By Captain J. B. Allison, 7th Infantry.

“Power for Field Wireless Sets? By Captain A. S. Cowan, 20th Infantry.

“Wireless Telephony”. By 1st Lieutenant F. W. Fonda, Signal Corps.

“The Training of a Field Company”. By 1st Lieutenant Gkorge E. Kumpe, 2d Infantry.

“A Buzzer Switchboard”. By 1st Lieutenant J. A. Moss, Signal Corps.

“Signal Detachments for Cavalry and Infantry Regiments”. By 1st Lieutenant S. C. Megill, 4th Cavalry.

“A Field Company of the Signal Corps? By 1st Lieutenant J. E. Ware, 14th Infantry.

“The Tactical and Strategrical Value of Dirrigible Balloons and Flying Machines”. By 1st Lieutenant B. D. Foulois, Signal Corps.

“The Organization of a Service Company with each Regiment of Infantry and Cavalry”. By 1st Lieutenant P. J. Hennessey, 15th Cavalry.

“Signal Corps Transportation”. By Lieutenant R. S. Bamberger, 7th Cavalry.

“Notes on Apparatus for Laying and Taking Up Field Wire”. By Lieutenant J. G. Winter, jr., 6th Cavalry.

ELECTRICAL LABORATORY

During the present school year, the electrical laboratory of the school was enlarged and now occupies the entire basement floor of the south wing of Sherman Hall. The laboratory was rewired and is provided with seventeen work benches with an ultimate capacity of twenty-three, for the use of student officers. The seventeen work benches are equipped as follows:

1 Telephone

1 Telegraph set

1 Telegraph switchboard

Leads to 110 and 220 volt alternating currents

Leads to main storage battery, mercury arc rectifier, and to two power switchboards connected with direct current motor-generator sets

Various tools

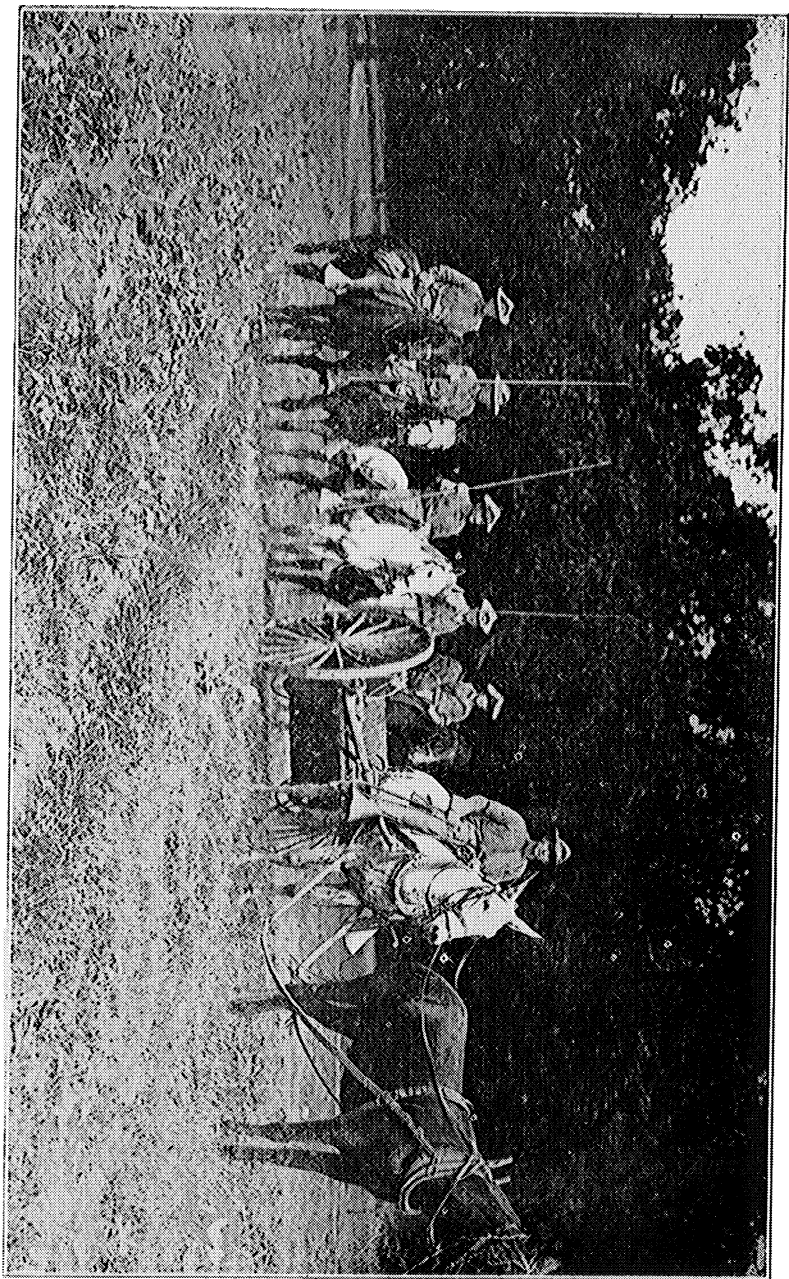
The following apparatus is installed in the laboratory, ready for operation and demonstration:

- 1 I-k.w. wireless set complete and 4 wireless pack sets
- 2 $1\frac{1}{2}$ h.p. Mietz & Weiss oil engines
- 1 Portable gasoline engine driven charging set for portable storage batteries
- 2 Power switchboards
- 1 Main power panel for controlling all power and light circuits
- 1 Mercury arc rectifier
- 1 Motor generator set-5 h.p. A. C. motor-110 v. 26 amp. D. C. generator
- 1 Motor generator set-1 h.p. A. C. motor-45 v. 11 amp. D. C. generator
- 4 Hand generators for wireless sets
- 1 D. C. generator 125 v. 25 amp.
- 3 Sprague generators, 250 watts
- 2 Sine-wave alternators, Type C (Crehore & Squier)
- 1 Storage battery, 30 v. 8 amperes
- 1 Storage battery, 12 v. 5 amperes
- 1 Voltage regulator, direct current
- 1 Transformer, 1 k. w.
- 1 Transformer, $\frac{1}{2}$ k. w.
- 1 20-drop telephone switchboard, connected with telephone on each bench
- 1 Fire control set (Coast Artillery type)
- 1 Lathe with tools
- 1 water motor, $\frac{1}{4}$ h.p.
- 1 Winton automobile (line repair car)

The laboratory is also supplied with galvanometer, voltmeters, ammeters, wattmeters, wheatstone bridges, ohmmeters, and various other testing instruments, and with all types of Signal Corps instruments and apparatus which are issued from time to time for practical work.

COMPANY "A", SIGNAL CORPS

By direction of the Secretary of War, on August 21, 1907, Company "A", Signal Corps, was relieved from duty as a part of the post of Fort Leavenworth and placed under the command of the Commandant of the Army Signal School. Although the previous service of this organization when a part of the garrison had been most harmonious and the company had always been at the disposal of the Signal School when needed this change proved a beneficial one due to the fact that this organization is really the most valuable



asset of the Signal School and is continually needed for field work. Owing to the small commissioned personal of the Signal Corps and the heavy demands made upon the Corps for officers elsewhere, but one officer was available for duty with this organization at Fort Leavenworth.

This company to-day contains more men and animals than a troop of cavalry and more technical equipment than a field battery. The majority of the recruits received by the company have no professional qualifications and must be educated and trained for the highly technical field work of the Corps. For these reasons no single officer can perform all the duties required of him to keep the organization at the required state of efficiency. It is earnestly hoped that at least two officers can be assigned to this company in the future.

ORGANIZED SIGNAL TROOPS

The three years' experience of the Signal School in installing and operating electrical field lines of information has clearly demonstrated that Signal troops should be organized into permanent companies of prescribed strength. The duties and equipment are highly technical and Signal troops in war which are not permanently organized into companies can be no more efficient than Field Artillery would be were it not organized into batteries.

TECHNICAL CONFERENCES

During the year technical conferences were scheduled twice monthly and proved to be a valuable feature in the course of instruction. The object of these conferences was to bring before the school a comprehensive account of any work of importance pertaining to the subject of signaling or signal engineering which might appear in any of the military or scientific periodicals in the library of the school.

For each conference, several officers were detailed in advance and brought to the meeting a comprehensive account of any work of importance, or new developments, pertaining to signaling or signal engineering which has come to their notice in their general reading. All officers connected with the school, whether students or instructors, joined in the discussion at these conferences and each gained much from the reading of the others.

ORIGINAL WORK

The following original work was accomplished by the Signal School during the year:

(a) At maneuvers and in field exercises where orders and messages have been transmitted by wire, confusion has repeatedly occurred due to the lack of a standard field message blank. The present field message blank used by the Signal Corps is not satisfactory from a military art standpoint as it lacks certain headings for data which must be included in military orders and messages. The numerous "field message books" published and sold by commercial companies are very confusing to soldier telegraph operators and lack certain headings essential to the telegraph service.

A committee of officers of the Signal School consisting of

Captain J. B. Allison, 7th Cavalry,
First Lieutenant V. D. Dixon, Signal Corps,
Second Lieutenant R. S. Bamberger, 7th Cavalry,

made research into this matter and devised a cheap, simple field message book which includes all the requirements of the military art department and of the telegraph service.

A sample sheet from this book is appended.

(b) During the year, 1st Lieutenant J. A. Moss, Signal Corps (then First Lieutenant, 22d Infantry), devised and constructed an original field buzzer

switch board. Lieutenant Moss' switch board is very small and simple and fills a long felt need in certain classes of field line work.

(c) During the three years of its history, the Signal School has felt the urgent need of a simple wire cart or wagon which would automatically take up and pay out field wire at a rapid gate. A committee of officers consisting of

Captain D. J. Carr, Signal Corps,
Captain A. S. Cowan, 20th Infantry,
First Lieutenant J. A. Moss, Signal Corps,
Second Lieutenant J. G. Winter, jr., 6th Cavalry,

made an exhaustive research into the subject and built three successive models of wire carts which were capable of handling wire as furnished from the factory in original coils.

(d) A committee consisting of

Captain A. T. Ovenshine, 7th Infantry,
First Lieutenant G. E. Kumpe, 2d Infantry,
First Lieutenant J. E. Ware, 14th Infantry,
First Lieutenant P. J. Hennessy, 15th Cavalry,

made investigation into the subject of the best type of field wire and of the subject of lance trucks. The committee rendered a valuable report embodying improvements.

(e) A committee consisting of—

Captain I. J. Carr, 28th Infantry,
1st Lieutenant F. W. Fonda, Signal Corps,
1st Lieutenant S. C. Megill, 4th Cavalry,
1st Lieutenant B. D. Foulis, Signal Corps,

made research into the subject of the three codes now being used by the army for wire telegraphy, wireless telegraphy and visual signaling and submitted a convincing report recommending the abandonment of the Myer code, now so troublesome to the Army and the organized militia.

RECOMMENDATIONS-TOPOGRAPHY

During the three years of the existence of the Signal School, the course in Topography has been

given during the spring months, not continuously, but on days scattered thru April and May. Practically all of the technical field work of the Signal School must be given during the spring months. Little technical field work can be done during the fall months, due to the fact that the student officers are unfamiliar with the equipment and the principles underlying its use.

The efficiency of the Signal School has been lowered during the past three years, due to the loss of this time in the spring months devoted to sketching.

It is therefore recommended that hereafter the instruction in topographical sketching be given during the fall months, that the student officers of the Army Signal School, who are graduates of the Army School of the Line, be given a course of instruction in sketching similar to that given student officers of the Army Staff College. The student officers, not graduates of the Army School of the Line, be given a theoretical and practical course of instruction in sketching similar to that given in the Army School of the Line, to include map reproduction under field conditions, map reading and sketching. It is further recommended that, to accomplish the above, an instructor from the Department of Engineering, Army School of the Line, report to the Assistant Commandant, Signal School, for this duty.

SIGNAL TROOPS

The success of the Signal troops depends on practical field work. The field work is dependent on the use of organized Signal troops. It is recommended that two field companies of the Signal Corps be placed on duty with the Signal School and that the necessary barracks and quarters for them be built in the college section of the post.

In closing this report, I wish to express my thoro appreciation of the work of the instructors in the Signal School and personally to thank each one for his interest and loyalty to the school.

Very respectfully,

C. McK. SALTZMAN,
Major, Signal Corps, U. S. Army,
Assistant Commandant.

[APPENDIX]

DEPARTMENT OF SIGNAL ENGINEERING
ARMY SIGNAL SCHOOL

Elementary Problems in Alternating Currents

Written Exercise

I. A non-inductive resistance R , of 200 ohms, is connected in series with a condenser across the terminals of an alternator which has a frequency of 60. The condenser has a capacity of 15 microfarads and the current flowing in the circuit is 5 amperes.

Required:

(a) The reading that would be given by a voltmeter connected to the terminals of the resistance.

(b) The reading of the voltmeter if connected to the terminals of the condenser.

(c) The reading of the voltmeter if connected across the mains, i.e., the E.M.F. furnished by the alternator.

(d) The angle by which the current will lead the E.M.F.

2. An alternating current in which $W=1000$ is led into a condenser of small capacity, $C=\frac{1}{10}$ microfarad. What current will flow through the condenser when 100 volt is impressed at its terminals?

3. In a circuit $W=1000$, $L=10$ henrys, R is but 1 ohm. By how much will the current lag behind the impressed E.M.F.?

ARMY SIGNAL SCHOOL

*Fort Leavenworth, Kansas,
September 19, 1907.*

Written Exercise No. 2

(Time, one hour)

I. What is light? (Answer to be limited to twenty-five words.)

2. What is the principal focal distance of a lense? (Answer should not contain over forty words.)

3. Draw a double convex lense. Show the axis, the optical center, the center curvature and the image of an ob-

ject. If the object is at infinity, where will the image be? If the object is at $2f$, f , $\frac{1}{2}f$?

$$\text{Equation } \frac{1}{i} = \frac{1}{f} - \frac{1}{o}$$

4. What is spherical and chromatic aberration? Illustrate by diagrams.

5. Upon what depends the difference in color seen in the spectrum?

6. What are the advantages and the disadvantages of a high power field glass?

ARMY SIGNAL SCHOOL

Written Exercise No. 4

*Fort Leavenworth, Kansas,
September 24, 1907.*

1. Encipher the following message, using the War Department Telegraph Code. Key word "Grant" (70 180-10-140-200) subtractive :

General Barry,
Havana, Cuba.

With reference to your telegram of 5th ultimo, delay action until you receive our letter of November 2d. Advise us daily of any movement of any importance.

BELL.

2. Decipher the following message, using the War Department Code. Key word "Shafter" (190-80-10-60-200-50-180) subtractive :

General B,
Manila, P. I.

I B A N U M I M I X A X K E N U F A N E D M M U
I K E D E K D E D A D A G U N U G I

BELL.

3. Decipher the following cipher code message. Key words "Military Art":
commanding Officer,

Fort Leavenworth, Kansas.

K R H W P J D T P N T R E Y M F U Y R I X B X E J P P X
Z J C W P V A G K C G F K J

GREELY.

DEPARTMENT OF SIGNAL ENGINEERING

ARMY SIGNAL SCHOOL

Fort Leavenworth, Kansas,

December 17, 1907.

Written Exercise No. 5.

1. A Fuller cell (r. 0. 5 ohm) furnishes current for a circuit containing a magnet coil and a bell coil in series. The drop in voltage across the terminals of the bell is shown to be 0. 5 volt by a voltmeter. An ammeter shows 2 amperes of current through the magnet coil. The drop in voltage between the battery terminals is 1.5 volts. The resistance of the connecting wires is negligible.

- (a) What is the resistance of the magnet coil?
- (b) What is the E. M. F. of the cell?
- (c) What power is maintained by the cell on short circuit?

2. A dynamo having an r. of 5 ohms; an E. M. F. of 20 volts, and which is furnishing just enough current to light 10 lamps (50 ohms each) in parallel, suddenly breaks down. and you are unable to repair it.

- (a) How many cells, each having an E. M. F. of two volts, and r. of 0. 5 ohm, are required for maximum economy of first installation, to replace dynamo temporarily., and what must be the arrangement of the cells in the battery?
- (b) How much power is given to the internal circuit?

3. A captain having an allowance of 4 rooms and 20,000 watt hours of electricity per room per month., is assigned to quarters fitted with incandescent lamps having a resistance of 220 ohms each.

- (a) If the cost is \$.0535 per kilowatt hour, what is the money value of his allowance per month?
- (b) If the power is supplied at 110 volts, how many lamps can the captain burn for 5 hours each day for 30 days and keep within his allowance?

4. An electric light circuit of 110 volts P. D. between mains passes through the laboratory. You desire to run a motor, requiring 2 amperes at 10 volts, by connecting it between the mains of the electric circuit. You have available a number of 50 volt, 50 ohm (hot) incandescent lamps., and a resistance box having a capacity of 30 ohms.

- (a) Draw a diagram showing how you would arrange the circuit so as to meet the above requirements, using the least number of lamps, and indicate how much resistance it was necessary to implug in the resistance box?
- (b) Give any explanation that may be necessary to prove that your motor will receive only 2 amperes at 10 volts.

ARMY SIGNAL SCHOOL

List of Lectures given during Class Year 1907-8

1907

October

- 2, (A.M.) Lecture by Major Saltzman, Subject, Light.
- 2, (A.M.) Lecture by Major Saltzman. Subject, "Electro-Statics and Induction?"
- 8, (A.M.) Lecture by Major Saltzman. Subject, "Electro-Statics, Potential, Cell, etc."

November

- 5, (A.M.) Lecture by Major Saltzman. Subject, "Galvanometers?"
- 12, (A.M.) Lectures by Major Saltzman and Lieutenant Wiczorek. Subject, "Balloons".

1908

January

- 7, (A.M.) Lecture by Major Saltzman. Subject, "Induced Currents".
- 24, (A.M.) Lecture by Captain C. DeF. Chandler, Signal Corps. Subject,, "Ballooning, Free and Captive".
- 27, (A.M.) Lecture by Captain C. DeF. Chandler. Subject, "Ballooning".
- 28, (A.M.) Lecture by Captain C. DeF. Chandler. Subject, "Ballooning".
- 28, (P.M.) Lecture by Captain C. DeF. Chandler. Subject, "Ballooning".

February

- 6, (A.M.) Lecture No. 1 on Alternating Currents, Major Saltzman.
- 10, (A.M.) Lecture No. 2 on Alternating Currents, Major Saltzman.
- 13, (A.M.) Lecture No. 3 on Alternating Currents, Major Saltzman.
- 18, (A.M.) Lecture No. 4 on Alternating Currents, Major Saltzman.
- 20, (A.M.) Lecture No. 5 on Alternating Currents, Major Saltzman.
- 27, (P.M.) Lecture No. 6 on Alternating Currents, Major Saltzman.
- 28, (A.M.) Lecture by Brigadier-General Hall. Subject, "The Relation of the Military to the Civil Authorities".

March

- 11, (A.M.) Lecture by Colonel Macomb, Artillery Corps.
- 18, (A.M.) Lecture by Major Saltzman. Subject, "Cables, Cable Ships, Cable Laying, Testing, etc."

March—Continued

- 23, (A.M.) Lecture by Major Saltzman. Subject, “Mercury Arc Rectifier?”
24, (P.M.) Lecture by Lieutenant Wieczorek, Signal Corps. Subject, “Water Motors?”
27, (A.M.) Lecture by Major Saltzman. Subject, “Wireless Telegraphy?”
31, (A.M.) Lecture by Major Saltzman. Subject, “Power”.

April

- 1, (A.M.) Lecture by Major Saltzman. Subject, “Wireless Telegraphy?”
2, (A.M.) Lecture by Major Saltzman. Subject, “Wireless Telegraphy?”.
3, (A.M.) Lecture by Major Saltzman. Subject, “Wireless Telegraphy?”
7, (A.M.) Lecture by Major Saltzman. Subject, “Wireless Telegraphy?”.
10, (A.M.) Lecture by Lieutenant Hughes. Subject, “Wireless Telegraphy?”.
13, (A.M.) Lecture by Captain Knowles. Subject, “Wireless Telegraphy?”.
15, (P.M.) Lecture by Lieutenant Hughes. Subject, “Wireless Telegraphy?”.
17, (A.M.) Lecture by Lieutenant Wieczorek. Subject, “Wireless Telegraphy?”.
20, (A.M.) Lecture by Lieutenant Wieczorek. Subject, “Wireless Telegraphy?”.
24, (P.M.) Lecture on Post Telephone System.

May

- 18, (A.M.) Lecture by Captain Knowles. Subject, “Fire Control, Coast Artillery”.
18, (P.M.) Lecture by Captain Knowles. Subject, “Fire Control, Coast Artillery”.

