

Annual Report

OF

COMMANDANT

The Army Service Schools

FORT LEAVENWORTH, KANSAS

School Year Ending August **31, 1909**

Army Service Schools Press.

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THE ARMY SERVICE SCHOOLS

FORT LEAVENWORTH, KANSAS

August, 31, 1909.

THE ADJUTANT-GENERAL OF THE ARMY,
Washington, D. C.

SIR:

I have the honor to submit the following report of the operations and administration of the Army Service Schools for the school year ending August 15, 1909:

In the report of the Secretary, hereto attached will be found a table giving the manner of the expenditures of the \$12,000 appropriated for the expenses of the institution for fiscal year ending June 30, 1909, and also a list showing the number of civilians and enlisted men who have been employed in his office or under his direction.

The enlisted men of this force have been receiving extra duty pay on account of the nature of their work, much of which required expert knowledge of no mean order, but under recent legislation the organization of the Army Service Schools Detachment, with a large proportion of high ranking non-commissioned officers, has made it possible by promotions to give to the enlisted personnel practically the same pay that they received under the old system. In the cases of those men appointed master signal electricians there were very considerable increases, but in all cases to men well worth the money, and whose services are invaluable. The organization of this detachment was begun with the present fiscal year, and it is at this date in excellent working order and giving **satisfaction**,

The majority of the white detachment, the one now under consideration, formerly belonged to the various organizations at this post, and had been for some time on detached duty at the Service Schools. The remainder required to bring the detachment to its authorized strength were obtained by transfers from the Army at large, except in the cases of a few obtained by direct enlistment.

Troop G, 9th Cavalry, which for two years had been attached to the Service Schools was, on the organization of the Army Service Schools Detachment, relieved from duty here and ordered to the station of its regiment, its place being taken by the colored detachment, more than one third of the men of which were obtained by transfers of some of the most desirable members of the above mentioned organization, the balance required to bring the detachment up to its authorized strength of 124 men coming by transfers from the various colored regiments of the army. The Army Service Schools are under great obligations to the commanding and other officers of these organizations for co-operation in obtaining especially capable and reliable men. The work of this colored detachment is of an unusually exacting nature, the members thereof being required to care for a large number of public and private animals, furnish orderlies for officers engaged in work requiring them to be mounted, do janitor work at the college building.

During the past year the "Mailing List" has considerably expanded its scope, and now reaches about 1,500 officers of the regular army and the organized militia. To these officers are mailed all problems with approved solutions, books, pamphlets and other printed and mimeographed matter issued by the several departments of the institution.

Through the Book Department officers not only on duty at this institution, but throughout the ser-

vice generally, are enabled to obtain professional publications both in English and in other languages which they would find difficulty in purchasing without assistance, as books of this nature are not kept in stock by the book trade generally, and can be obtained through that channel only after considerable delay.

At the end of the period covered by this report the library of the institution contained 18,762 books in addition to numerous pamphlets and maps, this being an increase of 1,392 volumes during the year.

As to the methods by which these books were obtained, by purchase, donation or otherwise, reference should be had to the accompanying report of the librarian. One of the urgent needs of the Schools is a fire proof structure for the library, with considerably more room than is now available in the portion of a wing of the building used for that purpose. The loss of this collection of books would be almost irreparable.

The following is a list of officers who during the period covered by this report have been on duty at the Army Service Schools as commandant, assistant commandants, staff, instructors and assistant instructors.

**ARMY SCHOOL OF THE LINE, ARMY SIGNAL SCHOOL,
AND ARMY STAFF COLLEGE**

Commandant

Brig. Gen. Fredrick Funston, United States Army.

Personal Staff

Second Lieut. Hornsby Evans, 19th Infantry, A.D.C.

Assistant Commandants

Major John F. Morrison, General Staff, Army School of the Line' and Army Staff College.

Major Edgar Russel, Signal Corps, Army Signal School.

Secretary

Captain Ewing E. Booth, 7th Cavalry.

Librarian

Lieut. -Colonel Ezra B. Fuller, retired.

Department of Military Art

Senior Instructor

Major John F. Morrison, General Staff,

Instructors

Captain Stephen H. Elliott, 11th Cavalry
Captain Dwight E. Aultman, 5th Field Artillery
Captain Henry E. Eames, 10th Infantry
Captain George F. Baltzell, 5th Field Artillery
Captain Monroe C. Kerth, 23d Infantry
Captain Matthew E. Hanna, 3d Cavalry
Captain Arthur L. Conger, 29th Infantry
Captain Duncan K. Major, jr., 27th Infantry
Captain Roger S. Fitch, 2d Cavalry
Veterinarian Sidney L. Hunter, 2d Field Artillery

Department of Engineering

Senior Instructor

Captain Edwin T. Cole, 6th Infantry

Instructors

Captain Henry E. Eames, 10th Infantry
Captain James A. Woodruff, Corps of Engineers
Captain Clarence O. Sherrill, Corps of Engineers
First Lieut. George C. Marshall, jr., 24th Infantry

Department of Law

Senior Instructor

Captain Herbert A. White, 11th Cavalry

Instructors

Captain Charles E. Stodter, 9th Cavalry
Captain Tenney Ross, 7th Infantry

Department of Languages

Senior Instructor

Captain Arthur Thayer, 3d Cavalry

Instructors

Captain James A. Moss, 24th Infantry
Captain Dwight E. Aultman, 5th Field Artillery
Captain Oliver L. Spaulding, jr., 5th Field Artillery
Captain H. W. Miller, 13th Infantry
Lieutenant Jorge Landa, 15th Mexican Infantry

Department Care of Troops

Senior Instructor

Major Edward L. Munson, Medical Corps

ARMY SIGNAL SCHOOL'

Department of Field Signaling

Senior Instructor

Major Edgar Russel, Signal Corps

Instructors

Captain Edwin T. Cole, 6th Infantry
Captain James B. Allison, 7th Infantry
Captain Arthur S. Cowan, 18th Infantry
Captain Alden C. Knowles, 30th Infantry
First Lieut. Varien D. Dixon, Signal Corps

Department of Topography

Senior Instructor

Captain E. T. Cole, 6th Infantry

Department of Languages

Senior Instructor

Captain Arthur Thayer, 3d Cavalry

Of the above, during the school year Captain Major and Lieutenant Landa were relieved on account of illness, Captain Kerth was ordered to duty at the War Department, and Veterinarian Hunter died. At the close of the year, Captains Booth, Cole, White and Eames were relieved on account of the expiration of the period for which they could, under the law, be absent from their respective organizations. Captains Spaulding and Miller? belonging to organizations stationed at the post of Fort Leavenworth, acted as assistant instructors in the Department of Languages, and at the same time did duty with their respective organizations. A competent instructor in German having been obtained, Captain Spaulding's services were no longer required, and Captain Miller has been regularly detailed as an instructor. The following officers in addition to Captain Miller have been detailed by War Department orders to take the places of those relieved: In the Department of Military Art, as instructors, Captains T. O. Murphy, 19th Infantry, LeR. Eltinge, 15th Cavalry, and Stuart Heintzelman, 3d Cavalry; in the Department of Law, as senior instructor, Captain H. A. Smith, 15th Infantry, and Captain Willey Howell, 6th Infantry, as instructors; in the Department of Languages, 1st Lieutenant Walter Krueger, 23d Infantry, as instructor; in the Army Signal School, 1st Lieutenant J. A.

Brockman, 17th Infantry, as instructor. Captain A. E. Saxton, 8th Cavalry, has been detailed as Secretary, and 1st Lieutenant B. J. Mitchell, 12th Infantry, detailed as aid to the Commandant, having command of the white detachment, and in charge under the Secretary, of the Book Department and the Mailing List.

The following constituted the Staff Class for the year, all of them completing the course and graduating:

Captain G. D. Moore, 20th Infantry
Captain T. O. Murphy, 19th Infantry
Captain H. A. Smith, 15th Infantry
Captain Alonzo Gray, 14th Cavalry
Captain G. E. Stockle, 8th Cavalry
Captain C. F. Crain, 27th Infantry
Captain F. L. Wells, 11th Infantry
Captain Jens Bugge, 28th Infantry
Captain S. B. Arnold, 1st Cavalry
Captain F. LeJ. Parker, 12th Cavalry
Captain A. E. Saxton, 8th Cavalry
Captain R. J. Burt, 9th Infantry
Captain LeRoy Eltinge, 15th Cavalry
Captain W. M. Fassett, 13th Infantry
Captain W. D. Chitty, 4th Cavalry
Captain William Mitchell, Signal Corps
Captain J. M. Graham, 19th Infantry
Captain Willey Howell, 6th Infantry
Captain G. V. H. Moseley, 5th Cavalry
Captain D. T. Merrill, 7th Infantry
Captain J. C. Rhea, 7th Cavalry
Captain F. W. Van Dwyne, 4th Infantry
Captain T. B. Taylor, 3d Cavalry

The following officers constituted the Line Class at the beginning of the school year:

Captain C. F. Farnsworth, 7th Infantry
Captain Charles Gerhardt, 8th Infantry
Captain W. K. Jones, 6th Infantry
Captain W. R. Dashiell, 24th Infantry
Captain E. A. Helmick, 10th Infantry
Captain Robert Alexander, 19th Infantry
Captain N. F. McClure, 5th Cavalry
Captain T. Q. Donaldson, jr., 8th Cavalry
Captain F. M. Caldwell, 12th Cavalry
Captain S. G. Jones, 11th Cavalry
Captain T. M. Corcoran, 13th Cavalry
Captain J. McA. Palmer, 15th Infantry
Captain P. B. Malone, 27th Infantry
Captain J. W. Barker, 3d Infantry

Captain L. T. Richardson, 22d Infantry
Captain C. F. Hartmann, Signal Corps
Captain G. H. Davis, 12th Infantry
Captain R. H. McMaster, 1st Field Artillery
Captain Manus McCloskey, 4th Field Artillery
Captain E. D. Scott, 5th Field Artillery
Captain H. V. Evans, 8th Infantry
Captain C. S. Lincoln, 2d Infantry
Captain Berkeley Enochs, 19th Infantry
Captain George E. Mitchell, 13th Cavalry
Captain A. W. Bjornstad, 28th Infantry
Captain H. S. Hathaway, Signal Corps
Captain E.-A. Sirmyer, 8th Cavalry
Captain E. A. Fry, 13th Infantry
Captain E. J. Williams, 5th Infantry
Captain J. W. Kilbreth, 6th Field Artillery
Captain G. B. Pond, 20th Infantry
Captain Alfred Aloe, 1st Infantry
Captain F. W. Rowell, 15th Infantry
Captain Guy Cushman, 15th Cavalry
Captain G. L. Townsend, 23d Infantry
First Lieutenant Jerry Springstead, Kansas N. G.

Of these, Captain Corcoran was relieved during the year by War Department order, having unavoidably missed two months of the course, Captain Hathaway was relieved on account of illness necessitating his retirement from active service, Captain Aloe failed to graduate and Lieutenant Springstead was compelled to leave school for personal reasons. All of the remainder of the class graduated, as follows:

HONOR GRADUATES

Captain A. W. Bjornstad, 28th Infantry
Captain P. B. Malone, 27th Infantry
Captain J. McA. Palmer, 15th Infantry
Captain Manus McCloskey, 4th Field Artillery
Captain J. W. Barker, 3d Infantry

DISTINGUISHED GRADUATES

Captain C. S. Lincoln, 2d Infantry
Captain F. M. Caldwell, 12th Cavalry
Captain J. W. Kilbreth, jr., 6th Field Artillery
Captain R. H. McMaster, 1st Field Artillery
Captain S. G. Jones, 11th Cavalry
Captain E. A. Sirmyer, 8th Cavalry
Captain G. H. Davis, 12th Infantry
Captain Charles Gerhardt, 8th Infantry
Captain E. J. Williams, 5th Infantry
Captain L. T. Richardson, 22d Infantry

Captain N. F. McClure, 5th Cavalry
Captain Robert Alexander, 19th Infantry
Captain G. E. Mitchell, 13th Cavalry
Captain C. F. Farnsworth, 7th Infantry
Captain Berkeley Enochs, 19th Infantry
Captain E. D. Scott, 5th Field Artillery
Captain T. Q. Donaldson, jr., 8th Cavalry
Captain H. V. Evans, 8th Infantry
Captain G. L. Townsend, 23d Infantry
Captain E. A. Helmick, 24th Infantry

GRADUATES

Captain Guy Cushman, 11th Cavalry
Captain W. R. Dashiell, 24th Infantry
Uaptain E. A. Fry, 13th Infantry
Captain C. F. Hartmann, Signal Corps
Captain W. K. Jones, 6th Infantry
Captain G. B. Pond, 20th Infantry
Captain F. W. Rowell, 15th Infantry

The following twenty-two were selected as the class to enter the Staff College for the next year:

Captain Robert Alexander, 19th Infantry
Captain J. W. Barker, 3d Infantry
Captain A. W. Bjornstad, 28th Infantry
Captain F. M. Caldwell, 12th Cavalry
Captain G. H. Davis, 12th Infantry
Captain T. Q. Donaldson, jr., 8th Cavalry
Captain Berkeley Enochs, 19th Infantry
Captain H. V. Evans, 8th Infantry
Captain C. S. Farnsworth, 7th Infantry
Captain Charles Gerhardt, 8th Infantry
Captain S. G. Jones, 11th Cavalry
Captain C. S. Lincoln, 2d Infantry
Captain P. B. Malone, 27th Infantry
Captain J. McA. Palmer, 15th Infantry
Captain Manus McCloskey, 4th Field Artillery
Captain F. F. McClure, 6th Cavalry
Captain R. H. McMaster, 1st Field Artillery
Captain L. T. Richardson, 22d Infantry
Captain E. D. Scott, 5th Field Artillery
Captain E. A. Sirmyer, 8th Cavalry
Captain G. L. Townsend, 23d Infantry
Captain E. J. Williams, 6th Infantry

Captain Mitchell, who was by his standing eligible to enter the Staff College, chose the Signal School instead.

The following list shows the names of those who entered the Signal School, all of them graduating ex-

cept Captain Burnell and Lieutenant Singeltonj both of whom were relieved on account of ill health:

Captain G. C. Burnell, Signal Corps
Captain L. D. Wildman, Signal Corps
Captain R. C. Langdon, 3d Infantry
Captain C. H. Bridges, 15th Infantry
Captain P. H. Mullay, 14th Infantry
Captain B. O. Lenoir, Signal Corps
First Lieutenant K. T. Smith, 6th Infantry
First Lieutenant H. A. Bell, 15th Infantry
First Lieutenant W. C. Jones, 13th Infantry
First Lieutenant J. A. Brockman, 17th Infantry
First Lieutenant A. L. Singleton, 5th Infantry
First Lieutenant, Dawson Olmstead, 5th Field Artillery
First Lieutenant H. C. Tatum, 7th Cavalry.
Second Lieutenant M. L. Love, 2d Cavalry .

During the past year the Army Service Schools have kept up the high standard established by my predecessors in the command; the institution has run like a well oiled machine, every instructor and almost every student officer giving the best that is in him.

Under such conditions the undersigned does not feel disposed to recommend changes of a radical nature. A change in the system of giving out the marks in the Line Class, however, has been instituted and is in effect at the time of rendering this report. It had become obvious during the past year that competition for marks in that class was so keen that the results were not beneficial in all ways.

Some of the older officers of, the class were having a hard struggle to stand well toward the head, and the publication of the marks from time to time, showing that a number of their juniors were making better grades had a tendency to depress and humiliate them, and thus to interfere with the quality of their work. **Under** the new system every officer of that class is furnished his own marks confidentially and requested, not ordered, to so consider them. It is understood that the members of this class have voluntarily entered into an agreement to respect the wishes of the school authorities in this matter, thus

skowing a most commendable spirit. Experience will show whether this system is to be preferred to the old. There is little or no danger of competition in that class not being sufficiently sharp to answer all purposes. If time shall show that other changes either in the courses of instruction or elsewhere are necessary, appropriate recommendations will be made from time to time, but present indications are that it would be best to let well enough alone.

The Army Service Schools have been greatly indebted to the commanding officer of the post of Fort Leavenworth, Colonel R. H. R. Loughborough, 13th Infantry, who has given to the institution the most cordial co-operation. Not only has the somewhat anomalous condition of two officers exercising to a certain extent concurrent jurisdiction resulted in no friction, but the most cordial official and personal relations have existed between the Post Commander and myself.

The Service Schools have been under great obligations during the past year to the Directors of the United States Geological Survey for furnishing the institution with many maps for use in the Department of Military Art.

The work of the civilian clerks and enlisted men detailed in various capacities in the administration of the Schools has been highly efficient and merits the warmest praise.

For detailed information regarding the courses of instruction in the various departments of the schools reference should be made to the reports of the assistant commandants and heads of departments, attached hereto.

Very Respectfully,
FREDERICK FUNSTON,
Brigadier General,
Commandant.

THE ARMY SERVICE SCHOOLS
FORT LEAVENWORTH, KANSAS

August 31, 1909.

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, 1909:

The sum of twelve thousand (\$12,000.00) dollars was allotted for the support of this institution for fiscal year 1909 which was expended as follows:

Disbursements

Pay of enlisted men, extra duty.	\$ 4844 65
Furniture and stationery, office and library.	1560 00
Dept. of Engineering, Photograph Dept., Drafting Room and Map Making Dept..	1748 76
Department of Languages	101 63
The Library, (books and periodicals).	1066 13
Bookbinder-y.	511 64
Printing office	1585 80
Rental of telephones	108 45
Department of Military Art	95 00
Army Signal School.	182 48
Expressage	33 96
Cleaning material.	161 50
	\$12000 00

Employees

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
- 1 Master Signal Electrician, draughtsman
- 2 Sergeants of Engineers, bookbinders
- 4 Sergeants of Engineers, printers
- 10 Privates printers

2 Sergeants, clerks
5 Privates, janitors

Library

During fiscal year 481 volumes have been added to the library by purchase, 317 volumes by presentation and 594 volumes of public documents.

During the last two years there has grown up at this institution what is called a "Mailing List." The "Mailing List" consists of all problems with approved solutions, books, pamphlets and other printed and mimeographed matter issued by the several departments of this institution. A copy of each problem with approved solution book and pamphlet was sent to each officer on the "Mailing List." There are at the present time about 1500 Regular Army and National Guard officers on the "Mailing List."

In addition to supplying all of these officers for the school year 1909-10, arrangements have just been made to furnish the Militia Division of the War Department with the following for distribution to the National Guard of the United States:

Minor Tactics

Problems, Part I, Dept. Mil.

Art, consisting of 7 problems,

To all officers of the National Guard.

Problems, Part IX, Dept. Mil.

Art, consisting of 5 problems,

Problems, Part III, Dept. Mil.

Art, consisting of 10 problems,

Problems, Part IV, Dept. Mil.

Art, consisting of 10 problems,

To all field officers of the National Guard.

Military Map Reading, Sherrill,

Patrolling,

Advance and Rear Guard,

Outpost Duty,

Combat,

Messages, Orders and Reports

To all officers of the National Guard.

The "Mailing List" matter will reach thousands of officers, **and** while it is probable that all of them

do not make use of the matter, it is believed that a great majority make a thorough study of each problem. This not only results in encouraging officers in professional studies, but hundreds of officers are able to follow in detail the course of instruction at The Army Service Schools.

It is recommended that the " Mailing List " feature be continued and improved. along such lines as time and experience may indicate to be best.

Respectfully submitted,

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

ARMY SERVICE SCHOOLS LIBRARY
FORTLEAVENWORTH, KANSAS

August 31, 1909.

TO THE SECRETARY,
The Army Service Schools.

Sir:

I have the honor to respectfully submit the following report regarding the Library of the Army Service Schools for the year ended June 30, 1909:

There have been no additions to the rooms, furniture and fixtures of the library during the year; therefore, more than ever, has the work been hampered by a lack of room and still more books, pamphlets, etc., are now boxed or piled in stacks in the map room than reported last year. As before reported, the room used as an officer's study is too small for the purpose and lacks facilities for using properly the large maps when studying campaigns.

Again does this, and the additional fact that this building is the very opposite from even approaching a fire-proof structure, emphasize the need for more room, and better protection against fire for these valuable and in very many cases irreplaceable books, which can only be done by providing a new fire-proof library building.

Master Signal Electrician Harry Bell has been the principal assistant in the library for several years and, as previously reported, his services have been invaluable to the library and to the Service Schools. It is only recently that, under the law permitting the organization of the Service Schools Detachment, there has been an opportunity to give him an increase in salary and even now the pay he receives as Master

Signal Electrician is not commensurate with the service he renders.

The work of cataloguing, etc., in the library has been, as heretofore, greatly hampered by having inefficient second assistants, but great improvement is hoped for in now being able to give better pay and a more permanent position to a capable man under the law above mentioned.

The inventory recently taken shows that there are 18,762 books in the library in addition to numerous pamphlets, maps, ect., which have not yet been catalogued.

List of Accessions for the year ending June 30, 1909

Public Documents and School Publications	298
Translations from Military Information Division	231
From Bindery (Service Magazines)	65
By Purchase	481
By Donation	317
Total.....	1392

List of Donors

	VOLUMES
Burt, Captain R. J., U. S. Army	9
Conger, Captain A. L., U. S. Army	1
Crain, Captain C. F., U. S. Army	5
Cushman, Captain Guy, U. S. Army	1
Fuller, Lieut.-Col. E. B., U. S. Army	1
Howell, Captain W., U. S. Army	18
Kansas State Historical Society	1
McLean, Captain M. R., Kansas N. G.	2
North Dakota State Historical Society	1
Serven, Mr. A. R., Washington, D. C.	128
Silver, Chaplain H. P., U. S. Army	2
Spaulding, Captain O. L., U. S. Army	2
U. S. Cavalry Journal	15
Wiley, General J. A., Pennsylvania N. G.	1
Wilson, Mrs. S. G. (186 maps)	128
Woodruff, Captain J. A., U. S. Army	2
Total	317

Other Data

Books loaned out during year. 2713 Vols.
Amount expended for books and periodicals, \$1066.13

Very respectfully,

EZRA B. FULLER,

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

THE ARMY SCHOOL OF THE LINE
DEPARTMENT OF MILITARY ART

Fort Leavenworth Kansas, August 31, 1909.

THE SECRETARY,
The Army Service Schools.

Sir:

I have the honor to submit the following report of the Department for the past year:

The class started with thirty-six members, thirty-five officers of the Regular Army and one from the National Guard. Of these thirty-two finished the course, all of the Regular Army. The work of the class was very satisfactory, and up to the high standard established by its predecessor.

Twenty-four members of the class were selected for the Staff class for next year. Taking such a large percentage of a class for the Staff Class course is not believed to be to the best interests of the service. Only a limited number of officers can be accommodated here and if accommodations were greater the officers could not be spared from their regiments. All officers, then-, can not have the opportunity to attend the Service Schools, but by decreasing the Staff Class more can, enter the Line Class and have an opportunity of competing for the higher class.

The Line Class course is by far the more important to most officers and I believe it to be to the best interests of the army at large to have more officers graduate from the Line Class and less in the Staff Class.

The power to so restrict the Class is now in the hands of -the Academic Board but if the number be made less than the twenty-four allowed it is looked

upon, improperly, as a reflection on the officers cut off. To avoid this the number should be restricted within much smaller limits or the course made a two year course for all. I believe it better to have a one year course and give more officers the advantage of it. If the accommodations here were much greater than they are and the officers could be spared from their regiments, undoubtedly it would be well to make it a two year course, but not under present conditions.

The course for this year was extended forty-five half days over that of last year, the transfer of time from the other departments having been authorized. This extension of time has enabled the department to make the course much more satisfactory, but it is still incomplete. I believe that in order to make the course what it should be at least forty more half days should be added. More work for a single year cannot be placed on the class, that limit has been reached. The heads of other departments cannot be expected to willingly give up time to this department for all **want** to round out their own courses.

There is but one way that I can see by which the necessary addition can be made to this course and that is by eliminating part of the present course to make room for it.

There is nothing in 'the course that is unimportant but part of it can be acquired nearly as well before coming here.

In the work for next year, as scheduled, a small gain is made by reducing the time allowed to what is termed here "Troops in Campaign, " It has been found that the officers now coming here do not require so much time on these subjects as they are generally well prepared; a saving of five half days has thus been made and will be devoted to Tactical Rides.

The lectures of Captain M. I? Steele, 6th Cavalry, in Military History, have formed part of the course in

this department for some years. They are now printed in book form and will be available to all officers of our army. These can be studied by officers before coming here nearly as well as here. It is therefore recommended that, beginning with the class of 1910-11, they be required for entrance and the time now allowed them here be devoted to other work.

It has been deemed advisable to devote considerable time during the year to Minor Tactics. I am not inclined to reduce this work for the present. It is necessary that this elementary tactical work be well understood before more advanced work be attempted. I am confident, however, that in a very few years most of it can be eliminated from the course for the officers coming here will know it. With these changes sufficient time will be gained to properly round out the Line Class course.

The course in Military Hygiene or Care of Troops, under Major Munson, Medical Corps, during the past year was very satisfactory and will be greatly improved during the coming year. The aim is to make it thoroly practical and give line officers a knowledge of their duties and responsibilities in this vitally important branch of the profession. I believe that for line officers, the course in Care of Troops, as laid down for the next year is the best ever offered to our officers.

The instruction in " Organization " comprised, besides a study of the prescribed organization of our own Army, a lecture on the principles of military organization, and one lecture each on the German, French, Japanese, British and Swiss armies.

Marches were treated both from a sanitary and tactical point of view. An effort was made to point out some of the causes of their often extravagant and

unnecessary cost in men. Camp and supplies were similarly treated.

As a necessary preliminary to a correct study of tactics, an officer must know the power and effectiveness of the weapons and munitions in use. In this course most of the time is devoted to field artillery and the infantry rifle, with lectures on cavalry and auxiliary weapons. The department has been handicapped for want of a proper book in English on the infantry rifle, but I believe this has now been obviated by Captain Eames, 10th Infantry, in his book, "The Rifle 'in War.'" It supplies a need of the Schools and one of our entire Army.

The work in tactics for the past year was satisfactory and will only be slightly modified for next.

We first consider only small commands of one arm, not exceeding one battalion or its equivalent.

For next year the course will be as follows:

Conferences in the class room on the subject, then a series of map problems, followed by terrain exercises, then war games, then tactical rides, then maneuvers with troops.

The idea being to 'present the subject in all these varied forms, to make the instruction as thoro and complete as practicable.

After completing the above the force considered is the equivalent of a regiment, usually of infantry with a little cavalry or a battery attached, first as map problems, then as war games.

The class then studies "Letters on Applied Tactics" dealing with the reinforced brigade. These studies are followed by map problems and war games dealing with the same sized forces and later by terrain exercises and tactical rides. These are followed by the 'study of "Tactical Decisions and Orders,"' after which a series of divisional problems are given out using the U. S. Geological Survey maps.

The course ends with a series of terrain exercises, tactical rides and maneuvers with troops, constituting a general review of the entire course.

The change is slight from that of the past year. There are more tactical rides scheduled for next year than for the one just passed, and there will be more terrain exercises.

There will be a change in the conduct of maneuvers with troops. This year as heretofore an attempt was made to mark the student officers on this work and give to each practically the same problem. The result was small profit for the expenditure of time and effort. Next year it is proposed to make them much more varied and instructive and have the whole class attend all.

The course in Military History was the same as last year and will be continued next year. My recommendation as to this part of the course is given above.

Each summer the officers of the class are nearly all sent to maneuvers and are called upon to prepare problems, and if they do not have this work to do at this time they certainly should on returning to their regiments. For that reason a short course in the "Preparation of Tactical Problems" was introduced this year. The results were very satisfactory and will be repeated next year.

The "Conduct of War" as a text book was this year transferred from the Staff Class course to the Line Class. The change is believed to be advisable.

The short course in Hippology was made more practical this year than heretofore. It is not very extended, but more time is not available for it.

Instruction was given in horsemanship and riding to all those student officers not fairly proficient when they arrived and to several others who volunteered to take the course for improvement. The instruction

was under the charge of Captain S. H. Elliott, 11th Cavalry, and was very satisfactory. This instruction was given during the hour of required physical exercise.

The Federal Penitentiary, by fencing in the southern portion of the reservation and farming it, has greatly reduced the latitude, previously limited, for maneuvers. It is not so much the area taken as its location that affects this work. A glance at the map of the reservation will show the effect of cutting off that portion on the whole area as a maneuver ground.

The present post commander, Colonel Loughborough, 13th Infantry, has had brush and weeds cleared out in places formerly impassable, and has thus added to the available area for maneuvers, but the southern end of the reservation should be opened up.

The troops of this command were cheerfully turned over to this department for maneuvers when asked for and were always at the place designated on time. If the command had any objections to the work they certainly never gave any indication of it.

This department is much indebted to Captain Cole, Senior Instructor, Department of Engineering, for furnishing us with maps of various kinds and especially for the work in getting out suitable war game maps. The lack of such maps has been seriously felt here but promises now to be obviated.

Captains Conger and Fitch, during the year prepared a map for this purpose of the country between the Platte and Missouri rivers and this has now been properly reproduced by Captain Cole. As far as it goes, I think it has no equal for the purpose. The Department is now at work preparing a similar map of the country about Gettysburg, when completed we will have a long felt want satisfied.

During September and October there was a class of six field officers here for a special course in this department. Their work was excellent. They worked earnestly and hard and the result was, most gratifying. It was not the class alone that profited but the school gained by their friendly criticism. In a way this was an experiment, a trying out of the recommendation made by me last year for the regular detail of special classes here. The work of this first class and the result attained seems to justify a renewal of my former recommendation. Such classes should be of great benefit to the army at large for they will tend to bring about uniformity of tactical instruction so necessary and so difficult of attainment in an army as scattered as ours.

If this be tried, later when the number of officers who desire to take the course becomes small I recommend that then at least one special class a year be formed of National Guard officers. Few really good National Guard officers can spare a year to come here for the full course and if they could they are not on a fairfooting with their classmates. A knowledge on entrance is assumed that comparatively few of them possess.

I believe a special class each year of National Guard officers would be of great benefit to us all. The course should not exceed eight or ten weeks in length and should be made up to suit the conditions. No attempt to be made to make it conform to the Line course as would be done with the special class of regular officers. When we all, regulars and National Guard, get to know each other better, have uniform methods of instruction in essentials we will all be improved, we will have team play and increased military strength.

My assistants for the past year were Captain S. H. Elliott, 11th Cavalry, Captain H. E. Eames, 10th

Infantry, Captain G. F. Baltzell, 5th Infantry, Captain M. C. Kerth, 23d Infantry, Captain M. E. Hanna, 3d Cavalry, Captain A. L. Conger, 29th Infantry, Captain D. K. Major, jr., 27th Infantry, Captain R. S. Fitch, 2d Cavalry.

Major E. L. Munson, Medical Corps, Senior Instructor Department Care of Troops, in the Staff College, gave the instruction in medical organization and care of troops. Captain D. E. Aultman, 5th Field Artillery, Instructor Department of Languages, assisted in this department., conducting the conferences on artillery subjects and acting generally as artillery adviser.

Captains Kerth and Major were relieved about the middle of the year, the former to take up other duties, the latter on account of sickness. Their work was taken over by the remaining instructors. It was cheerfully done but was more than could be done as we would have liked to do it.

For all my assistants I have only praise and thanks. They have given me loyal support and have earnestly and ably worked for the advancement and good of the school.

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

THE ARMY SCHOOL OF THE LINE
DEPARTMENT OF ENGINEERING
Fort Leavenworth, Kansas, August 31st, 1909.

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 31st, 1909:

The 121 half days allotted to the department were used as follows:

	Weight	Half Days						
Military Topography (Surveying)	Theoretical { <table style="display: inline-table; vertical-align: middle; border: none;"> <tr> <td style="padding: 0 10px;">21 Conferences.....</td> <td style="text-align: right; padding: 0 10px;">00</td> </tr> <tr> <td style="padding: 0 10px;">6 Partial examinations</td> <td style="text-align: right; padding: 0 10px;">30</td> </tr> <tr> <td style="padding: 0 10px;">1 Final examinations..</td> <td style="text-align: right; padding: 0 10px;">20</td> </tr> </table>	21 Conferences.....	00	6 Partial examinations	30	1 Final examinations..	20	23
	21 Conferences.....	00						
6 Partial examinations	30							
1 Final examinations..	20							
Practical.. . <table style="display: inline-table; vertical-align: middle; border: none;"> <tr> <td style="padding: 0 10px;">Making surveys and plotting notes of same so as to construct by exact methods a contoured map of an assigned area.</td> <td style="text-align: right; padding: 0 10px;">75</td> </tr> </table>	Making surveys and plotting notes of same so as to construct by exact methods a contoured map of an assigned area.	75	32					
Making surveys and plotting notes of same so as to construct by exact methods a contoured map of an assigned area.	75							
Military Topography (Sketching)	Theoretical conference <table style="display: inline-table; vertical-align: middle; border: none;"> <tr> <td style="text-align: right; padding: 0 10px;">00</td> </tr> </table>	00	35					
	00							
Practical military sketches..... <table style="display: inline-table; vertical-align: middle; border: none;"> <tr> <td style="text-align: right; padding: 0 10px;">120</td> </tr> </table>	120							
120								
Field Fortification and Field Engineering	Theoretical { 7 Conferences.. <table style="display: inline-table; vertical-align: middle; border: none;"> <tr> <td style="text-align: right; padding: 0 10px;">00</td> </tr> </table>	00	7					
	00							
Practical. . . { Field proplem in Forti- fication and Engin'ring } <table style="display: inline-table; vertical-align: middle; border: none;"> <tr> <td style="text-align: right; padding: 0 10px;">30</td> </tr> </table>	30	25						
30								
Total for year. { Theoretical. 50 } <table style="display: inline-table; vertical-align: middle; border: none;"> <tr> <td style="text-align: right; padding: 0 10px;">275</td> </tr> <tr> <td style="text-align: right; padding: 0 10px;">Practical..... 225</td> </tr> </table>		275	Practical..... 225	121				
275								
Practical..... 225								

The course in general was not materially changed from that previously reported except in the teachings of Military Field Engineering and Field Fortification. In this subject the study of the subject from any particular manual was discontinued. Seven conferences were held based on special pamphlets

prepared by instructors of the department and the Engineer Field Manual,' the effort being to deal with principles rather than details of construction. The change was undoubtedly for the better as it would have been impossible to hold the interest of the class in recitations on a book in which all of them have already been examined for promotion and the old course would have led to -mere memorizing for a mark. It is believed that the present short course was both interesting and valuable.

The practical part of this course was principally covered by demonstrations by the 3d Battalion of Engineers. The class was able to see all sorts of engineering and fortification work actually performed under the best conditions by this splendid body of Engineer troops. The interest in the demonstrations was very great and it is believed that much greater benefit was secured than by attempting to do this work by the student officers. In the latter case it was possible for each man to devote his attention only to his own particular part of the work and he missed the opportunity of seeing how easily much of the duty could be performed by highly trained special troops and get a much better idea of the work as a whole than he could possibly have gotten while participating in it.

The improvement in Military Sketching was maintained. This work improves from year to year. A few years ago I did not believe that we did more than give a man a good basis for making himself a sketcher. Now I have no hesitancy in claiming that even the least apt are well trained individual sketchers while many of them reach a high degree of proficiency. This training is most valuable, even for those who may never be called on to do any field sketching, as the method of training followed is incidently the best possible training in map reading.

The course in surveying is of importance mainly as an aid to teaching sketching. I do not consider it practicable to teach sketching properly without previous instruction in surveying. The course has been improved and so shaped as to have the maximum influence on the, instruction in sketching-. The changes made will make it practicable to very much abridge the Staff Class Course in surveying.

The department has charge of a short course in sketching for the Signal Class. Captain H. E. Eames, 10th Infantry, has immediate charge of this instruction and has conducted it in his usual thorough, painstaking and enthusiastic manner.

I have had personal charge of the work of the Map Reproducing Department. During the year great progress has been made in this department, as I was fortunate in finding in one of the infantry companies, a man very expert in a lithographic method but little if any known in this country. This work is of very great importance to the school and the army at large as the process is remarkable for producing work such as copies of the fine German hachured maps of a very much higher grade than we have ever been able to procure from the commercial houses and at the same time enabling us to produce all sorts of maps at very low plate cost. This has made it possible to reproduce many maps of great value to the service of which the cost would have been so high as to be prohibitive.

The demand for all sorts of problems and war game maps has become so great in the service as to lead to the belief that the outside work of the school is becoming of even greater value, if possible, than that done here. As our graduates are becoming more numerous and widely distributed they are carrying on work of great value throughout the service. The ability consequently to supply them with an abun-

dance of maps at very reasonable rates cannot help but be of importance.

Our most important work so far has been a new war game map containing all possible desirable features for an American War Game Map. This map was based on an enlargement of the Geological Survey Map, carefully filled in with all desirable detail by Captains Conger and Fitch. Twenty sheets, 18x18 have so far been issued admirably printed, of a total size of $7\frac{1}{2} \times 6$ miles. This map can be published at such reasonable rates that officers can procure the twenty sheets for thirty-five cents. It is the intention to keep on with this map until it reaches a size of about one hundred square miles or more. A similar map of the country in the vicinity of Gettysburg, where the country is much flatter, has been started. With these two maps available the service will be well supplied with War Game Maps. The cheapest map heretofore available has been the German War Game Map at about eighteen cents a sheet.

The lithographic process, while giving very beautiful results, is so simple that when as many as twenty five copies of any map or plan are needed it is easier to print them by lithograph than by the simple blue print process.

During the year the following pamphlets have been issued by the department:

Field Problems in Fortifications. Captain James A. Woodruff, Corps of Engineers.

The Examination and Repair of Simple Highway Bridges. Captain C. O. Sherrill, Corps of Engineers.

Notes on Cordage and Tackle. Captain C. O. Sherrill, Corps of Engineers and Lieutenant G. C. Marshall, Jr., 24th Infantry.

Military Demolitions. Lieutenant Douglas MacArthur, Corps of Engineers,

The regular instructors have been Captain C. O. Sherrill, Corps of Engineers and Lieutenant. G. C. Marshall, Jr., 24th Infantry. Their work has been very hard and exacting and has been done at all times in a manner highly satisfactory to me and the class. They have been ever ready to furnish assistance to any student officer needing it and in their dealings with the class have won the highest respect and esteem.

The department acknowledges its obligations to Major C. A. F. Flagler, Corps of Engineers, and his officers for the highly successful demonstrations which were given before the class and in which no labor was spared which could add to the interest and value of the work.

EDWIN T. COLE,
Captain, 18th Infantry,
Senior Instructor.

THE ARMY SCHOOL OF THE LINE

DEPARTMENT OF LAW

Fort Leavenworth, Kansas, August 31, 1909.

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, 1909:

Allotment of Time

Elements of Law.	16 half days.
Criminal Law.....	11 half days.
Law of Evidence.....	23 half days.
Practical Exercises,	6 half days.
Total	56 half days.

A weight of 125 was assigned to the department which was distributed as follows:

Elements of Law	25
Criminal Law	20
Evidence..	56
Practical Exercises	25
Total	125

The same weights and amount of time have been assigned for the ensuing year.

The list of lessons for this year in the subjects, Elements of Law and Evidence, remained the same as last year. It will remain much the same for the ensuing year.

This year a new text book in Criminal Law, Hawley and McGregor, was used. After the experience of the course it was found not so suitable for our work, as Clark's, so the department will return to the latter. Last year change was made in order to see if the course might not be bettered by the change, and while the old book was better, yet

the change was not without its value. It shows changes can be made at any time, without inconvenience, and is an indication that the department is continually striving to improve.

The system of partial examinations was continued. These partials are given on review, consisting of five questions on the review lesson of the day. Two to two and a half hours were allowed for each partial.

In some of these partials the text books and any other books the student desired, were used. This is the last body blow to the "specking system". While this system had some time ago disappeared, yet to the service at large, some visible signs seem necessary to conviction. It will be possible next year to allow the student officers the text books on Criminal Law in all examinations on that subject, and also the text on some of the partials in Evidence. When an officer knows he may refer to the text at any time the last incentive to any but a reasonable study (not a memory study) of the text will disappear. Student officers find from the course and the system by which it is conducted that this is not so large a step as it appears. But it sounds well to those unfamiliar with the present Leavenworth methods and whose ideas are that memory power is still a great factor at this institution.

Text books as such at the Army Service Schools are gradually undergoing a process of elimination. It is principles we were endeavoring to emphasize rather than rules, for principles appeal to the general sense and judgment of mankind, while the application of rules may frequently be made with but little reasoning power.

The system of instruction remains the same as it has been the last four years. There is no section room work. The entire class is assembled for confer-

ence. Explanatory remarks are given by the instructor upon any special feature he wishes to emphasize or enlarge. The student officers question the instructor at will, and then the instructor asks questions upon points in the lesson.

This eliminates any memorizing of the text and requires such a knowledge of the subject that practical questions and situations can be met. The examinations consist entirely of these situations. To illustrate the character of the examination questions the following are given as fair samples of this year's examinations :

ELEMENTS OF LAW

Partial No. 1, Question No. 1:

- (a) The laws of fashion require the wearing of certain apparel on certain occasions. What is the sanction?
- (b) Are such laws municipal laws?
- (c) Is the requirement that officers and soldiers shall wear service uniform for field duty a part of municipal law?
- (d) Give reasons for your answer to (c).

Partial No. 3, Question No. 1:

On December 4, 1908, at 2 P.M., A delivered to his messenger for carriage to B a letter accepting B's offer to enter into contract. The messenger delivered the message to B's confidential clerk in B's office at 3:30 P.M. the same day and the latter handed the letter to B one hour later.

- (a) At what hour was the contract entered into?
- (b) State, briefly, the reasons for your answer to (a).

Partial No. 3, Question No. 3: ,

(a) Draw an inland bill of exchange on the paper furnished you for that purpose and write the proper acceptance thereon.

(b) Transfer this bill by indorsements thereon so as to illustrate the following :

- Indorsement in blank
- Indorsement in full special
- Indorsement in full restrictive

(c) What effect has the restrictive indorsement upon the negotiable character of the instrument?

(NOTE.-Do not use your own name or that of any other member of the class.)

Final, Question No. 2:

Under private international law give an example where one state enforces the laws of another state.

Final, Question No. 5:

- (a) What is a municipal corporation?
- (b) Are municipal ordinances a part of the "laws of the land?" within the meaning of the 59th Article of War?

Final, Question No. 6:

Explain what is meant by "the custom of war" in the oath given to members of a general court-martial.

Final, Question No. 7:

Is the 4th Article of War a mandatory or a directory statute? Give reasons for your answer.

NOTE: In the last three questions the Articles of War and the oath were given in full.)

CRIMINAL LAW

Partial No. 1, Question No. 3:

Assume that you are counsel for a soldier on trial by general court-martial for disobedience of orders in violation of the 21st Article of War; that the evidence so far introduced in the case strongly tends to prove that the accused received a lawful order from a commissioned officer and that he disobeyed it in an insubordinate manner; that your investigation of the case has disclosed to you the fact that the accused was very drunk at the time of the commission of the alleged offense.

- (a) Will you offer available evidence tending to prove the drunkenness of the accused?
- (b) Give, briefly, the reasons for your decision.

Partial No. 2, -Question No. 2:

Private A is being tried by general court-martial for assault and battery on B, a civilian, in violation of the 62d Article of War. The proved facts in the case are as follows:

The accused was standing near the electric car station, Fort Leavenworth, Kansas, waiting to take the car, when Private C, with whom he had had a verbal altercation, approached and attacked him, saying "I'll settle this thing with you right now." As C struck A the second time the latter countered with a severe blow on C's chin, which knocked him against B, who was waiting for the car, with such force as to cause B to fall down the stairs leading to the basement of the sub-exchange and sustained severe injuries.

Give a brief synopsis of the argument which you as counsel for the accused would make to the court.

Final, Question No. 5:

In October, 1907, a citizen of Leavenworth, Kansas, named Roach purchased a uniform overcoat from a soldier in the service of the United States stationed at Fort Leavenworth. Roach's act was in violation of the following section of the Revised Statutes of the United States, and accordingly he was indicted therefor:

5438 * * * and every person who knowingly purchases or receives in pledge for any obligation or indebtedness from any soldier, officer, sailor, or other person called into or employed in the military or naval service any arms, equipments, ammunition, clothes, military stores or other public property, such soldier, officer, sailor or other person not having the lawful right to pledge or sell the same, every person so offending in any of the matters set forth in this section shall be imprisoned at hard labor for not less than one nor more than five years, or be fined not less than one thousand nor more than five thousand dollars?

Press of business in the office of the U. S. District Attorney prevented Roach's trial during the April, 1908, term of the U. S. District Court and on May 30, 1908, the President signed the following act of Congress amending Section 5438, Revised Statutes :

“And every person who knowingly purchases or receives in pledge for any obligation or indebtedness from any soldier, officer, sailor, or other person called into or employed in the military or naval service any arms, equipments, ammunition, clothes, military stores, or other public property! *whether furnished to the soldier under a clothing allowance or otherwise*, such soldier, officer, sailor, or other person not having the lawful right to pledge or sell the same, shall be punished by imprisonment for not more than two years and by a fine not exceeding five hundred dollars.’”

(a) Can Roach now be tried under Section 5438 as it stood at the time of the commission of the offense? (b) Why?

(c) Can he be tried now under the law as amended?

(d) Why?

EVIDENCE

Partial No. 1, Question No. 1:

In an insurrection against the United States a military commission (with competent jurisdiction) is trying an inhabitant of an occupied district for dealing in contraband of war. The judge-advocate of the commission proves that the accused was the consignee, with knowledge, of an invoice of coal, flour, horseshoes, sulphur and lead. The judge-advocate then requests the commission to take judicial notice that these articles are contraband of war.

As a member of the commission what would be your action upon this request and why?

Partial No. 1, Question No. 5:

Under the captured and abandoned property act it is incumbent upon the claimant to establish by sufficient proof

that the property captured or abandoned came into the hands of a treasury agent; that it was sold; that the proceeds of the sale were paid into the treasury of the United States; and that he was the owner of the property and entitled to the proceeds thereof.

In *Ross v. United States* (92 U. S. 281) the facts were as follows : The claimant, Ross, owned, in May, 1864, thirty-one bales of cotton, then in a warehouse in Rome, Ga. On the 18th of that month Rome was captured by the United States forces; and shortly afterwards the cotton was removed on government wagons to a warehouse adjoining the railroad leading from Rome to Kingston and connecting there with a road leading to Chattanooga. Whether it was the only cotton in the warehouse did not appear but it was inferable from evidence that it was not. Subsequently (but how long afterwards was not shown) all of the cotton in that warehouse was shipped on the railroad to Kingston, the road being then in the possession of the United States military forces. It was next shown that cotton (some cotton) arrived in Kingston from Rome before August 19th, 1864, and was forwarded to Chattanooga; that, on the 19th of August, forty-two bales were received at Chattanooga from the quartermaster at Kingston; that thence they were shipped to Nashville, where they were received as coming from Kingston, turned over to the treasury agent and sold. The proceeds of the sale were paid into the treasury of the United States, and no title to these forty-two bales has been asserted by third persons though it is now some years afterwards. The claimant contends that, because property was captured by a military officer and sent forward by him, and because there is an unclaimed fund in the treasury derived from the sale of property of the same kind as that captured, and because "all things are presumed to have been done in due form" and "officers are presumed to have done their duty" the court should conclude that the property was delivered by the military officer to a treasury agent, that it was sold by him, and that the proceeds were covered into the treasury.

State your views as to whether the presumption that the cotton in question was a part of that transmitted and sold, was warranted or not, and your reasons therefor.

The class may refer to the text-book in answering this question.

Partial No. 3, Question No. 2.

Sergeant Brown is charged with embezzling money entrusted to him by the post exchange for the purpose of paying some local bills. In defense he wishes to introduce a receipted bill of one of the tradesman whom he was to pay, stating that he **was** ready to introduce evidence that the tradesman was dead.

Should the bill have been admitted?

Give reasons for your answer.

Partial No. 3, Question No. 4.

One of the charges under which Lieutenant Sims is being tried is absence without leave, in not reporting promptly on expiration of leave of absence. He states on the stand that he was detained in Kansas City, MO., by a storm that delayed the moving of trains. He then offers in evidence the records of the weather bureau of Kansas City, MO., as evidence of the storm at the time in question.

The judge-advocate objects to the introduction of the weather bureau records, stating that they are merely statements made by some person or persons unknown and are but written hearsay.

Give, briefly, the argument you' would make, as counsel for the accused, as to the admissibility of the records.

Partial No. 3, Question No. 5.

In the case given in question No. 4, above, the accused introduced a witness who testified as follows:

That he **was** in the Union Depot at Kansas City, MO., the same day as the accused; that he went to the Information Bureau and asked about trains running west; that the official at the Information Bureau window stated that all trains were indefinitely late.

At this point the judge-advocate objected to the part of the testimony which contained the statement of the official at the window, as hearsay.

Should the statement objected to by the judge-advocate have been admitted?

Give reasons for your answer.

(The court in this case will take judicial notice that to enable a person to reach the station of the accused from Kansas City, MO., it is necessary to take a west bound train from the Union Depot.)

Partial No. 4, Question No. 3.

On the trial of a soldier in San Francisco, Cal., for desertion, Sergeant Parker, Troop A, 16th U. S. Cavalry, a witness for the prosecution, in his examination in chief is asked by the judge advocate :

“Did you see the accused in civilian clothes on board the Steamer Obilda, bound for Mexico, on the evening of November 2d?”

On being cross examined the same witness is asked:

“Were you not put off the Steamer Obilda on the evening of November 2d for being drunk and disorderly?”

Can any objections be taken to either of these questions or to answering them?

Give reasons for your answer.

Final, Question No. 11.

Private Smith is on trial for breaking into the Post Exchange at night and stealing cigars and money therefrom. :

Sergeant Rankin, a witness for the prosecution, testifies on his direct examination as follows:

“About 7 A.M. on the morning after the burglary I met Private Smith, the accused now before the court, who belongs to my company, on the parade ground, and I stopped him: I stopped him to give him an order about his equipments which he never keeps clean, and he gave me a surly and impudent sort of an answer: just then Corporal Jones came up and he says, ‘Sergeant, have you heard that the post exchange has been robbed?’ and I said ‘No’, and he said, ‘Yes, it has; and there is a rumor that Smith was seen hanging about there last night’; and with that, Smith, the accused, turned very white and tried to mutter something! I couldn’t catch what, and then he moved off: a few minutes later Private Robinson ran up to where Corporal Jones and I were standing and he said, Sergeant, did Smith let out anything because we all think he ^{was} in it?’ ”

(a) Write out the part or parts of the above statement that are admissible.

(b) Give, briefly, the reasons why you think the part or parts you have given are admissible.

(c) Give, briefly, the reasons why you think the other part or parts, if any, are inadmissible.

PRACTICAL EXERCISES

The first three of these exercises consisted of the following problems, about three hours being allowed to each set of five questions:

Exercise No. 1

Problem 1

The specification against Private Richard Roe, Company N, 31st Infantry, read as follows:

“In that Private Richard Roe, Company N, 31st Infantry, did at Columbus Barracks, Ohio, on October 30, 1908, being then a minor, fraudulently enlist as a soldier in the service of the United States by falsely representing himself to be over 21 years, to wit, 21 years and 2 months of age.”

(a) Would the facts alleged in the foregoing specification, if conclusively proven, warrant Roe’s conviction of fraudulent enlistment in violation of the 62d Article of War?

(b) State, briefly, your reasons for your answer to (a).

Problem 2

The facts alleged in the defence of Private John Black, tried by general court-martial for absence without leave for eight days in violation of the 32d Article of War, were as follows:

That he left his quarters without authority immediately after taps for the purpose of visiting an adjacent town; that

he fully intended to return to his quarters before reveille the next morning; that he was prevented from so returning by his arrest by the civil authorities as soon as he reached the town, on suspicion that he had been implicated in a disorder that had occurred in the town earlier in the evening. That he was confined in the town jail for eight days before he was able to convince the police authorities of his innocence and thus effect his release.

(a) Would the foregoing allegation, if conclusively proven, constitute a good defense in this case?

(b) State, briefly, your reasons for your answer to (a).

Problem 3

At the trial of Private Andrews by general court-martial for the larceny of a civilian overcoat from Private Black in violation of the 62d Article of War, the judge-advocate rested his case after conclusively proving the following facts:

That the overcoat in question was and is the property of Private Black; that the accused took the overcoat from the possession of Private Black without his consent with the intent to convert the overcoat to his, Andrews', own use and to deprive the owner of his property therein.

(a) State, briefly, in what respect the judge-advocate has failed to fully perform his duty in this case.

(b) State, briefly, the reasons for your answer to (a).

Problem 4

Charge.—"Leaving post, in violation of the 39th Article of War?"

Specification.—"In that Private Patrick J. O'Leary, Troop E, 4th Cavalry, being on guard and posted as a sentinel, did leave his post before he was regularly relieved. This at Fort Snelling, Minn., on or about the 27th day of July, 1908."

At the trial of O'Leary at Fort Leavenworth, Kansas, by general court-martial on the foregoing charges, evidence was introduced by the prosecution tending to prove that the accused was duly mounted as a member of the guard and posted as a sentinel on the day in question.

A deposition in due form, of a witness stationed at Fort Meade, South Dakota, which tended to prove that the accused "did leave his post before he was regularly relieved" was then offered in evidence by the judge-advocate.

State the objection to the introduction of this deposition in evidence which you as counsel for O'Leary would make to the court.

Problem 5

Private Frank Leorroy, Company L, 11th Infantry., tried by a general court-martial, was found guilty of desertion, in violation of the 47th Article of War, and sentenced: "To be dishonorably discharged the service of the United States, forfeiting all pay and allowances due him, and to be confined at hard labor at such place as the reviewing authority may direct for one (1) year."

In the foregoing case, the accused upon arraignment pleaded guilty of desertion. No evidence was presented to

the court by either the prosecution or the defence. Upon this plea the court found the accused guilty and awarded the sentence stated above, which was not the maximum authorized in this case.

Accompanying the record was a recommendation for clemency, signed by *all* the members of the court, that consideration be shown the accused by the reviewing authority "on account of his inexperience in the service due to his short service therein and because of the fact that it is in our knowledge' through statements made by the accused prior to his trial to certain members of the court, that extenuating circumstances existed at the time of his desertion, none of which facts was brought out by the counsel; and further, because we are of the belief that the plea of guilty was made through ignorance, and the lack of competent advice by his counsel."

(a) Did or did not the court fail in its duty in this case.

(b) If answer to (a) is "yes" state briefly wherein it failed and what action it ought to have taken.

Exercise No. 2

Problem 1

Captain Ableth, one of the six members of a general court-martial was duly sworn as a witness for the prosecution, without any objections on the part of the accused. Shortly afterwards a question asked Captain Ableth by the judge-advocate was objected to by the accused.

(a) Can Captain Ableth legally sit as a member of the court when it is cleared and closed to decide whether or not the objection of the accused to the question asked Captain Ableth shall be sustained?

(b) State, briefly, the reasons for your answer to (a).

Problem 2

On January 2, 1902, the Quartermaster, Fort Leavenworth,, issued to John Smith, a paroled military convict, serving sentence in the post guardhouse, one shirt, D. B. F. value \$1.63, and one pair of shoes, black, old pattern, value \$2.05. The next day Smith sold this clothing to a member of the post guard.

(a) Submit general court-martial charges, based on the above statement of facts, against Smith.

(b) State, briefly, your reasons for assuming that Smith has violated the Article of War indicated in your answer to (a).

Problem 3

The evidence in the case of Private Jones tried by general court-martial for robbery in violation of the 62d Article of War showed conclusively that the acts upon which the charges against Jones were based, whether or not sufficient to constitute a military crime, were in fact the joint acts of Private Jones and Richards.

Immediately upon the conclusion of the trial of Jones, Richards was arraigned before the same court upon charges

which were practically the same as those upon which Jones had just been tried.

You, as counsel for Richards, feel that his rights would be invaded by his trial by this court and your plea in bar of trial "on the ground of opinion formed by the court on account of its trial of Private Jones" is overruled by the court.

If there is any other procedure before the court, now open to you, which might result in preventing Richard's trial by this court, state, briefly: what it is.

Problem 4

The general court-martial has arrived at a finding in the case of Private Snow, Troop A, 16th Cavalry, who was tried on the following charge and specification:

Charge.—Violation of the 62d Article of War.

Specification.—In that Private W. D. Snow, Troop A, 16th Cavalry, being duly placed in charge of a prisoner at work did permit the said prisoner to become drunk.

This at Fort Leavenworth, Kansas, February 8, 1909."

As counsel for the accused you examine the evidence of previous convictions which has been duly authenticated and referred to the judge-advocate for the consideration of the court, and Snow's statement of service. From the latter you find that Snow was discharged from Troop A, 16th Cavalry, on May 17, 1908, and that he reenlisted on the following day. The evidence referred to the judge-advocate covers the following convictions of Snow by summary court:

February 12, 1908,	Violation 62ci Article War,	\$10 forfeiture,
March 10, 1909,	" 62d "	" 5 "
June 10, 1909,	" 38th "	" 10 "
January 3, 1909,	" 62d "	" 4 "
February 12, 1909,	" 62d "	" 8 "

(a) Which of the above are legally admissible?

(b) State, briefly, the objections which you, as counsel for Snow, would make to the court to the admission of the others.

Problem 5

The following is an extract from the report of the Inspector General, Department of the East, relative to an investigation made by him of certain alleged official irregularities on the part of Captain G. B. Bonas, Q. M. Department, on duty at the Philadelphia Clothing Depot:

"Colonel A. W. Hemper, Assistant Quartermaster General, commanding the Depot, informed me that the matter was first brought to his attention by Lieutenant Bonas, whose name and initials are the same as those of Captain Bonas. Through mistake Lieutenant Bonas had received and opened a letter evidently intended for Captain Bonas. This letter clearly indicates that a private agreement existed between the writers thereof, Messrs. Blood, Coffin & Co. of Boston, Mass., (who on July 20, 1908, entered into contract to supply the government

20000 pairs of Army shoes) and Captain Bonas to the effect that the latter, in consideration of \$2575.00 to be paid him by Blood! Coffin & Co., will accept on behalf of the government 7600 pairs of shoes of a quality inferior to that specified in the latter's contract. This letter and my subsequent investigations have convinced me that as yet no part of this private agreement has been carried into effect. 2500pairs of shoes of the quality agreed upon by Captain Bonas and Blood, Coffin & Co. are now in the warehouse of Mr. I. K. Ichstein, the Philadelphia agent of Blood, Coffin & Co. Mr. Ichstein's instructions from his principals are to deliver these shoes to the Depot upon the request of Captain Bonas. I was permitted to thoroughly examine these shoes in the company of Messrs. J. Y. Andrews and A. G. Cable, shoe experts employed in the Depot. These experts confirmed my belief that these shoes in no way fulfill the requirements of Blood, Coffin & Co's. contract either as to material or workmanship.

I sent for Captain Bonas, and, after warning him that anything he said would be used against him, I informed him of the result of my investigations. He at first denied everything but afterwards changed his mind and told me that he had entered into the suspected verbal agreement with Blood, Coffin & Co. about the time the latter signed their government contract, but that he has done nothing towards carrying it out. He also stated that, because of the risk involved, he had decided sometime ago to inform the contractors that he could not carry out his part of the agreement and he handed me a letter addressed to Blood, Coffin & Co., dated December 14, 1908, which he said he had intended, but forgotten, to mail. This letter practically annuls his private agreement with Blood, Coffin & Co."

(a) Submit charges, based on the above report, against, Captain Bonas.

(b) State, briefly, your reasons for assuming that Captain Bonas has violated the Article of War indicated in your answer to (a).

Exercise No. 3

Problem 1

Recruit Williams was tried by general court-martial and sentenced to dishonorable discharge. The order publishing the sentence is dated April 1, 1908, which may be assumed to be the date when Williams' sentence was approved by the convening authority.

Williams died at 8:30 P. M., April 2, 1908, and the order promulgating his sentence was received at his post on the morning of April 3, 1908.

(a) Was Williams' connection with the military service terminated by death or dishonorable discharge?

(b) State, briefly, the reasons for your answer to (a).

Problem 2

John Sharp, a civilian residing in Topeka, Kansas, was duly subpoenaed to appear before the Recruiting Officer, U. S.

Army, at that place and give evidence by deposition to be used in a case pending before a general court-martial sitting at Fort Leavenworth, Kansas, pursuant to agreement between the accused and the judge-advocate.

Due tender of legal fees was made to Sharp at the time he was summoned; nevertheless he then refused and does still refuse to appear and testify as directed in the subpoena. He can not plead sickness or other necessity as an excuse for his refusal.

(a) Can Sharp legally be compelled to appear before the officer authorized in the subpoena to take his deposition?

(b) State, briefly, the reason for your answer to (a).

(c) Is Sharp legally liable to punishment for refusing to obey the subpoena?

(d) State, briefly, the reasons for your answer to (c).

Problem 3

State under what article of *war* you would charge an enlisted offender in each of the following cases and give, briefly, the reasons for your decision in each case:

(a) Absence without authority or necessity from formation of company pursuant to "call to arms" sounded without previous warning at 11:30 p.m.

(b) Absence without authority or necessity from barracks from 11:15 p.m. Jan. 3d to 1.16 a.m. Jan. 4th.

(c) Unlawfully selling blanket lined overcoat issued to soldier, in the manner customary in like cases, for his own use in extremely cold weather.

(d) Larceny of one uniform overcoat from the quartermaster clothing store house.

(e) Larceny of one civilian overcoat from a civilian employed in the post exchange.

Problem 4

Private Gardner, 62d Company, Coast Artillery, was tried by general court-martial convened at Fort Worden, Wash., for larceny in violation of the 62d Article of War. The company commander of the accused was called by the court as a witness and was asked by a member, "What is the character of the accused?" This was objected to by the defence on the ground that the accused had not himself put his character in issue. The member then replied that "the character of the accused is attacked to show his credibility as a witness, as he has appeared as a witness in this case in his own behalf? The accused had been a witness as stated by the member.

(a) Had you been a member of this court what would have been your vote on the objection of the accused?

(b) State, briefly, the reasons for your answer to (a).

Problem 6

Charge I.—Desertion, in violation of the 47th Article of War.

Specification I.—In that Private James J. McGinley, Troop M, 7th Cavalry, alias Recruit Patrick Care, unassigned cavalry, a soldier in the service of the United States, did desert the

same at Camp of Instruction and Maneuvers, Fort Riley, Kansas, on or about the 15th day of August, 1908, and did remain absent in desertion until he was apprehended at Angel Island, California, on or about the 16th day of December, 1908.

Specification II.-In that Private James J. McGinley, Troop M, 7th Cavalry, *alias* Patrick Care, recruit, unassigned cavalry, a soldier in the service of the United States, did desert the same at Fort McDowell, Angel Island, California,, Depot of Recruits and Casuals, on the 8th day of December, 1908, by enlisting under the name of Patrick Care in the unassigned cavalry, without a regular discharge from Troop M, 7th Cavalry.

Charge K-Fraudulent enlistment, to the prejudice of good order and military discipline, in violation of the 62d Article of War.

Specification.---In that Private James J. McGinley, Troop M, 7th Cavalry; *alias* Recruit Patrick Care, unassigned cavalry, a soldier in the service of the United States, did, without a discharge from said regiment of cavalry., fraudulently enlist at Angel Island, California, December 8, 1908, under the name of Patrick Care, and in the unassigned cavalry.

(a) Could the 2d Specification under the 47th Article of War in the foregoing charges legally have been laid under the 50th Article of War.

(b) Give, briefly, the reasons for your decision.

MOOT COURT EXERCISES

The moot court situations developed before moot general courts-martial, organized from members of the class, were as follows:

SITUATION NO. 1—TIME, 20 MINUTES

The court is seated, called to order, and the roll-call discloses the fact that all members and the judge-advocate are present.

The judge-advocate: "May it please the court, the prosecution is ready to proceed with the trial of Private James Assel, Company N, 31st Infantry, who is now before the court."

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

The judge-advocate (addressing the accused, Private Assel): "Do you desire counsel?"

The accused.: "Yes, sir; I want 2d Lieutenant James Smith, 31st Infantry, as counsel."

The president: "If there be no objection, Lieutenant Smith will so act. There appears to be none and it is so ordered?"

The judge -advocate (addressing the accused., after reading the order convening the court): "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 Colonel Farnsworth (Gerhardt, Jones) retired, on the ground that he has not been detailed legally as a member of the court as provided by Act, of Congress, approved April 23, 1904.* The Secretary of War, without previously obtaining his consent, ordered him to report to the convening authority for court-martial duty, and having reported pursuant thereto, he was detailed, also without his consent, as a member of this court?”

The judge-advocate : “May it please the court, the prosecution contends that the necessary consent may reasonably be inferred from Colonel Farnsworth’s (Gerhardt, Jones) actions in reporting without protest to the convening authority as ordered, and in complying, also without protest, with the order detailing him on this court. It is hardly reasonable to presume that Congress intended that in every case a retired officer’s express consent must be obtained before detailing him on necessary public duty?”

The counsel : “May it please the court, the actions of Colonel Farnsworth (Gerhardt, Jones), relied upon by the prosecution as constituting tacit consent, are merely those of a good soldier who, having received improper orders, the natural and probable consequences of which are to injure no one but himself, proceeds to obey without protest, reserving for a future time his right of appeal to proper authority for redress. (§23, Dec. J.A.G.) It would certainly be establishing a dangerous precedent to allow so important an inference to be drawn from a mere soldierly performance of military duty.”

Colonel Farnsworth (Gerhardt, Jones) : “I certainly did not consent to this detail which has already involved me in some financial loss. However, I have succeeded in so arranging my affairs as to be able to serve without suffering any further loss and my relief now would not enable me to recoup that already sustained.”

- (a) Do you vote to sustain the challenge of the accused?
- (b) State, briefly, the reasons for your decision.

SITUATION NO. 2—TIME, 20 MINUTES

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

The counsel : “May it please the court, the accused objects to Captain Hartmann (McMaster, Davis) on the ground that he has formed and expressed an opinion as to the guilt of the accused. And this the defense is prepared to prove?”

The challenged member : “Some time ago I was asked by the officer, who afterwards preferred the charges against the accused, for an opinion as to whether or not certain facts related by him would be sufficient to constitute the offense of which the accused now stands charged. The question sub-

**Extract*

“ x x x; and the Secretary of War may assign retired officers of the Army, with their consent, to active duty x x x upon courts-martial x x x; and such officers while so assigned shall receive the full, pay and allowances of their respective grades.”—Act of April 23, 1904.

mitted to me was hypothetical in character, as the name of the offender was not disclosed at that time. I then gave it as my opinion that, if the facts as related to me by the officer could be proved to the satisfaction of a court-martial, a verdict of guilty would probably result. That is the only opinion I have formed or expressed."

- (a) Do you vote to sustain the challenge of the accused?
- (b) State, briefly, the reasons for your decision.

SITUATION NO. 3 — TIME, 20 MINUTES

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

The counsel: "May it please the court, the accused has no objection to offer to any other member of the court but he does object to the judge-advocate on the ground that he is greatly prejudiced against the accused. He originated and preferred the charges under which the accused is now to be tried and has expressed the opinion, both officially and unofficially, that the accused is guilty as charged and will be convicted."

The judge-advocate: "May it please the court, I am not more prejudiced against the accused than I would be against any other soldier whom I believed guilty of the offense of which the accused stands charged. His case came under my notice in the usual course of events and I believe I have done no more than my duty by causing him to be brought to trial. Furthermore, the 38th Article of War, the statute which confers on accused persons the right to challenge members of the court for cause, makes no mention of the judge-advocate, and I would respectfully remind the court that statutes must be strictly construed. Consequently the accused has no right to object to the judge-advocate."

- (a) Do you vote to sustain the challenge of the accused?
- (b) State, briefly, the reasons for your decision.

SITUATION NO. 4—TIME, 15 MINUTES

Lieutenant-Colonel Dashiell (Helmick, Alexander): "I regret that the accused has not seen fit to object to me as I believe I should not sit on the court in this case. While temporarily in command of the post I officially investigated the charges against Private Assel and I forwarded them with the usual indorsement that I believed they could be proved. I therefore request that the court relieve me from sitting as a member in this case."

The counsel: "May it please the court, the statement of the member indicates such a desire on his part to do justice that the accused will not object to him."

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

- (a) Do you vote to grant the request of the member?
- (b) State, briefly, the reasons for your decision.

SITUATION NO. 5—TIME, 25 MINUTES

The members of the court and the judge-advocate were

duly sworn and the following charge and specification read to the accused :

Charge.—Desertion in violation of the 47th Article of War.

Specification.—In that, Private James Assel, Company N, 31st U. S. Infantry, a soldier in the service of the United States, did desert the same at Fort Wayne, Michigan, on or about the 6th day of April, 1905, and did remain absent in desertion until he was apprehended at Detroit Michigan, on or about February 16, 1909.

“How do you plead to the specification?”

The counsel : “May it please the court, the accused enlisted June 16, 1905, and was assigned to Troop M, 16th Cavalry, from which organization he deserted on July 5, 1905. He surrendered to the military authorities on August 15, 1905, and, on the recommendation of the commanding officer of Troop M, 16th Cavalry, was discharged without honor on September 29, 1905. And these facts the defense is prepared to prove. Therefore, the accused desires to enter a plea in bar of trial on the ground that his discharge without honor not only severed his connection with the military service but also operated as a pardon as to any military offenses he might have committed prior to September 29, 1905.”

The judge-advocate : “May it please the court, the prosecution admits the discharge of the accused without honor as staked by the defense, but nevertheless maintains that the legal effect of such discharge is not as claimed by the accused in that it is no legal bar to his trial on the charge before the court.”

(a) Do you vote to sustain the plea of the accused?

(b) State, briefly, the reasons for your decision.

SITUATION NO. 6.—TIME, 25 MINUTES

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

The counsel : “May it please the court, the accused enlisted on April 10, 1904, and was assigned to Company M, 31st Infantry. That enlistment was for three years and terminated on April 9, 1907. The accused was not arraigned until today; consequently more than two years have elapsed between the termination of his enlistment and the date of his arraignment. Therefore the accused pleads the statute of limitations, the 103d Article of War, in bar of trial.”

The judge-advocate : “May it please the court, admitting that the enlistment of the accused terminated as claimed by the defense, the prosecution is prepared to prove that the accused absented himself from the United States from October 10, 1905, until about March 16, 1907, by living in the Province of Ontario, Dominion of Canada. Therefore the provisions of the 103d Article of War do not bar his trial on these charges.”

(a) Assuming that the absence of the accused from the United States, as claimed by the judge-advocate! is

conclusively proved, do you vote to sustain the plea of the accused?

- (b) State, briefly, the reasons for your decision.

SITUATION NO. 7—TIME, 20 MINUTES

The members of the court and the judge-advocate, having been duly sworn for the trial of Private Henry Cook, Company N, 31st Infantry: who selected and introduced counsel, the following charge and specification were read to the accused:

Charge.—Violation of the 62d Article of War.

Specification.—In that Private Henry Cook, Company N, 31st Infantry, being on duty guarding prisoners, did unlawfully, wilfully and feloniously kill Private James Madagan, Troop A, 16th Cavalry, by shooting him with a rifle.

This at Fort Leavenworth, Kansas, January 30, 1909.

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

The counsel: "May it please the court, the accused stands charged with an offense for which he may subsequently be called upon to answer by the civil authorities. Therefore it is most important that the charges under which he is now to be tried should be worded with such nicety and legal preciseness as will enable him to successfully plead this trial in bar of any subsequent prosecution for the homicide. Furthermore, in order that the accused may properly conduct his defense during the pending trial it is necessary that he be informed by the pleadings of the prosecution whether he is being tried for murder or manslaughter, and, if the latter, whether voluntary or involuntary. For these reasons the defense moves to strike out the charge and specification."

The judge-advocate: "May it please the court, there is no doubt that if it is a military offense for one soldier to unlawfully, wilfully and feloniously kill another and I believe the charge and specification against the accused set forth a military offense with sufficient clearness?"

(a) What action should be taken by the court on the motion of the accused?

- (b) State, briefly, the reasons for your decision.

SITUATION NO. 8 — TIME, 20 MINUTES

2d Lieutenant Pierce Allnot, 16th Cavalry, was duly arraigned upon the following charge and specification:

Charge.—Violation of the 62d Article of War.

Specification.—In that 2d Lieutenant Pierce Allnot, 16th U. S. Cavalry, did wholly fail and neglect to render any return whatever for the half year ending December 31, 1908, for the articles constituting the horse equipment of a mounted officer below the grade of major, issued to him by the Ordnance Department.

This at Fort Leavenworth, Kansas, January 20, 1909.

To which the accused pleaded as follows:

To the specification: "Guilty."

To the charge: "Guilty."

The judge-advocate : "May it please the court, before the prosecution closes I desire to call the post adjutant as a witness for the prosecution. His testimony will assist the court materially in determining the degree of the guilt of the accused?"

The accused: "I object to this evidence being received, as I have rendered it incompetent by my plea of 'guilty.' I had no idea that any evidence would be offered and consequently am not prepared to rebut it. I did not select counsel because I supposed that none would be necessary if I pleaded guilty. I have no knowledge of the character of the evidence offered, but I think that in justice to me it ought not to be introduced because, even if it is objected to when submitted in detail, and the objections are sustained, its substance, whether relevant, material and competent or the reverse, will have been heard, and its subsequent rejection by the court can not have the effect of entirely erasing it from the minds of the members. I know very little about court-martial procedure, but believe my rights will be invaded by the introduction of evidence now.

- (a) Do you vote to sustain the objection of the accused?
- (b) State, briefly, the reasons for your decision.

SITUATION No. 9. -TIME, 20 MINUTES

Both the prosecution and the defense have rested. the former without introducing any evidence. During the 'trial the accused, Lieutenant Allnot, introduced, in mitigation of punishment, evidence tending to prove that no desertions and no trials by summary court or otherwise occurred in his troop during the eleven months it was under his command.

In summing up for the prosecution, the judge-advocate said: "The accused lays great stress on the testimony tending to prove that no men of his troop deserted or were tried during the time he commanded it. Presumably this evidence was introduced for the purpose of leading the court to believe that during one period of his service at least the accused performed his duty efficiently. It is probable that his inefficiency is responsible for the alleged dearth of desertions and trials. Undoubtedly the accused failed to bring to trial many offenders who richly deserved punishment, and it is easily understood how no desertions occurred in an organization whose commander did not punish infractions of discipline and where but little in the way of duty was required of the men?"

To these remarks the accused objected on the ground that in view of the character of the evidence and the purpose for which it was introduced they were most improper, and, besides being contrary to the customs of the service, tended to prejudice him in the minds of the members of the court.

- (a) How do you vote on the objection of the accused?
- (b) State, briefly, the reasons for your decision.

SITUATION NO. 10-TIME, 20 MINUTES

2d Lieutenant Harry Bude, 31st Infantry having selected counsel, is arraigned upon the following charge and specification :

Charge.—Conduct unbecoming an officer and a gentleman in violation of the 61st Article of War.

Specification.—In that 2d Lieutenant Harry Bude, 31st U. S. Infantry, did behave himself with disrespect toward his commanding officer, Colonel Hiram Deal, 31st U. S. Infantry, by saying to the said Colonel Deal, in the presence of other officers, "Our relations hereafter will be strictly official," or words to that effect.

This at Fort Leavenworth, Kansas, January 29, 1909.

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

The counsel: "May it please the court, the accused moves to strike out the charge and specification because the latter does not allege a military offense. From time immemorial it has been customary in our service for an officer, whose relations with another officer have become strained, to inform the latter that all social intercourse between them must cease, and that thereafter their association will be confined to that necessary for the proper performance of military duty. Such a custom is productive of, rather than subversive to, good discipline because it is better for the good order and peace of a military community that officers, who cannot associate without constant bickerings and recriminations, should meet on only a purely official basis."

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

- (a) Do you vote to sustain the motion of the accused?
- (b) State, briefly, the reasons for your decision.

SITUATION NO. 11—TIME, 15 MINUTES

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

The counsel: "May it please the court, even if the specification sets forth an offense, it certainly does not allege anything that can constitute a violation of the 61st Article of War. Both as a matter of good pleading and in justice to the accused, this specification should be laid, not under the 61st Article of War, where dismissal is mandatory upon conviction, but under the 20th Article of War, which leaves the punishment, after a conviction, to the discretion of the court. For these reasons the accused moves to strike out the charge and specification."

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

- (a) What action should the court take on the motion of the accused?
- (b) State, briefly, the reasons for your decision.

SITUATION NO. , 12—TIME, 20 MINUTES

Immediately after the prosecution rested in the trial of Lieutenant Bude, which lasted but one day, Lieutenant John Doe, the judge-advocate, was relieved as such by an order from the convening authority, which detailed 1st Lieutenant Richard Roe, 31st Infantry, in his stead.

Upon the conclusion of the trial, Lieutenant Roe requested

the court to instruct him regarding the authentication of the proceedings, saying: "As the court knows, I had nothing to do with this case until after all the evidence for the prosecution had been submitted. Therefore, of my own knowledge, I cannot say whether or not the record of those proceedings, had before I entered the case, is correct. Lieutenant Doe, who was suddenly relieved as judge-advocate in order that he might hurry to the bedside of a very sick relative, has already left the post and the date of his return is uncertain. I will be obliged if the court will inform me whether or not, under the circumstances, I ought to authenticate the entire record of this case, and, if not, who will authenticate that part of the record which covers the proceedings during the time that Lieutenant Doe was judge-advocate?"

(a) What instructions should the court give the judge-advocate in this connection?

(b) State, briefly, the reasons for your decision.

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

These practical exercises contain some of the best work the department is doing. It is to be regretted more time cannot be devoted to such work. 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 of 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.

The excellence of these exercises is largely due to

my assistant, Captain Tenney Ross, 3d Infantry, whose previous study of the law has fortunately well qualified him for the preparation of such work. He also handled the course in Criminal Law and much of that in the Elements of Law. I am under the greatest obligation to him for his industry and loyalty and his untiring interest in the department.

HERBERT A. WHITE,
Captain, 11th Cavalry,
Senior Instructor.

THE ARMY SCHOOL OF THE LINE
DEPARTMENT OF LANGUAGES

Fort Leavenworth, Kansas, June 30, 1909.

The Secretary,
The Army School of the Line.

SIR:

I have the honor to submit the following report of the work of this department in Spanish in the School of the Line for the school year 1908-9:

Allotment of Time

Out of a total of 430 half days, Spanish was allotted 45 half days, beginning January 3d, and ending April 8th, 1909. This was a reduction of 29 half days from the time allotted the preceding year; these 29 half days are to be added to the Staff Class course in languages next year.

Allotment of Weights

Due to the reduction in time, the Line Class Spanish was reduced in weight from 150 to 100; this weight was distributed as follows:

Four oral tests	60
Written examination	40
Total	<u>100</u>

The four oral tests were held on the 11th, 22d, 33d and 44th class room periods and were valued at 6, 12, 18, and 24 respectively. The written examination took place at the end of the course. No marks were given except on the oral -tests and the written examination; as the tests and examination comprised translations of sentences, answering of questions in Spanish, etc., all was held to be practical work.

Text Books

Course in Spanish (principally exercises, prepared in the department)
Spanish Grammar (Ramsey)
El Castellano Actual (Roman y Salamero)

The lessons in detail are given in the list of lessons, course in Spanish, for the School of the Line. As was done last year, the class was divided into sections after the first oral test in such a way as to bring together in each section students of about the same state of advancement. The instructors changed sections weekly, thus giving to all members of the class the advantage of instruction under all the instructors.

The course comprised, in Ramsey's Grammar, Part I, Lessons I-XIV complete, Lessons XV-XX omitting vocabulary and exercises, all of the conjugations of the verb in Part IV, and selected parts of Part III; the department course in Spanish consisted mainly of exercises; the reader "El Castellano Actual" was taken in fragments; the parts selected were those that were deemed most important for the student to know.

The course was arranged with a view to presenting to the student, primarily, the similarities between English and Spanish, first of words and then of construction; secondarily, the more common dissimilarities or idioms. As soon as the reader was taken up, grammatical explanations of the peculiarities of Spanish constructions were made to coincide as nearly as could be with the existence of such constructions in the reading lesson of the day, and the exercises of that day were based on the vocabulary of the reading lesson; as the various classes of irregular verbs were taken up, the commonest of these verbs were also introduced into the exercises. In the preparation of the exercises, an effort was made to attain something of connected discourse instead of throwing together

a lot of sentences entirely disconnected in meaning.

The use of the moods and tenses of the verb was given new treatment. The present indicative was followed immediately by the present subjunctive and the imperative, and these by the future indicative and present subjunctive; then came the past tenses of the indicative, followed by the imperfect subjunctive; after the use of the simple tenses had been brought out, the compound tenses were taken up in the same way. By this arrangement it is believed that the student is spared many of the perplexities that come to him when he is confronted with the necessity of learning the use of the subordinate moods and tenses all at *one time*.

If the progress in Spanish of this class may be taken as a criterion, the course as laid out may be said to be successful. This year's Line Class showed a much greater knowledge of Spanish than has any other class up to the present, and this on a course twenty-nine lessons shorter than that of previous years. Part of this success is due, however, to the fact that the members of this year's Line Class on entrance possessed more knowledge of Spanish than previous classes.

The latter half of the course as laid out was found to be too strenuous, and relief was afforded by putting in a review lesson after every third or fourth advance lesson in this part of the course; this cut the course down four advance lessons, so that lessons scheduled as 39, 40, 41 and 42 in the course were not taken.

The course in Spanish was supplemented by five illustrated lectures by Captain J. A. Moss, on Madrid, Toledo, Bullfighting, El Escorial and San Sebastian, and Granada, and one lecture on Cuba, by Captain D. E. Aultman. The lectures were very interesting and were well attended by the Schools and the Post.

The instructors of the Line Class in Spanish were:

Captain James A. Moss, 24th Infantry,
Captain D. E. Aultman, 5th Field Artillery,
Captain H. W. Miller, 13th Infantry,
Teniente Jorge Landa, Mexican Army.

Captains Moss and Aultman were regularly detailed in the department; Captain Miller was assigned to duty in the department for the Line Class Course in Spanish, in addition to performing duty with his company in the post. Lieutenant Landa, by permission of the Mexican Government, was assigned to duty as an instructor in Spanish in the department. In February the surgeon reported that Lieutenant Landa was suffering from incipient tuberculosis and recommended that he be sent at once to Fort Bayard, N. M. This recommendation was acted upon immediately and Lieutenant Landa left the post March 4th. Lieutenant Landa's departure from the School reduced the corps of assistant instructors to three; to have reduced the sections to three would have resulted in making the sections entirely too large for efficient work; the head of the department was, therefore, compelled to take one of the sections for the period from March 4th to the end of the course. Such an arrangement is bad, because it prevents the head of the department from visiting sections and from making those observations of methods of conducting recitations that are most essential to him in co-ordinating the work of the department.

The instructors of the Line Class gave to their work the same careful attention and zeal that characterized their work with the Staff and Signal classes. The new Line Class course in Spanish was a product of the entire department, including Captain Spaulding, and each of the instructors is entitled to his fair share of credit for the success of that course. To Captain Aultman the department owes its sincere

thanks for having assisted in preparing typewritten copy for the printer, in addition to the large share he took in the preparation of the course.

I desire to express my hearty appreciation of Lieutenant Landa's very earnest and highly efficient work in this department during the part of the two years in which he acted as instructor in Spanish. He combined in a high degree the 'essential qualities of a good instructor, a thorough knowledge of his subject, an even temper, a mild disposition, an abundance of patience, and withal a gentle firmness that enabled him to carry on his work in his own way without ruffling or disturbing the equanimity of the members of his classes. His assistance in the preparation of the new Line Class course was invaluable.

Remarks and Recommendations

The importance of a knowledge of Spanish among all officers of our army can hardly be overestimated: all officers should have at least a fair knowledge of Spanish.

On entrance to the Line Class there is a presumption that the student has passed through the completed work that is preliminary to the Line Class course. This presumption should apply to Spanish as well as other subjects. There is no reason for the Spanish class of the Line School having to spend its time on the A. B. C.'s of Spanish and the elements of grammar in general, than there is for the Department of Engineering to give a course in the elements of arithmetic, algebra, trigonometry; the Department of Law in Army Regulations, Articles of War, the Court-Martial Manual; the Department of Military Art in Drill Regulations, and the detail work of marching, camping, and provisioning small commands in time of peace.

As the other departments begin their courses with the assumption that the student officer knows something

of the elements, so the Department of Spanish ought to be able to arrange its course on the assumption that the student officer has at least an elementary knowledge.

The Line Class course at these schools is intended to be a preparation for Staff Class work. The purpose of Line Class Spanish is to fill out the student's knowledge of that language to the extent that he may be said, at the end of the Line Class course, to be sufficiently advanced in Spanish to warrant his taking up a second language in his Staff Class work. There seems to be no reason why every graduate of the Staff Class should not be fairly proficient in Spanish and in either German or French in addition.

This condition will not obtain, if students continue to enter the Line Class without any knowledge of Spanish whatever and the department must spend its time in teaching Spanish A. B. C.'s; such students cannot acquire, in a short course of forty--five lessons, a fairly proficient knowledge of any new language; they must therefore, if they reach the Staff Class, be continued in Spanish during that year and thus be graduated from these schools fairly proficient in only one language, whereas a large part of their classmates will be graduates fairly proficient in at least two foreign languages.

This department, in arranging the course in Spanish for the Line Class, is handicapped by reason of the necessity of catering to the improvident officer who has not and will not avail himself of his opportunities to acquire a knowledge that the War Department has for several years past deemed essential to every officer of the army. The present course 'in Spanish is arranged primarily for the benefit of the officers that have given Spanish some attention, but it is very much limited in the earlier lessons due to the necessity of arranging a course **that** may be

passed by the student that has never, before entering, given Spanish a single thought.

Very respectfully,

ARTHUR THAYER,

Captain, 3d Cavalry,

Senior Instructor,

THE ARMY STAFF COLLEGE

DEPARTMENT OF MILITARY ART

Fort Leavenworth, Kansas, August, 31, 1909.

THE SECRETARY,

The Army Service Schools

SW:

I have the honor to submit the following report for the year ending August 31, 1909:

Of the 431 half days in the school year 181 were assigned to this department and were utilized 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 un- derstanding for School of the Line.....	35
Tactical and Strategic Problems (6 conferences problems)	15 21
Tactical rides	10
Map maneuvers	8
Preparation and discussion of original papers.....	12
Problems Fortress Warfare.....	12

In addition there were 5 lectures on foreign armies and 3 lectures on Historical Research.

The course in Military History was more extended than last year and was most satisfactory. Captain A. L. Conger, 29th Infantry, had charge of this part of the work and its success is due to him. He worked hard and was seconded by the class in every way. It is new work here and Captain Conger is so developing it that it can be continued successfully.

The School Library is not sufficiently supplied with copies of the War of the Rebellion Records and

certain other works, but it is believed this will be remedied before the next school year ends.

The campaigns studied during the past year were:

Donelson,
The Peninsula,
Grant's change to the south side of the James.
Austerlitz,
Waterloo,
Metz,
Paardeberg,

20 half days being devoted to the three Civil War Campaigns.

The Staff Class during the past year directed the map maneuvers or 'war games of the Line Class and did it in a very satisfactory manner. Those detailed to direct the game for a certain day would meet the evening before and work out the problem, an instructor acting as director and myself as umpire. This was found to be very satisfactory as the Staff Class became familiar with the problem and fully understood the lesson sought to be brought out before undertaking to direct.

The Tactical and Strategical problems solved by the class were placed on the U. S. Geological Survey Maps as outlined in my last annual report. While I cannot claim for this first effort an unqualified success I do believe it an improvement and, profiting by the experience of the past year. hope and believe we can make it more of a success next year.

The courses in Conduct of War, Duties of the General Staff, Troop Leading, Preparation of Problems, Reviewing Problems for the School of the Line, Tactical Rides, were the same as reported last year and need no further comment.

At the beginning of the school year a subject was given to each member of the class for the preparation of a paper to be read before the assembled class and by them discussed.

The papers were as follows;

First Series

1. Describe and criticise the First Battle of Bull Run.
* ** Captain Willey Howell, 6th Infantry.
2. Discuss the more important mistakes of both sides in organization during 1861 and 1862.
 Captain T. O. Murphy, 19th Infantry.
3. Discuss the more important mistakes of both sides, other than those of organization, during 1861 and 1862.
* Captain H. A. Smith, 15th Infantry.
4. Of the mistakes included in papers 2 and 3, which were inherent in our people or system of government and therefore unavoidable? . . . Captain Jens Bugge, 28th Infantry.
5. Of the mistakes included in papers 2 and 3, which could have been avoided by our officers had they thoroughly understood the problems? . . . Capt. F. Le J. Parker, 12th Cavalry.
6. Of the mistakes included in papers 2 and 3, which were corrected as the war progressed and how?
 Captain A. E. Saxton, 8th Cavalry,
7. Compare the conduct of military affairs in 1898 with that of 1861, and show what, if any, improvement existed in the former. Captain R. J. Burt, 9th Infantry.
8. What preparatory measures could the War Department take now to prevent any of these mistakes in future wars? Captain W. M. Fassett, 13th Infantry.

Second Series

General Situation:

War being imminent with some combination of first class European powers, the U. S. Government has decided to put an army of 500,000 men in the field exclusive of coast artillery. As our navy is assumed to be inferior to the combination of our enemies, invasion is anticipated somewhere along the Atlantic seaboard.

9. Work out the organization of this force complete in detail. Show number of horses and mules required.
 Captain William Mitchell, Signal Corps.
10. Considering the Regulars and National Guard as constituting the first line and all others the second line, form the first line into the larger units, and give reasons for your arrangements Captain G. E. Stockle, 8th Cavalry.
11. Make out the "Call" on the various states, territories, and District of Columbia for the troops required. In making up the quota to be furnished from each locality, give full consideration to the resources of the state, territory or district; the nature of its population and any other fact that will conduce to efficiency of the troops.
* Captain T. B. Taylor, 3d Cavalry.
12. One division and a brigade of cavalry concentrated at Topeka, Kansas, is ordered shipped by rail to Washington for defense of the Capitol. Time is important. Required :— Work out details of movement, as to time required, number of cars, trains, etc., arrangements to be provided for loading and debarking, time required to collect rolling stock and other

important details that should be thought out in making arrangements for such a movement.

..... Captain S. B. Arnold, 1st Cavalry.
13. Outline the organization, system of training and concentration of the second line, with an estimate of the time probably required to get these troops in shape to be sent into the field..... Captain J. M. Graham, 19th Infantry.

14. Draw up a scheme suitable to this country for keeping organizations at the front at full strength.
..... Captain F. W. Van Duyne, 4th Infantry.

15. Discuss probable landing places of an enemy, with advantages and disadvantages of each.
..... Captain W. D. Chitty, 4th Cavalry.

16. Discuss lines of communication along Atlantic seaboard with reference to their use for concentrating to meet the invading enemy... Captain G. D. Moore, 20th Infantry.

17. Where should the first line troops be first stationed to resist the invasion?.. Captain G. V. H. Moseley, 5th Cavalry.

18. You are appointed colonel of one of the second line regiments of infantry, your quartermaster and commissary know their work and your adjutant is an ex-sergeant major of regulars, two captains and three lieutenants with companies know the close order drill but little more, the regiment is composed of an excellent class of men, but with the exceptions noted, totally ignorant of military matters.

Outline a method of procedure to make this mass available for use as part of the army, starting with the understanding that you may have only one month to do it in.

What would you do during the next month if you were fortunate enough to get that much more time before being required for active operations?

..... Captain D. T. Merrill, 28th Infantry.

19. You are appointed colonel of one of the second line regiments of cavalry, that has been raised in Texas. Your regimental staff has been appointed from noncommissioned staff sergeants, one major was appointed from 1st lieutenant of a regular regiment, six lieutenants serving with troops are ex-sergeants of regular cavalry. Your men and officers can all ride, many are experts, they are an intelligent and good class of men, but know nothing of military matters other than above cited, You are fully uniformed and equipped. Horses have just been turned over by the contractor and average just about as remounts do in the regular service. Outline a method of procedure to make this mass available for use as part. of the army in the shortest possible time.

..... Captain Alonzo Gray, 14th Cavalry.

Third Series

20. What would be the advantages and disadvantages in peace if all our regular regiments were localized?

..... Captain F. L. Wells, 11th Infantry.

21. What would be the advantages and disadvantages in war if all our regular regiments were localized?

.....*** Captain J. C. Rhea, 7th Cavalry.

22. If the regiments were to be localized, how should it

be done to produce the best results when war comes?
..... Captain C. F. Crain, 27th Infantry.

General

23. How best to instruct our officers in Tactics?
..... Captain LeRoy Eltinge, 15th Cavalry.

The papers were excellent and their reading and discussion valuable to us all. The class put a great amount of intelligent and earnest work on these papers and the results were most creditable.

On July 2d the class left Fort Leavenworth for Manassas where, on the morning of July 4th, they commenced the Historical Ride. The ground covered was the fields of Bull Run, Fredericksburg, Chancellorsville, The Wilderness and thence following the movements of the Army of the Potomac to Petersburg, The fields near Richmond on which the Army of the Potomac fought in 1862 were also studied.

The class had thoroly studied the campaigns during the year and to each member was assigned a particular portion of the ride for which he was to be guide and lecturer. The lectures were excellent, some of them I have never seen excelled fur a clear, concise exposition of military movements. The strategy, tactics and logistics were clearly brought out.

To most students no such clear conception of a campaign can be obtained from a study on a map alone as by combining this with study on the ground. In my opinion these rides should be continued as a part of the course.

During the winter the department conducted a war game or map maneuver one evening each week for instructors and a few officers of the garrison as was done the year before. . In addition, by request, a series of 5 games for garrison officers only were held and well attended. The officers show great interest in the work and I believe it was profitable.

Two assistant instructors, as stated in report of Line Class, were relieved during the year and not replaced. This shortage of instructors was most felt near the close of the year when both classes were engaged in practical work. Captain Farrand Sayre, 8th Cavalry, was ordered here June 1st to 15th to help in the work with the Staff Class. His great aptitude for the work and previous experience as an instructor rendered his temporary detail here very valuable.

The instructors in this department for the year were Captain S. H. Elliott, 11th Cavalry, Captain H. E. Eames, 10th Infantry, Captain. G. F. Baltzell, 5th Infantry, Captain M. C. Kerth, 23d Infantry, Captain M. E. Hanna, 3d Cavalry, Captain A. L. Conger, 29th Infantry, Captain D. K. Major, 27th Infantry, Captain R. S. Fitch, 2d Cavalry. Captains Kerth and Major were relieved during the year, the former for duty in Washington, the latter on account of ill health.

The work of all these men was most satisfactory; with ability they joined loyal, earnest effort and hard work.

For whatever success was obtained in the year's work the greater part of the credit must be given to the class.

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

THE ARMY STAFF COLLEGE

DEPARTMENT OF ENGINEERING

Fort Leavenworth, Kansas, August 31, 1909

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, 1909:

The 108 half days assigned to the Department were used as follows:

	Half Days.
Acting as assistant instructors in the survey problems of the School. of the Line,	5
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	26
Map reproduction. --By demonstration and lecture, the methods of enlarging, reducing, copying and printing maps were explained.	1
Field problems in Fortification.	38
Military Sketching.-Advanced course.	19
Acting as assistant instructors of School of the Line in Sketching.	9
Fortress Warfare problems with M. A. Department	9
Survey of Nevada, Missouri maneuver grounds.	2
Total	108

In addition to the above work, lectures were as follows, ten lecture periods having been scheduled in addition to the 108 half days:

Lecture.-Permanent and semi-permanent fortifications from the earliest times to the end of the Francs-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.-Military Demolitions.

The last lecture was given by Lieutenant Douglas MacArthur, Corps of Engineers; who had made a special study of the subject, and kindly consented to lecture on it.

The course has been practically the same as last year no changes except as to some of the minor details having been found desirable.

The projected improvement in the course in Surveying in the School of the Line will permit of considerable abridgment in the Staff Class Surveying. I have consented to cutting this course down to eight half days to be devoted to a triangulation, a knowledge of which is necessary for controlling combined sketching over large areas. While other valuable subjects might be considered in the seventeen half days thereby gained I believe there is more urgent need for the time in the Department of Military Art and have therefore yielded to the request of the head of that department for a transfer of the time to take effect year after next.

The course in Field Fortification has been improved as to detail and is a strong and valuable course. Captain Woodruff has recently published a book for this course "Applied Principles of Field Fortification for Line Officers". It is a new and original treatment of the subject and besides being of great assistance in teaching this course is a valuable contribution to military literature.

The sketching course has continued its development and improvement each year showing steady gain in facility in this work. In June the State of Missouri applied to the Commandant for some officers

to make a map of their maneuver ground. I suggested sending the Staff Class to do the work if the state would pay expenses. This was readily agreed to and the class arrived at Nevada, Missouri early in the morning, and with twenty-four officers made a map of twenty-seven square miles, six inches to the mile, with ten foot contours, and containing all desirable detail. While the amount sketched by each man was not very great as an individual proposition, when it is considered that the result of the days work was a complete map of twenty-seven square miles, which could have been issued in printed form the same evening, any one familiar with the subject of map-making cannot help but regard this as quite an achievement and one which would have been impossible a few years ago. The map was finally lithographed and turned over to the Adjutant General of the State of Missouri.

The work of the class has been in immediate charge of Captain James A. Woodruff, Corps of Engineers. I have never known a more admirable instructor than Captain Woodruff and as his work requires a degree of technical engineering knowledge far beyond, what is taught in his course, it will be very difficult to replace him until graduates of the Service Schools, who, like him, are officers of the Corps of Engineers, and have given much additional study to the subjects taught in the course, are available.

Very respectfully, ·

EDWIN T. COLE;
Captain, 18th Infantry,
Senior Instructor.

THE ARMY STAFF COLLEGE
DEPARTMENT OF LAW
Fort Leavenworth, Kansas, August 31, 1909.

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, 1909:

The time allotted to the department was sixty-six half days. Four of these half days were, for this year only, transferred to the department of military art.

The sixty-two half days were utilized as follows:

Course in Constitutional Law
(Black's Constitutional Law)

- September
- | | | |
|---|------------|--|
| 1 | (1, P.M.) | To bottom of p. 26; U. S. Constitution-Preamble. |
| 2 | (4, P.M.) | To bottom of p. 50; Constitution-Article V, VI and VII, and Amendment X. |
| 3 | (8, P.M.) | To bottom of p. VI. |
| 4 | (10, P.M.) | To sec. 68, p. 99; Constitution--Article II and Amendment XII. |
| 5 | (15, P.M.) | To bottom of p. 122. |
| 6 | (17, P.M.) | To sec. 91, p. 148; Constitution-Article III and Amendment XI. |
| | (22, P.M.) | To bottom p. 166. |
| 8 | (24, P.M.) | To "Navigation", p. 191; Constitution-Article I. |
| 9 | (29, P.M.) | To middle of p. 218. |
- October
- | | | |
|----|-----------|---|
| 10 | (1, P.M.) | To bottom of p. 243. |
| 11 | (2, P.M.) | To bottom of p. 290, omitting all of Chapters XI and XII, except secs. 131 to 133, inclusive; Constitution--Article IV. |

- 12 (5, P.M.) To "Regulation of Railways", p. 350, omitting all of Chapter XIII, except secs. 136 to 140 inclusive.
- 13 (6, P.M.) To bottom of p. 374.
- 14 (7, P.M.) To bottom p. 396.
- 15 (9, P.M.) To sec. 178, p. 413.
- 16 (12, P.M.) To bottom of p. 442, omitting secs. 186 to 192, inclusive.
- 17 (13, P.M.) To sec. 205, p. 464; Constitution-Amendments I, II, XIII and XIV.
- 18 (14, P.M.) To sec. 213, p. 485.
- 19 (15, P.M.) To "General Warrants", p. 503; Constitution--Amendment IV.
- 20 (16, P.M.) To bottom of p. 521; Constitution-Amendments III and VII,
- 21 (20, P.M.) To bottom of p. 539; Constitution-Amendment XV.
- 22 (21, P.M.) To bottom of p. 561.

Course in Military Government and the Laws of War

(Birchimer's Military Government and Martial Law)

January

- 23 (4, A.M.) To bot. of p. 44; Instructions for the Government of Armies of the United States in Time of War, pars. 667-672.
- 24 (6, P.M.) To bot. of p. 69; Instructions, etc., 680-704, 809-817.
- 25 (8, P.M.) To bot. of p. 103; Instructions, etc., 673-677, 712-714.
- 26 (11, P.M.) To bot. of p. 131; Instructions, etc., 714-744.
- 27 (13, P.M.) To bot. of p. 174.
- 28 (15, P.M.) To par. 211, p. 236; Instructions, etc., 708-711.
- 29 (18, P.M.) To bot. of p. 243.
- 30 (20, P.M.) To bot. of p. 267; Instructions, etc., 705-707.
- 31 (22, P.M.) To bot. of p. 301; Instructions, etc., 750-808.
- 32 (25, P.M.) To bot. of p. 350; Instructions, etc., 745-749.
- 33 (27, P.M.) To bot. of p. 369; Instructions, etc., 678-679.

Course in Martial Law

(Birchimer's Military Government and Martial Law)

- 34 (29, P.M.) To bot. of p. 418.

February

- 35 (1, P.M.) To bot. of p. 437; Ex Parte Milligan, 4 Wall. 2.
- 36 (3, P.M.) To bot. of p. 456; Johnson vs. Jones, 44 111. 155.
- 37 (5, P.M.) To bot. of p. 480; Luther vs. Borden, 7 How. 1.

- 38 (8, P.M.) To bot. of p. 489; Lieber—The Justification of Martial Law.
39 (10, P.M.) To bot. of p. 524.
40 (12, P.M.) To bot. of p. 559.
41 (15, P.M.) To bot. of p. 580; Commonwealth vs. Shortall, 206 Penn., 165.
4.2 (17, P.M.) In re Boyle, 6 Idaho 609; In re Moyer 85 Pac. Rep. 190; Moyer vs. Peabody 148 Fed. Rep., 870.

Magoon's Reports

- 43 (19, P.M.) Page 11 to II, page 63.
44 (22, P.M.) To bot. of page 120.

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

- 45 (24, P.M.) Lieber— The Use of the Army in the Aid of Civil Power, to bot. of p. 34; Army Regulations. pars. 454-456 incl., 487-492 incl.
46 (26, P.M.) Lieber-To bot. of p. 59; Digest of Opinions of the Judge- Advocate General, pars. 483-493.

Original Research

- March
47 (1, P.M.) Preparation of papers.
48 (3, P.M.) " " "
49 (5, P.M.) " " "
50 (8, P.M.) " " "
51 (10, P.M.) " " "
52 (12, P.M.) " " "
63 (15, P.M.) " " "
54 (17, P.M.) " " "
55 (19, P.M.) Discussion of papers.
56 (22, P.M.) " " "
57 (24, P.M.) " " "
58 (26, P.M.) " " "
59 (29, P.M.) " " "
60 (31, P.M.) " " "
April
61 (2, P.M.) " " "
62 (5, P.M.) " " "

As will be noticed the text books for the course are Black's Constitutional Law, Birkhimer's Military Government and Martial Law, Magoon's Reports and Lieber's "The Use of the Army in the Aid of Civil Power," However, these books serve more as

a guide to reading than as books of study, for the course is largely one of the study of cases.

The method employed was as follows: First, a brief pointing out of the salient features of a day's work and then the discussion of three or four cases by officers to whom the cases 'had been previously assigned. This discussion consisted of a brief statement of the facts of the case, an outline of the reasoning employed in the opinion, the decision itself, and the pointing out of the legal principles upon which the case turned. Cases were selected so as to illustrate a portion of the subject that was assigned for discussion for the day.

The course in Military Government and Martial Law is believed to be the most exhaustive given at any institution, native or foreign. During the years of 1907 and 1908 the student officers prepared a set of papers upon Martial Law and Military Government. These papers have been bound and filed. It is the intention to use these as references in getting up a work on the subjects by the department. The loss of Captain Kreger a year ago has delayed the work as mentioned in my last year's report. But it is recommended the idea be not lost sight of and a request has been submitted for an additional instructor to keep on with this compiling work.

The Federal Reporter has been added to the library and a full set of the American Digest since my last report. This has greatly helped the department in many ways, and allowed us to better employ the whole working capacity of the twenty odd officers in the Staff Class.

The following subjects were covered this year by specially prepared papers. These papers are all valuable; they are bound and filed. Some of them will appear in some of our service journals:

Staff Glass Law Theses
1908-9

1. The power of arrest. A brief discussion of the power at common law, under statutes, and a full discussion of the use of this power by military persons in time of peace.

2. The publication, "Military Laws of the United States? Its use and value, including a comparison with the Revised Statutes and Statutes at Large, and a full discussion of how to find in all these publications any statute desired.

3. The 4th Article of War. The Gannon case to be one illustration.

4. History of "The Articles of War."

5. Power of Congress over the Territories.

6. The New Militia Act. The constitutional power over the militia and a history of how it has been and will now be exercised.

7. The Difference Between the Militia and the Volunteers. A short discussion of the English system of militia, volunteers, and yeomanry. The necessity of statutory regulations prepared beforehand to ensure an efficient volunteer force. Devise a statutory scheme for raising and organizing the volunteer force.

8. A complete History of the Veterinary Service of the United States Army.

9. Legal Relations of the Indians to the United States, including a discussion of *Elk v. Wilkins*.

10. The Interstate Commerce Commission. Its power as to freight rates particularly to be discussed.

11. The Annual Army **Appropriation** Act.

1.2. The Legal Status of--

1st.—The Philippine Scouts.

2d.—The Army Nurse Corps.

3d.—The Medical Reserve Corps.

I feel I can hardly close this report, the last I will make after five years' connection with this institution, without the following recommendation: This recommendation may seem somewhat as a reflection that the Staff Class course is not important far all

officers, but close consideration will lead one to see that the good of the service is at the bottom of the recommendation.

The Staff Class is entirely too large. Not that we cannot handle a large class in the department as well as a small one, but it is believed that far better results will be reached, for the service- at large, by increasing the size of the Line Class and decreasing the size of the Staff Class.

If the Government can spare sixty officers a year for the two schools, more good will come to the service by running fifty men through the Line Class and ten through the Staff Class, than. from thirty-six in the Line Class and twenty-four in the Staff Class.

With twenty-four out of thirty-six retained each year this institution has lost its competitive force, while with ten out of fifty it will retain it, and at the same time will not subject the officers not detailed to the humiliation they at present feel (unwarrantably probably) in not making the Staff Class.

Watching for a number of years this competitive system, I am convinced of its value, but am also convinced that the development of the last few years forces the conclusion that our Staff Class is too large and the Line Class too small.

One of the desirable features of this institution is to send officers back to their regiments to set in motion the playing of the war game throughout the winter months at every post in the army and the dissemination of other knowledge obtained throughout the course that is not within the reasonable reach of busy post officers. The course in the Line School has been extended so as to include practice in umpiring the war game and the service at large will benefit more by the yearly return to regiments of forty Line School officers and ten Staff Class officers than the present system of thirty-six and twenty-four, I have

always been in favor of small Staff Classes but the past few years have been such as to bring to us the reminder, that it is a condition, not a theory which confronts us.

I believe the institution is now so firmly planted and its methods so well settled that we may now adopt the above recommendation.

The assistant instructor in the Staff Class was Captain Charles E. Stodter, 9th Cavalry. I am greatly indebted to him for his untiring industry and rare judgment. He has fully met all requirements and amply demonstrated that this course, extensive as it is, is better off in the hands of experienced soldiers than it would be if handled by specialists, who might not be imbued with the spirit that this institution is a school for soldiers and not for lawyers. If the department is as fortunate hereafter in securing assistant instructors as it has been in the last few years, we may rest satisfied as to its continued usefulness.

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

THE ARMY STAFF COLLEGE
DEPARTMENT CARE OF TROOPS

Fort Leavenworth, Kansas, August 31, 1909.

THE SECRETARY,
The Army Service Schools.

SW:

In reporting upon the operations of the Department Care of Troops for the school year 1908-1909, I have the honor to invite attention to the fact that in respect to its work with the student officers, School of the Line, it is a branch of and subordinate to the Department of Military Art. Report upon this work will therefore be made by the Senior Instructor, Department of Military Art.

In respect to its work in the Army Staff College, the Department Care of Troops stands on an independent basis. The hours of instruction followed during the year were as arranged by my predecessor, so that there might be no interference with the established schedule. In the schedule for the present year the hours of instruction have been increased, so that the subject can be more thoroughly handled. The printed schedule of subject matter for lectures during the past year was somewhat departed from, with the idea of a somewhat broader consideration of the subject in the time available.

In its consideration with the class, the entire subject of care of troops was treated purely as a branch of military economics, and in a way to best demonstrate the basic and far reaching importance of military sanitation as influencing the planning and execution of military movements, the fate of campaigns and the destinies of nations. The practical side

of the subject was dwelt on to the exclusion of the theoretical and speculative, and dogmatic statements of principles and methods, without due mention and explanation of the facts on which they were based, were avoided.

The conclusion of the course was marked by a sanitary problem—one of a coordinating series of problems relating to various phases of fortress warfare—in which the more important questions bearing on the care of troops came up for consideration under the assumed conditions for both the defense and offense. One week was allowed the class for the solution of this problem, every solution showing a good understanding of the subject and a number of papers being of an unexpectedly high class.

At the conclusion of the course in the Staff College, the undersigned requested written comment thereon by the members of the class, with a view to increasing the value of the course for future classes. Of the replies so received, all were gratifyingly favorable, the only suggestions being that the hours of the course be increased and that there be a more free use of lantern slides for illustrative purposes. Both of these suggestions have been adopted in planning the course for the ensuing year.

Very respectfully.

E. L. MUNSON,
Major, Medical Corps,
Senior Instructor.

THE ARMY STAFF COLLEGE
DEPARTMENT OF LANGUAGES

Fort Leavenworth, Kansas, June 30, 1909.

THE SECRETARY,
The Army Staff College.

Sir:

I have the honor to submit the following report of the work of this department for the school year 1908-9:

Allotment of Time

Sixty-four half days were allotted to this department; the work began September 1st, and ended December 23, 1908. The class room work was in periods of two hours each with an intermission of ten minutes between hours.

Courses of Study

French, German and Spanish classes were formed from the Staff and Signal Classes. In accordance with the plan outlined in my report of last year, two courses in French and two in Spanish and one in German were provided.

Election of Language

Seven officers of the Staff Class were not considered sufficiently fluent in Spanish to warrant their dropping that language and taking up another language; they were therefore assigned to the advanced course in Spanish. Eleven officers elected French, and five elected German.

French

Instructor

Captain J.A. Moss, 24th Infantry

The French class was composed of Captains Bugge, Burt, Crain, Eltinge, Fassett, Gray, Merrill, Mitchell, Murphy, Parker and Saxton; there were no

admissions to this class from the Signal School. All of these officers had had considerable previous instruction in French, and all were, therefore, assigned to the advanced course, and none to the elementary course. Toward the end of the course, however, it was found that the lessons laid out for the advanced course were too long and too difficult for some members of the class. To obviate this difficulty the class was divided into two sections. The first section consisted of Captains Bugge, Crain, Fassett, Mitchell, Murphy, Parker, and Saxton; the second of Captains Burt, Eltinge, Gray, and Merrill. The instructor divided his time between the two sections; the hour that the instructor was not with either section, his place was taken by one of the officers detailed from the first section, four of whom were thus given opportunity to act as instructors. Although this detailing of a student officer to hear a section was probably not as satisfactory, from the view point of the section, as having a regular instructor, yet it had the advantage of giving the members of the first section some experience as instructors in French.

TEXT BOOKS

Advanced Course

Pronunciation (De Peiffer), pp. 6-27, 44—50.

Conversation Lessons (I. C. S.), Lessons I.-XXX.

Le Petit Parisien (Kron), pp. 1-94.

Le Petit Soldat (Kron), pp. 1-66.

The daily lessons are given in the List of Lessons, Advanced Course in French.

“Le Petit Parisien” and “Le Petit Soldat” were substituted for Guerber’s “Contes et Legendes Ire Partie” and Fontaine’s “Douze Contes Nouveaux” of last year’s course.

Le Petit Parisien relates to every day life and Le Petit Soldat to military life; both books are very good in the vocabulary of nouns, **but** are insufficient in the

vocabulary of verbs and in verb forms; they, however, are much better for a conversational course than the two readers used last year,

The work in the class room was, as heretofore, made as practical as possible, and a large part of the time was devoted to conversation. This year, lessons in the reader were regularly assigned, in order that the large vocabulary of the readers might be more firmly fixed in the minds of the students. A few minutes each day was given to dictation exercises.

The phonographs were used in the same way as last year.

The interesting illustrated lectures, by Captain Moss on Paris, Versailles, and Fontainebleau, of last year were repeated this year, and a new lecture on the Battlefield of Waterloo was added to the series. These lectures were open to the schools and to the post, and were well attended.

The progress of the French class was very satisfactory; the improvement of this year's class in French over previous classes was marked; all of the members of the class developed fair ability in conversing in French and at least half of the class displayed an ease of conversation that a little practice in a French community would develop into fluency.

German

Instructor

Captain O. L. Spaulding, jr., 5th F. A.,

The German class consisted of Captains Chitty, Howell, Moore, Smith, and Stockle; there were no admissions to this class from the Signal School.

TEXT BOOKS

German Conversational Lessons, Lessons I-XVIII-I, O.S.
Pamphlets on Declensions and Conjugations-Department.
Glück Auf—Müller and Wenckebach.

Geschichten vom Rhein—Stern.

The daily lessons are given in the List of Lessons, German Course.

The course prescribed was substantially the same as that of last year; the only material change was the assignment of regular lessons in the reader, Glück Auf, beginning with the 16th Lesson and continuing to the end of the course.

Practical work in conversation occupied most of the class-room time; some time was given to dictation. Of the five student officers of this class, four had had some German, so that the class progressed much more rapidly than has any previous Staff Class in German.

In addition to the scheduled lessons of the prescribed course, the class was able to take up and translate some 150 pages of "Die Schlacht der Zukunft", a valuable work for a military class, because of its military vocabulary, the interest it excites in the military student, and its intimate relation to study in military art.

The progress of the German Class was more than satisfactory; the interest of the class in its work and the advance made in knowledge of the language entitle the class and the instructor to the highest praise.

Spanish

Instructors

Captain D. E. Aultman, 5th F. A.

Teniente Jorge Landa, Mexican Army.

The Spanish class was composed of Captains Arnold, Graham, Moseley, Rhea, Taylor, Wells and Van Duyne, together with five others from the Signal School. All of these officers had completed the Line Class course in Spanish and were prepared to take the advanced course in Spanish laid out for this year.

There were no student officers of the Staff Class for the Elementary Course-in Spanish,

TEXT BOOKS

Advanced Course

The Spanish Verb, complete-Traub.

Introducción á la Lengua Castellana, complete-Marion y Des Garenes.

Spanish Conversational Lessons? Lessons I-XXX (with some omissions)-I. C. S.

Pamphlets on Spanish Grammar-Prepared in the Department.

El Castellano Actual, pp. I-202 (with some omissions)—Román y Salamero.

The daily lessons are given in the List of Lessons Advanced Course in Spanish.

Captain Aultman and Lieutenant Landa alternated weekly in teaching this class.

The class-room work was made as practical as possible and most of the time was devoted to conversation; short exercises in dictation were given regularly throughout the course.

The progress of this class was, on the whole, very satisfactory. The members of the class developed fair ability in conversing in Spanish and three fourths of the class showed an ease of conversation that would, under Spanish environment, rapidly develop into fluency.

Remarks on Staff Class Work in Languages

The changes proposed in my report of last year, relative to putting in an advanced course in Spanish for those who, in the Line Class, had shown lack of fluency in Spanish, and an advanced course in French for those who had already had instruction in French, were carried out this year as indicated above, and the great progress made by the French and Spanish classes must be attributed to the introduction of these advanced courses. The results obtained have been such as to show that the division of a class into two sections in which students of each section are in more or less equal stages-of-advancement, is in the interest

of progress; in fact this year's work emphasizes the necessity of such arrangement, and the advantages that would accrue from even a further division of a class. The limitations imposed by the small number of instructors, however, prevents any further division at present.

The continuing of Spanish in the Staff Class year by those of the Line Class that did not show themselves fairly familiar with the language at the end of the Line Class course, has resulted in much good. These officers acquired considerable ease in Spanish by the end of the Staff Class course. As they were all men who were not particularly apt in languages, to have given them either French or German would have resulted in giving them a mere elementary smattering of one of these languages to be mixed up and confused with an undigested and unassimilated lot of Spanish acquired the preceding year. As it is now they have acquired a good knowledge of Spanish that will be of use to them, provided they make the slightest effort to retain what they have learned.

The instructors of the department for the Staff and Signal Classes,

Captain James A. Moss, 24th Infantry, in French,
Captain Dwight E. Aultman, 6th Field Artillery, in Spanish,
Captain Oliver L. Spaulding, jr., 5th Field Artillery, in
German,

Lieutenant Jorge Landa, Mexican Infantry, in Spanish,

performed their duties in the most satisfactory manner; to ability of a high order and to a thorough knowledge of the languages they taught, they added their earnest, conscientious, and patient efforts to get the best results possible in their several courses. In addition to their work in the class-room, the instructors gave their full share of work in the preparations of the new courses.

Through the courtesy and with the consent of the Mexican Government, Lieutenant Jorge Landa was

assigned to the department as instructor in Spanish, and he is entitled to his full share of credit for whatever success the department may have had in its instruction of classes in Spanish.

Recommendations

I renew my earnest recommendation of last year "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."

The necessity for such instructors has been made more apparent this year than last year. Lieutenant Landa's presence in the department last year and the earlier part of this year, while the new course in Spanish for the Line Class was being prepared, was of the greatest value. The courses in Spanish, in French, and in German for the Staff Class should all be revised to accommodate them to the needs of the lengthened Staff Class course that will go into effect next year.

To prepare a new language course, or to adapt existent text books to a course that is intended to be primarily conversational, requires the aid of at least one person thoroughly familiar with and fluent in that language; it is extremely difficult to find this knowledge in any person other than a native.

The success of the Line Class Spanish course warrants the belief that with the assistance of a native instructor in each of the languages, French, German and Spanish, the department will be able to make up its own courses in those languages and will not be dependent upon text-books written for schools whose aims, length of course, and students are quite different from those of these schools.

The good native instructor must be held to be an expert in his own language and his word will generally be accepted as dictum even by advanced students;

his presence in the department will insure greater confidence in the department on the part of students; the officer instructor, when associated with the native instructor, will have greater confidence in himself, because he will be able to refer all points upon which **he** may be in doubt to one known to be well versed in the subject.

In one respect the department has been at a disadvantage during the past year. Captain Spaulding was regularly relieved from duty with the schools last summer. As no suitable successor for him was found available, he was detailed from the post to take the German class in the Staff College in addition to his duties in the post as battery commander. He had only one lieutenant (very recently commissioned) on duty with the battery. Captain Spaulding's duty to the schools required his time only during class-room hours, his duty to his battery and in the post required his time and attention at all other times. His work in the class-room this year was, if such a thing could be, better than in previous years, but he was unable to give the department but little more time than was allotted to class-room work, and that little extra time, he must have felt, was time that should, in justice and in accordance with orders, have been devoted to his battery of recruits. As the German course of next year must be increased by twenty-nine lessons, the time was opportune for making almost a complete change in the present German course which does not appear to me to give the results it should.

By reason of the special situation, it has not only not been possible to arrange a new course in German for next year, but I now find myself compelled to arrange for the twenty-nine additional lessons for next school year without any aid whatever, a duty that I, without assistance, should not like to do under similar circumstances either in French or Spanish, al-

though I am familiar with instruction in both of those languages, whereas, I have never instructed a class in German.

Captain H. W. Miller's detail as instructor in Spanish in the School of the Line had' similar objections to those of Captain Spaulding's detail in German. Both of these officers are among the best instructors that I have ever known and the department would be fortunate to have both of them regularly detailed for its work. But the department, in order to be successful, must have the time of its instruction outside of class room hours; the instructors need time for preparation for class room work, they need time for the correction of exercises; they certainly need much time to work on any proposed changes, in order to insure that every change made shall be an advance, a betterment, and not a retrogression.

Very respectfully,

ARTHUR THAYER,

Captain, 3d Cavalry,

Senior Instructor.

Department of Languages
THE ARMY STAFF COLLEGE
and
ARMY SIGNAL SCHOOL
1908-9

Course in *German*

List of Lessons for the Year

A is German Conversational Lessons.

B is Interpolated Sheets.

C is Glick Auf.

September

- | | | |
|----|--------------|---|
| 1 | (1, A.M.) | A, Lesson I. |
| 2 | (2, A.M.) | A, Lesson II, to Drill, p. 14.
B, Weak verb, pres. indic. active, p. 8. |
| 3 | (3, A.M.) | A, Lesson II, to end p. 28.
B, Weak verb, imperative and participles,
p. 9. |
| 4 | (4, A.M.) | A, Lesson III, to Drill, p. 6; Record II. |
| 5 | (7, A. M.) | A, Lesson III, to Rev. and Convers., p. 14.
B, Articles, p. 1. |
| 6 | (8, A.M.) | A, Lesson III to end p. 16.
B, Pronouns declined like articles, p. 1. |
| | (9, A.M.) | A, Review, Lessons I, II, III.
B, Review. |
| 8 | (10, A.M.) | A, Lesson IV to Drill, p. 22; Record III. |
| 9 | (11, A.M.) | A, Lesson IV to Rev. and Convers., p. 28.
B, Weak verb, pres. subj., p. 8. |
| 10 | (12, A.M.) | A, Lesson IV to end. |
| 11 | (14, A.M.) | A, Lesson V to Drill, p. 6; Record IV. |
| 12 | (15, A.M.) | A, Lesson V to Rev. and Convers.
B, Personal pronouns, p. 3½. |
| 13 | (16, A.M.) | A, Lesson V to end p. 17. |
| 14 | (17, A.M.) | A, Lesson VI to Drill, p. 24; Record V. |
| 15 | (18, A.M.) | A, Lesson VI to Rev. and Convers., p. 33.
B, Auxiliary verbs, pres. tense, pp. 4, 5. |
| 16 | (21, A.M.) | A, Lesson VI to end.
B, Pres. pass., p. 8.
C, To line 11, p. 3. |
| 17 | (22, A.M.) | A, Review Lessons IV, V, VI; Record VI.
B, Review.
C, To bot. p. 3. |

September—*continued*

- 18 (23, A.M.) A, Lesson VII to Drill, p. 7.
B, Modal auxiliaries, pres. indic., p. 6.
C, To line 13, p. 4.
- 19 (24, A.M.) A, Lesson VII to Rev. and Convers., p. 14.
B, Modal auxiliaries, pres. subj., p. 7.
C, To bot. p. 4.
- 20 (25, A.M.) A, Lesson VII to end p. 17.
B, Strong verbs, pres. tense, p. 9.
C, To line 14, p. 5.
- 21 (26, A.M.) A, Lesson VIII to Drill, p. 29; Record VII.
C, To bot. p. 5.
- 22 (28, A.M.) A, Lesson VIII to Rev. and Convers., p. 36.
B, Weak verbs, imperf. tense, p. 8.
C, To bot. p. 6.

October

- 23 (1, A.M.) A, Lesson VIII to end p. 39.
B, Strong and auxiliary verbs, imperf., pp. 6-7, 9.
C, To line 16, p. 7.
- 24 (2, A.M.) A, Review Lessons VII, VIII; Record VIII.
B, Review.
C, To line 13, p. 8.
- 25 (5, A.M.) A, Lesson IX to Drill, p. 13.
B, Perfect tense, pp. 5-8, 10.
C, To line 7, p. 9.
- 26 (6, A.M.) A, Lesson IX to mid. p. 16.
B, Perfect tense, p. 11.
C, To line 20, p. 10.
- 27 (7, A.M.) A, Lesson IX to Rev. and Convers, p. 25.
B, Future tense, pp. 5-8, 10.
C, To line 21, p. 11.
- 28 (9, A.M.) A, Lesson X to Drill, p. 42; Record IX.
C, To line 14, p. 12.
- 29 (12, A.M.) A, Lesson X to line 6, p. 43.
B, Nouns, weak and strong, pp. 1-3.
C, To line 14, p. 13.
- 30 (13, A.M.) A, Lesson X, Rev. and Convers., p. 61.
B, Nouns, mixed and irreg., p. 3.
C, To bot. p. 14.
- 31 (15, A.M.) A, Review lessons IX, X; Record X.
B, Review.
C, To bot. p. 16.
- 32 (16, A.M.) A, Lesson XI to Drill, p. 17.
B, Adject., strong, p. 3.
C, To line 5, p. 20.
- 33 (17, A.M.) A, Lesson XI to bot. p. 24.
B, Adject., weak and mixed, p. 4.
C, To bot. p. 21.
- 34 (19, A.M.) A, Lesson XI, to Rev. and covers. p. 28; and
p. 35. German Script.

October—*continued*

- B, Separable verbs, tenses already taken,
pp. 12, 13.
C, to line 16, p. 23.
- 35 (20, A.M.) A, Lesson XII, to sec. 6, p. 44; Record XI.
C, to line 15, p. 24.
- 36 (22, A.M.) A, Lesson XII, to Drill p. 48.
B, Pronouns, demonstr., pp. 3½, 4.
C, to bot. p. 25.
- 37 (26, A.M.) A, Lesson XII, to mid. p. 53.
B, Pronouns, rel., p. 4.
C, to line 16, p. 27.
- 38 (27, A.M.) A, Lesson XII, to mid. p. 59.
B, Pronouns interrog., p. 4.
C, to 8, p. 29.
- 39 (29, A.M.) A, Lesson XII, to Rev. and Convers. p. 65.
C, to line 9, p. 30.
- 40 (31, A.M.) A, Review Lessons XI, XII and XIII.
B, Review.
C, to line 15, p. 31.
- November
- 41 (3, P.M.) A, Lesson XIII to Drill, p. 20.
B, Pronouns, reflex., p. 3½.
C, to bot. p. 32.
- 42 (5, P.M.) A, Lesson XIII to line 5, p. 27.
B, Pronouns, indef., p. 4.
C, to line 10, p. 34.
- 43 (9, P.M.) A, Lesson XIII, to Rev. and Convers., p. 38.
B, Reflex verbs, tenses already taken, p. 12.
C, to line 14, p. 35.
- 44 (17, P.M.) A, Lesson XIV to bot. p. 50; Record XIII.
C, p. 37 to line 15, p. 38.
- 45 (19, P.M.) A, Lesson XIV to Drill, p. 59.
B, Pluperfect tense, pp. 5-8, 10, 12, 13.
C, to bot. p. 39.
- 46 (20, P.M.) A, Lesson XIV to line 4, p. 66.
B, Pluperfect tense, p. II.
C, p. 42 to line 19, p. 43.
- 47 (21, A.M.) A, Lessons XIV, to Rev. and Convers., p. 72.
B, Future perf: tense, pp. 5-8, 10, 13.
C, to line 14, p. 45.
- 48 (23, P.M.) A, Review Lessons XIII, XIV; Record XIV.
B, Review.
C, p. 49 to line 12, p. 50.
- 49 (24, P.M.) A, Lesson XV to par. 6, p. 8.
B, Pres. condit., pp. 5, 7, 9-13.
C, to line 15, 53.
- 50 (25, P.M.; A, Lesson XV., to Drill, p. 14.
B, Perf. condit., pp. 5, 7, 9-13.
C, to line 15, p. 53,

December

- 51 (1, P.M.) A, Lesson XV to mid. p. 23.
O, to bot. p. 54.
- 52 (2, P.M.) A, Lesson XV to Rev. and Convers., p. 32.
C, to bot. p. 56.
- 53 (3, P.M.) A, Lesson XVI, to Drill p. 54; Record XV.
B, Review, nouns.
C, p. 91 to bot. p. 92.
- 54 (8, P.M.) A, Lesson XVI, to bot. p. 62.
B, Review pron. and adj.
C, to line 11, p. 95.
- 55 (10, P.M.) A, Lesson XVI, to Rev. and Convers. p. 70.
B, Review verbs.
C, p. 97 to bot p. 98.
- 56 (14, P.M.) A, Review Lessons XV, XVI.
C, to bot. p. 100.
- 57 (15, P.M.) A, Lesson XVII, to Drill p. 12.
B, Class I, irregular verbs.
C, to bot. p. 102.
- 58 (16, P.M.) A, Lesson XVII, to mid. p. 19.
B, Class II, irregular verbs.
C, to bot. p. 104.
- 59 (17, P.M.) A., Lesson XVII, to Rev. and Convers.
B, Class III, irregular verbs.
C, to bot. p. 106.
- 60 (18, P.M.) A, Lesson XVIII, to Drill, p. 48; Record
XVII.
B, Class IV, irregular verbs.
C, to bot. p. 109.
- 61 (19, A.M.) A, Lesson XVIII, to mid. p. 55.
B, Class V, irregular verbs.
C, to line 5, page 115.
- 62 (21, P.M.) A, Lesson XVIII to Rev. and Convers, p. 63.
B, Class VI, irregular verbs.
C, to line 14, p. 117.
- 63 (22, P.M.) A, review Lessons XVII, XVIII.
B, Class VII, irregular verbs.
C, to bot. p. 120.
- 94 (23, P.M.) A, Review.
B, Class VIII, irregular verbs.
C, to bot. p. 123.

Department of Languages
THE ARMY STAFF COLLEGE
and
ARMY SIGNAL SCHOOL
1908-9

Advanced course in *French*

List of Lessons for the year.

A is Castarède's French Verb.

B is French Conversational Lesson, I. C. S.

C is Le Petit Parisien.

D is Le Petit Soldat.

September

- 1 (1, A.M.) De Peiffer, p. 7 to bot. p. 19; examples for pronunciation only.
- 2 (2, A.M.) De Peiffer, p. 20 to Part II, p. 27, and p. 44 to end p. 50; examples for pronunciation only.
- 3 (3, A.M.) A, pp. 1-8.
B, Introduction and Lesson I.
c, to top p. 2.
- (4, A.M.) A, pp. 9-11.
B, Lesson II.
c, to top p. 3.
- 5 (7, A.M.) A, pp. 12-22, "er" conjugation.
B, Lesson III.
c, to top p. 4.
- 6 (8, A.M.) A, pp. 12-15, 22, 24, "ir" conjugation.
B, Lesson IV.
C, to top p. 5.
- (9, A.M.) A, pp. 12-15, 25, 26, "oir" conjugation.
B, Lesson V.
C, to top p. 6.
- 8 (10, A.M.) A, pp. 12-15, 27, 28, "re" conjugation.
B, Lesson VI.
C, to top p. 7.
- 9 (11, A.M.) A, pp. 30, 31.
B, Lesson VII.
c, to 2^o p. 8.
- 10 (12, A.M.) A, pp. 32, 33.
B, Lesson VIII.
C, to 3^o p. 9.
- 11 (14, A.M.) A, pp. 34, 35.
B, Lesson IX.
C, 5^o p. 10.

September—*continued.*

- 12 (15, A.M.) A, pp. 38, 39.
B, Lesson X.
C, to bot. 12.
- 13 (16, A.M.) A, pp. 40, 42.
B, Lesson XI to Rev. and Convers.
C, to "On peut" p.14.
- 14 (17, A.M.) A, pp. 43, 47.
B, Lesson XI to end.
C, to "Nous faisons" p. 16.
- 15 (18, A.M.) A, pp. 48-53.
B, Lesson XII to Rev. and Convers.
C, to bot. p. 17.
- 16 (21, A.M.) A, pp. 54, 59.
B, Lesson XII to end.
C, to "Je fume" p. 19.
- 17 (22, A.M.) A, pp. 60-64.
B, Lesson XIII to Rev. and Convers.
C, to "Le Petit Déjeuner" p 21.
- 18 (23, A.M.) A, pp. 65-67.
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- 19 (24, A.M.) A, pp. 70-75.
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- 30 (25, A.M.) A, pp. 93-97.
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- 31 (26, A.M.) A, pp. 98-100.
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- 22 (28, A.M.) I-1, pp. 102-104.
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- 23 (1, A.M.) A, pp. 76-78.
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- 24 (2, A.M.) A, pp. 79-81.
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- 26 (6, A.M.) A, pp. 85-88.
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- 27 (7, A.M.) A, pp. 89-92.
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- 28 (9, A.M.) A, pp. 105-107.

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- 32 (16, A.M.) A, pp. 118-120.
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- 42 (5, P.M.) A, pp. 89-92.
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- 43 (9, P.M.) A, pp. 93-97, 99.
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C, to "Age" p. 73.
- 44 (17, P.M.) A, pp. 100, 102-104.
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B, XXIII to Rev. and Convers.
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- 48 (23, P.M.) A, pp. 110-122.
B, Lesson XXVIII to end.
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- 49 (24, P.M.) A, pp. 123-126.
B, Lesson XXIX to Rev. and Convers.
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D, to Assouplissement, p. 25.
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- 61 (19, P.M.) A, Review.
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Department of Languages
THE ARMY STAFF COLLEGE
AND
THE ARMY SIGNAL SCHOOL
1908-09

Advanced Course in *Spanish*

A is Traub's Spanish Verb.
B is Introducción á la Lengua Castellana.
C is Spanish Conversational Lessons-I. C.S.
D is Interpolated Sheets. (For reference, to be read.)
E is El Castellano Actual.

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- 2 (2, A.M.) A, Pars. 63-66, 82, 84 Indic. Mood 1st Conj.
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D, Simple Tenses Pron. Subjects.
E, to bot. p.4.
- 3 (3, A.M.) A, Par. 82, 84, 87, 88. Simple Tenses 1st **Conj.**
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D, Demon. Adj. and Pron.
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- 4 (4, A.M.) A, Pars. 89-92 Simple Tenses 1st Conj.
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E, To 4^o p. 9.
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- 6 (8, A.M.) A, Pars. 72-80, 83, 92-94 Simple Tenses.
B, Lección V.
D, Comp. and Superl. to end and Obj. Pers.
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- 7 (9, A.M.) A, Par. 81.
 B, Lección VI.
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- 9 (11, A.M.) A, pp. 40-71 Orthographic Changes and par. 114.
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 E, To bot. p. 24.
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 D, Adjective.
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 D, Cardinals and Ordinals.
 E, To V p. 29.
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 B, Lección XII.
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 D, Uses of Moods and Tenses.
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- 15 (18, A.M.) B, Lección XIV.
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 E, To VI p. 35.
- 16 (21, A.M.) B, Lección XV.
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- 61 (1.9, A.M.) C, Lesson XXVII to Additional Dial. p. 36.
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THE ARMY SIGNAL SCHOOL
OFFICE OF THE ASSISTANT COMMANDANT
Fort Leavenworth, Kansas, August 15, 1909.

THE SECRETARY,
Army Service Schools.

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 Edgar Russel, Signal Corps, Senior Instructor Department of Signaling and Signal Engineering.

Captain E. T. Cole, 18th Infantry, Senior Instructor Department of Topography, and Instructor in Photography.

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

Captain J. B. Allison, 7th Infantry, Instructor Department of Signaling and Signal Engineering, (Commanding Company A, Signal Corps).

Captain Arthur S. Cowan, Signal Corps, Instructor Department of Signaling and Signal Engineering.

Captain A. C. Knowles, Signal Corps, Instructor Department of Signaling and Signal Engineering.

1st Lieutenant V. D. Dixon, Signal Corps, Instructor Department of Signaling and Signal Engineering. (On duty with Company A, Signal Corps.)

Student Officers

The following student officers were graduated June 30, 1909:

Captain L. D. Wildman, Signal Corps,
Captain R. C. Langdon, 3d Infantry,
Captain C. H. Bridges, 15th Infantry,
Captain P. H. Mulla, 14th Infantry,
Captain B. O. Lenoir, Signal Corps,
1st Lieutenant F. R. Curtis, 13th Infantry,
1st Lieutenant K. T. Smith, 6th Infantry,
1st Lieutenant H. A. Bell, 15th Infantry,
1st Lieutenant W. C. Jones, 13th Infantry,
1st Lieutenant J. A. Brockman, 17th Infantry.,
1st Lieutenant Dawson Olmstead, 5th Field Artillery,
1st Lieutenant H. C. Tatum, 7th Cavalry,
2d Lieutenant, M. L. Love, 2d Cavalry.

1st Lieutenant A. L. Singleton, 5th Infantry, was relieved from duty with the Army Signal School on account of physical disability per paragraph 12, Special Orders No. 207, W. D., series of 1908.

Captain G. C. Burnell, Signal Corps, was relieved on March 19, 1909, from duty with the Army Signal School, Class of 1908-09, on account of physical disability, in compliance with the 21st indorsement, W. D., A. G. O., March 17, 1909.

The Objects of the School

The main objects of the school are:

1st. To give instruction to officers of the Signal Corps, or to those who may be detailed to the Signal Corps from the line of the army.

2d. To disseminate through the line of the army a knowledge of the utility of the Signal Corps to the army in general and the proper way of utilizing lines of information .

3d. To make research and practical experiments in appliances and methods which promise to be of service to the Signal Corps.

It would be hard to say which of these objects has the greater importance. While technical instruction of officers of the Signal Corps is of fundamental importance, it would appear that a just appreciation of the relations between the Signal Corps and the other branches of the service would **be** equally im-

portant and greatly extend the applications of this new arm of the service to the art of war.

The zeal and intelligence of the student officers peculiarly fits them for practical research work in subjects of interest to the Signal Corps.

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.

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 instructions in:

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

Method of Instruction

It is recognized that all scientific instruction must necessarily start with a sound theoretical basis. The course in the Signal School is largely scientific in character. While recognizing the necessity for

theoretical instruction in connection therewith, it is constantly kept in mind that the student officers will not generally follow out scientific investigations except to make immediate practical applications thereof. The ground work of theory, therefore, should be sound and at the same time brief, and with its application to the service always in view. Theoretical instruction in recitations is always immediately followed by practical illustrations. In the laboratory a short course of theoretical problems is immediately followed by a series of problems in which their practical applications are brought out. As soon as the weather permitted in the spring, the class was taken out into the open on every possible occasion and practical problems given, involving knowledge of apparatus, its emergency repair, and its use under all conditions in the field. At the end of the year a series of practical field problems involving the use of the Signal Corps companies in connection with simulated commands of various sizes, were worked out. Throughout the year telegraph practice was kept up, and visual signaling whenever the weather permitted.

Theoretical Instruction

Theoretical instruction was carried out by means of daily conferences, reviews, lectures and written problems.

The conferences above referred to have grown out of the recitation system of instruction which actual test has demonstrated to be the most logical and efficient method of imparting instruction. Theoretical study and research was limited to the requirements necessary to obtain a good practical working knowledge of the principles involved in the use of all apparatus and machinery of the Signal Corps.

So far as it was possible and consistent with the apparatus at hand, no statement or theory met with

in the text, or brought out in connection therewith, was passed over without experimental demonstration and elucidation by practical means in the section room.

Mathematical deduction was limited to practical problems which would naturally be apt to arise in connection with electrical work in the Signal Corps, and also to fix in the minds of the student officers the mathematical accuracy of electrical phenomena.

The object of the reviews following the daily conferences was to devote a little extra time to such parts of the text as were found difficult on the advance.

The lectures were always so arranged as to cover all matter passed over in the text to date of lecture, and supplemented by additional experimental illustration of a more advanced character than those performed in the section room at daily conferences. The written problems served not only as practical exercises but also marked the progress of the student, his stumbling points, and indicated clearly if previous instruction were adequate. The written exercises were never prepared as to be simply a test of the memory but rather to indicate the ability of the student to exercise originality in working out by deduction and analysis the problems given him.

This instruction was carried out largely under the direction of Captain A. C. Knowles, Signal Corps, who added to his abilities the successful experience of last year's course.

Laboratory Work of the Army Signal School

Every effort is made to have this part of the course thoroughly practical. . Each student works independently of the others, so that his rate of progress depends entirely on himself.

After some preliminary instructions and cautions concerning the use of electrical measuring instruments

are given, the student is required to solve a number of elementary problems. These problems are designed to familiarize the student with the use of the various measuring instruments, and to firmly fix in his mind the principles which underlie the subject of electricity. They are very fully stated, wiring diagrams of all connections are furnished, and the proper manipulation for securing the desired results is explained in great detail. In connection with these problems, students are at liberty to consult any book, and any assistance desired is given by the instructor.

As soon as the elementary problems are finished the student is given work which is essentially practical in its character. For example, he is required:

1. To solve problems, being given only a brief statement of same, the instruments to be used and the method of solution being left entirely to the student.

2. To take apart, examine, repair and make wiring diagrams of the standard Signal Corps equipment, such as buzzers, telephones, switchboards, hand generators, telegraph sets, etc.

3. To locate faults in telephone systems and the repair of same. This includes the locating of faults in a 5710-foot underground cable.

4. **To** locate faults on a 28-mile telegraph line from a terminal station.

5. To set up and operate a regular telegraph office equipment, consisting of a relay and sounder; also some duplex system.

6. To charge a storage battery and submit daily reports of the battery while on discharge.

7. To set up and operate the sending and receiving circuits of the wireless "Pack" set.

8. To operate a 1-k. w. wireless set.

9. In connection with the theoretical course in "Oil Engines", actually to operate the oil and gasoline engines in the laboratory.

In this part of the course, that is, in the practical part of the laboratory work, students are permitted to consult any book they desire, but no assistance is given by the instructor unless it is evident that the student cannot do the work unassisted.

One hour a day is set aside for practical work in telegraphy. Students are required to be able to send and receive at least ten words per minute. This year every member of the class qualified on this test, and several members are able to send and receive from fifteen to eighteen words per minute.

The above is only a partial list of the work done in the laboratory, but it is believed that it is sufficient to indicate the general character and scope of this work.

There is appended hereto directions given the student officers for the preparations of their reports of laboratory work, and examples of two of the problems required to be worked out in the laboratory.

The laboratory has been most conveniently and spaciouly laid out by my predecessors. Numerous new instrumens have been furnished this year and the work of the student officers is greatly expedited thereby.

Captain A. S. Cowan, Signal Corps, who has had charge of the laboratory work, has labored unremittingly, and his efforts have made the year's work therein an unqualified success.

FIELD EXERCISES

Employing a Field Company of the Signal Corps

The system of practical instruction employed this year in the field problems has produced very satisfac-

tory results. The scheme pursued was about as follows:

The signal class and the Signal Corps company on duty with the Army Signal School, were assembled at some designated place in the vicinity of Fort Leavenworth. At this place a general and special situation was handed to the commanders of the forces (the forces being assumed) with instructions to issue his orders directing the movement required. A copy of this order was handed to the officer acting as chief signal officer and he in turn was directed to issue his instructions for the actual maneuver of the Signal Corps company. After this maneuver was completed, and sometimes during the problem, another special situation would be handed to the commanders concerned, necessitating further orders and instructions on their part as well as the actual maneuver of the Signal Corps troops. This scheme of instruction involved advances, retreats, outposts, defensive positions, and attacks, and carried out as it was, on the ground, the officers being on the spot they would actually have occupied had the maneuver been real, served to simulate as closely as possible the conditions which might present themselves in actual field service. These exercises worked out in the field, without prior study or preparation, did much to acquaint the officers of the school with the possibilities, usefulness and importance of lines of information. Many practical lessons were also learned which might never have been suggested or probably brought out in theoretical instruction or map problems.

It was in the course of these problems that the necessity for knowledge of preparation of orders and map reading on the part of signal officers was prominently brought out. The future signal officer should know what a military order (prepared in form taught at The Army Service Schools here) looks like, and **be**

able to interpret it with facility. He should be able to readily read a map in order to quickly determine the manner of disposing his lines of information with the least expenditures of troops, transportation and material. It is believed that a short course in military art would be of great value in the Signal School curriculum. A signal officer should speak the language of military art. His duties frequently take him far to the front where he is in a position to observe and probably obtain valuable information. He should be able to weed out the important from the unimportant, to grasp a situation and be able to transmit this information in military language. It is unquestionably important that a signal officer should have a knowledge of topography, that is the preparation of field sketches and a knowledge of map reading.

Course in Military Sketching

The course in military sketching, for those not graduates of the School of the Line, follows that pursued in the School of the Line, although somewhat abridged. The field course comprises eight half-day problems in Road Sketching on foot and mounted, Position Sketching and Outpost Sketching. These sketches are made under the supervision and with the assistance of an instructor. Then there are four whole day problems in which the task is placed at what is considered a proper maximum for students at this stage of development. These sketches must be made without assistance or instruction and are intended to test the student's knowledge of the principles which have been taught him. The results are carefully criticised and results obtained compared with careful check maps.

The actual course in sketching is but four days shorter than that of the School of the Line. The student officers have not, however, had the benefit of

the course in surveying, which is a great assistance in teaching sketching. The course is, even in its abridged form, valuable and furnishes a first rate basis for future study and practice in this most valuable military accomplishment. It is also of great value in increasing the ability of the student officer to read contoured maps, this being a particularly necessary accomplishment for officers serving on the staff.

Course in Photography

This course is short and arranged so as to teach as far as possible such things as the practical worker must know of the use of the lens, the lens stops, the camera and its adjustments, and the handling of the dry plate to the point of the finished negative. Printing on the standard gas light papers is also taught. In all this work the old-fashioned non-automatic methods are used with the idea of giving the student a clear idea of what steps are necessary in the production of the negative and the print. It is believed that he can then more intelligently handle the automatic methods. All of the class made, unassisted, a number of first-class, negatives and prints.

The time allotted to the instruction is sufficient. It is intended that student officers should be fitted to take photographs from time to time during the course when they have work to report on needing illustration, and subsequently in the service when reports require illustration.

In the two foregoing courses the school has been fortunate in being able to profit by the thorough technical knowledge and experience of the Senior Instructor, Captain E. T. Cole, 18th Infantry.

Course in Languages

The Senior Instructor, Captain Arthur Thayer, 3d Cavalry, whose work in this department has met

with marked success, has very properly said that "the opportunity for making use of a foreign language in time of war will probably come more frequently to the signal officer than to the line officer. The former is always a staff officer to some line officer of high rank; he has the handling and transmission of messages; he would probably be sent to take charge of a telegraph or other signal station captured from the enemy, and in such a case his ability to use the enemy's language would be of the greatest value."

It is to be regretted that so short a time is available in the course for languages. Those officers who come to the Signal School, not graduates of the Army School of the Line, are often seriously handicapped by lack of previous knowledge of the language taught, and the time is too brief for men of average ability in this direction to make up for their deficiency.

Thesis

Under existing orders it is required that every student officer shall prepare a thesis for presentation at the close of the school year. This thesis embodies the result of a special line of investigation which is assigned to the officer during the year, and which he carries out as opportunity offers. Although much of the work must be done outside the regular hours, in many instances the results have been gratifying. The officers generally took great interest in following up these subjects, and it is believed that they have been greatly benefitted by this work. In addition, they have presented papers, many of which will be of considerable value, and are contributions of much interest to the service.

The following is the list of theses prepared and read this year by the student officers of the Army Signal School :

“The Navigation of the Air and its Military Value” by 1st Lieut. W. C. Jones, 13th Infantry.

“The Use of the Buzzer by Troops of the Line” by 1st Lieut. H. C. Tatum, 7th Cavalry.

“Some Notes on the History of the Signal Corps in the Civil War” by Captain Russel C. Langdon, 3d Infantry.

“Commentaries on U. S. Army Signal Corps Organization” by Captain B. O. Lenoir, Signal Corps.

“The Training of a Company of Infantry in Visual Signaling” by 1st Lieut. K. T. Smith, 6th Infantry.

“Enlisted Personnel of the Signal Corps” by Captain C. H. Bridges, 15th Infantry.

“The Organization of a Field Company of the Signal Corps” by 1st Lieut. J. A. Brockman, 17th Infantry.

“The Relation of Signal Troops to Line Troops in the Field” by Captain P. H. Mullay, 14th Infantry.

“Visual Signaling” by 1st Lieut. H. A. Bell, 15th Infantry.

“A Few Notes on Telephone Engineering” by 1st Lieut. F. R. Curtis, 13th Infantry.

“Field Artillery Communications” by 1st Lieut. Dawson Olmstead, 5th Field Artillery.

“The Training, Arms and Equipment of a Mounted Man of the Signal Corps” by 2d Lieut. M. L. Love, 2d Cavalry.

“Experiments in Directive Field Wireless Telegraphy” by Captain L. D. Wildman, Signal Corps.

Technical Conferences

The Technical Conferences were instituted several years ago with a view to awakening in the student officers an interest in Signal Corps matters and at the same time disseminate such information to the service as might be brought out. Opportunity has been presented this year to considerably enlarge the scope of this feature, and it is thought that it will soon become a powerful instrument in assisting in a proper appreciation of the work of the Corps. During the last year quite a number of interesting papers were presented by the student officers and instructors, and in two instances Signal officers from outside sent in papers for presentation. Besides this, a great many interesting notes and abstracts were read. Through the favor of Captain, E. T. Cole, 18th Infantry, who

has developed such excellent methods of illustration, it was possible to promptly secure in illustrated pamphlet, form, copies of the proceedings for issue on the mailing list.

The coming year it is proposed to greatly amplify this very useful feature of our work and extend it not only to the Regular Army, but to the Signal Corps of the National Guard as well.

Aeronautics

For the first time, this year the Signal Class has 'been sent off on two official visits to take part and receive instruction in aeronautical work. In September, 1908, the entire class and instructors proceeded to the tournament at St. Joseph, MO., and spent two days observing and taking notes on the Signal Corps dirigible balloon No. 1. Although the weather -was unfavorable, the reports turned in by the class on their observations showed that they had derived great benefit therefrom.

On May 24, 1909, the Signal Class and instructors proceeded to Fort Omaha, Neb., where the balloon house, gas generating plant and dirigible balloon were, and spent four days in observing the various processes of the generation of gas by the electrolysis method, the electrical plant connected therewith, the compressor plant used in filling tubes with hydrogen, the balloon house, the dirigible balloon, and the small captive balloon. The latter was prepared for inflation, inflated and taken out for some short captive ascensions. Nearly all the class had an opportunity to go up. A flight of the dirigible balloon was witnessed. The class also had an opportunity of taking notes on the wireless plant and the school for enlisted men. The benefit derived from this trip was very great, the student officers turning in reports which showed a very good working knowledge of the

subject. It may be said that all the class gained a practical working knowledge of the method of inflating and using the captive balloon.

The practical course in aeronautics was supplemented by most interesting lectures from Major Geo. O. Squier, Signal Corps, delivered at Fort Leavenworth on May 3, 1909, by Captain C. DeF. Chandler, Signal Corps, at Fort Omaha, Neb., on May 25, 1909, and by two delivered by Lieutenant Lahm, Signal Corps, at Fort Omaha, Neb., May 25th and 27th.

Special Work Accomplished During the Year

1. The student officers were requested to investigate the proper organization for a field company of the Signal Corps and make reports thereon. This was done at the close of the year and these reports were of considerable assistance to the board of Signal officers who took them into consideration in making their recommendations on the proposed organization.

2. One of the undecided points in visual signaling is the question of the best code to use. The present Myer code, while very satisfactory to those who specialize in visual signaling, has marked disadvantages for those who work with it occasionally. The Morse code, which is the universal telegraph language of this country, has been frequently urged as a substitute for the Myer code. The student officers this year were requested to make an unusual study of visual signaling and were asked at the close of the year to prepare reports giving their views on improvements in the methods. These reports have been studied and abstracted, and the result thereof sent on to the Chief Signal Officer to assist him in determining the best code. While the student officers have only had a year's practice in visual signaling, their training and intelligence entitles their opinions to unusual weight, and it is thought may go far towards determining the vexed question.

3. The officers in this year's class were required to make a study of telegraphy, not that they were expected to become expert telegraphers, but that they might be able to properly supervise telegraph work. As a result of unusual facilities for practice, and consequent interest in the course, all of the student officers acquired considerable facility in telegraphy by sound, and a large percentage of them have become quite expert.

4. Captain L. D. Wildman, Signal Corps, a student in this year's class who has had previous experience in wireless telegraphy, undertook a special investigation of the possibilities of directive wireless telegraphy. In the short time at his disposal he succeeded in showing very clearly the practicability of the method used by him, and his thesis on the subject, it is believed, will be a valuable contribution to the advancement of this method in utilizing wireless telegraphy which is of great practical advantage to the service.

5. Lieutenant Dawson Olmstead, 5th Field Artillery, undertook the improvement of instruments furnished for the lines of information in field artillery. He succeeded in devising a type of telephone for this purpose which has been highly commended by the artillery officers observing its test, and it is believed will be further tested by the field artillery with a view to its adoption.

6. Lieutenant F. R. Curtis, 13th Infantry, experimented with the present field wireless mast with a view to improving the construction thereof. His investigations while not conclusive were of great interest and may serve to point the way to further advancement in this direction.

7. Lieutenant W. C. Jones, 13th Infantry, undertook a number of experiments on new methods for the generation of hydrogen for balloons, with special ref-

erence to providing some means for generating it by portable and light materials. He attained considerable success in the brief experiments which he had time to make, and it is a subject well worth following up. Lieutenant Jones also experimented with means for providing balloons with incendiary materials, but the brief time available has not permitted him to attain any definite results.

8. Lieutenants Bell, Olmstead and Smith made experiments and rendered a report on the utility of the new disc signaling device which was furnished for test at the school. While their report was not favorable to its adoption in the service, as a whole their work brought out many interesting points connected with it, and there are a number of special uses in the service which their report indicates might be developed*

9. Much progress was made in the spring in determining the practical utility of field wireless telegraph sets. In addition to laboratory practice all the student officers were sent out with field wireless sets and successfully established and worked stations. There was great interest shown and much progress made in establishing the utility of these sets when operated under skilful supervision.

Field Companies of the Signal Corps

Company A., Signal Corps, has been under the command of the Commandant of the Army Service Schools during the past year. Company D, Signal Corps, marched from Fort Omaha, Nebraska, and was reported for duty to the Commandant on May 29, 1909, and remained on duty at this post during the month of June 1909. The services of these companies with the Schools here have been of the greatest mutual benefit. Company A, Signal Corps, has been continuously at this post for over five years and is an

organization which has attained a high degree of technical excellence. During the past year' it has been under the command first of Captain A. S. Cowan, and later under Captain J. B. Allison. At the close of the year Captain Cowan again resumed command of the company. Lieutenant V. D. Dixon served with the company until April, 1909. During the past year it has been the policy to assign the officers to the company and have them devote practically their entire attention to it. The results have been highly beneficial in bringing up the military bearing and efficiency of the Company to a very high degree.

Company D, Signal Corps, under the command of Captain W. H. Oury, Signal Corps, made the march from Fort Omaha, Nebraska, and brought the men and animals in excellent condition. It was assigned particularly to the field work with the Signal School, and the company acquitted itself with marked credit.

At the close of the month both companies took part in combined maneuvers with the other Schools; one of these problems being with a division deploying for attack. In both instances the work of the companies was carried out constantly, there being no delays or interruptions in the lines of information in either case.

Co-operation

Every year demonstrates more clearly the wisdom of having this school where it can work in conjunction with the School of the Line and the Staff College. In connection with these advantages, the post of Fort Leavenworth has troops of all arms which are kept in an unusually efficient state, and thus furnish constant object lessons of great value. The reservation at Fort Leavenworth, while not as large as might be desired, furnishes an excellent ground for working out field problems. In short, it may be said, that the

spirit of emulation, fostered by the presence of the Schools here and aided by the natural advantages of the place, furnish a ground-work upon which is built zealous application and solid advancement.

If there is one thing more than another that has been kept prominently to the fore, it is the principle of hearty co-operation which, it is urged, must underlie all work undertaken in connection with the other schools.

Very respectfully,

EDGAR RUSSEL,
Major, Signal Corps, U. S. A.
Assistant Commandant.

THE ARMY SIGNAL SCHOOL
DEPARTMENT OF LANGUAGES

Fort Leavenworth, Kansas,
June 30, 1909.

The Secretary,
The Army Signal School.

SIR:

I have the honor to submit the following report of the work of this department for the school year 1908-9:

Allotment of Time

Sixty-four half days were allotted to this department; the work began September 1st, and ended December 23, 1908. The class room work was in periods of two hours each with an intermission of ten minutes between the hours.

Courses of Study

The Army Signal School and Staff Classes are combined in instruction in languages. All the language courses open to the Staff Class are also open to the Army Signal School and subject to the same restrictions. None of the students of the Army Signal School was deemed sufficiently fluent in Spanish to warrant his taking another language; all were, therefore, assigned to Spanish.

Captains Bridges, Broekman, Langdon, Mullay, Wildman, and Lieutenant Brockman, all graduates of last year's School of the Line, were assigned to the advanced course in Spanish, and Captains Burnell and Lenoir, Lieutenants Bell, Curtis, Jones, Love, Olmstead, Smith, and Tatum to the elementary course in Spanish.

TEXT BOOKS

(*Advanced Course*)

The Spanish Verb-Traub

Introducción á la Lengua Castellana—Marion y Des Gannes

Spanish Conversational Lessons—I. C. S.

Pamphlets on Spanish Grammar—Department

El Castellano Actual—Román y Salamero

The daily lessons for both courses will be found in the list of lessons, advanced and elementary courses in Spanish.

The classroom work was made as practical as possible and most of the time was devoted to conversation; short exercises in dictation were given regularly throughout the course.

In the advanced course the progress of the class was, on the whole, very satisfactory. Better results, however, would have been obtained had it been possible to divide the class into two sections, one containing the more apt students in Spanish and the other the less apt.

In the elementary course the progress was not as satisfactory as in the advanced course. The presence in the elementary class of some who knew some Spanish and some who knew no Spanish whatever, resulted, as it has always resulted, in taking the more apt and better prepared students through a course entirely inadequate to their abilities, and the less apt and thoroughly unprepared through a course too advanced. To have obtained satisfactory results in the class room work, this elementary class should have been divided into at least two sections. The effort to teach, in the same class, students of various stages of advancement, can never be productive of great success.

The Instructors in Spanish

Captain D. E. Aultman, 5th Field Artillery, and

Teniente Jorge Landa, Mexican Army, gave to their work their earnest, careful attention. They alternated weekly in the two courses and obtained as good results as were possible with the time at the disposal of the department. The students of the advanced course finished the course, all with a good knowledge of Spanish, and some with ability to converse with considerable ease.

Making an advanced course in Spanish for those who do not possess fair fluency in the language, resulted in this school, as in the Staff College, in a great improvement over last year; the students following this course finished it with a feeling that they knew some Spanish and they will probably have no hesitancy in trying to converse in Spanish, -whenever placed in a situation that may require or even make it expedient that the conversation be carried on in Spanish instead of in English.

The results obtained with the class following the elementary course in Spanish, bring out more plainly that even in the case of the Line class, the necessity of students learning some Spanish before entering these schools.

The opportunity of making use of a foreign language in time of war will probably come more frequently to the Signal Officer than to the line officer. The former is always a staff officer to some line officer of high rank; he has the handling and transmission of messages; he would probably be sent to take charge of telegraph, or of other signal stations captured from the enemy; in such a case his ability to use the enemy's language would be of the greatest value. There is every reason why the signal officer coming to these schools should avail himself to the fullest extent of the opportunities for language study and practice. If he has opportunities for thoroughly learning Spanish before coming here, he should avail

himself of them, in order that he may take French or German in his Signal School course. If he has not had the opportunity for learning Spanish thoroughly, he should at least learn as much as he can, in order that, on entrance to the school, he may take the advanced course and graduate from the school with the acquirement of at least one foreign language to his credit.

Very respectfully,

ARTHUR THAYER

Captain, 3d Cavalry,

Senior Instructor.

APPENDIX

THE ARMY SIGNAL SCHOOL,

List of Lectures given during the year, Class 1908-09

1908	
September	
1st	Opening address to Army Signal School, Major Russel.
10th	Lecture by Major Russel, subject, "Light and Lenses."
November	
9th	Lecture by Major Russel, subject, "Electricity."
December	
1st	Lecture by Major Russel, subject? "Static Electricity."
1909	
January	
12th	Lecture by Major Russel, subject, "Electricity?"
26th	Lecture by Major Russel, subject, "Swoope's Practical Electricity."
February	
2d	Lecture by Major Russel, subject, "Electricity."
15th	Lecture by Major Russel, subject, "Electricity."
March	
2d	Lecture No. 1, "Alternating Currents", Major Russel.
4th	Lecture No. 2, "Alternating Currents", Captain Knowles.
8th	Lecture Nb. 3, "Alternating Currents", Major Russel.
11th	Lecture No. 4, "Alternating Currents", Captain Knowles.
16th	Lecture No. 5, "Alternating Currents", Major Russel.
18th	Lecture No. 6, "Alternating Currents ⁷ ", Captain Knowles.
23d	Lecture No. 7, "Alternating Currents", Major Russel.
26th	Lecture No. 8, "Alternating Currents", Captain Knowles.
30th	Lecture No. 9, "Alternating Currents", Captain Knowles.
31st	Lecture by Major Russel, subject, "Buzzers and Other Apparatus for Induction Telegraphy."

April	
1st	Lecture by Major Russel, subject, "Manual No. 4, Submarine Cables."
15th	Lecture No. 10, "Alternating Currents", Captain Knowles.
19th	Lecture No. 11, "Alternating Currents", Captain Knowles.
23d	Lecture by Major Russel, subject, "Wireless."
May	
3d	Lecture by Major Squier, subject, "Aeronautics."
25th	Lecture by Captain C. deF. Chandler, subject, "Generation of Hydrogen."
25th	Lecture by Lieutenant Frank P. Lahm, subject, "Balloons."
27th	Lecture by Lieutenant Frank P. Lahm, subject, "Balloons."

Report of Laboratory Work

As soon as the observations required in an experiment have been completed: and the results computed, a report should be written, describing in detail the work that has been done. This report should be sufficiently clear and complete to enable it to be understood by any person having a good general knowledge of the subject, even though this particular experiment described is entirely unfamiliar to him. Each report should therefore contain the following.

(1) A statement of the object of the experiment and an explanation of the means employed to accomplish this object.

(Note:-If this has been done in the problem itself, it need not be repeated.)

(2) A brief description of any apparatus which is being used for the first time.

(3) A diagram of connections. (Note to (1) will also apply to (3).)

(4) One of the objects of these reports is to make it clear to the instructor that the principles involved are fully understood. The student will find, also, that there is no better way of making a subject perfectly clear to himself than by presenting it in such a form as to be readily intelligible to some one else. Each step or detail of a demonstration should therefore be very clearly explained. Originality in the methods of proof is desirable, but of course may not be practicable in every case.

(6) The report should contain *all the original data*, and an indication of the numerical work by which the results are obtained. It is not necessary to include all the computations in the report, although where this can be done systematically and neatly it is an advantage. In **case** a number of similar results are obtained by substitution in a formula, the numerical work should be given in detail in at least one case.

(6) When possible the results should be compared with those of previous experiments.

(7) When graphical methods are used in connection with an experiment, the curves obtained should be included in the

report. In such cases the scale by which the co-ordinates have been measured should be clearly indicated on the drawing itself.

(8) In writing reports, it should always be borne in mind that one important benefit which practice in this work may accomplish is the acquirement of clearness and facility of expression in the description of technical work. The arrangement and wording of each report should therefore be carefully considered with this object in view.

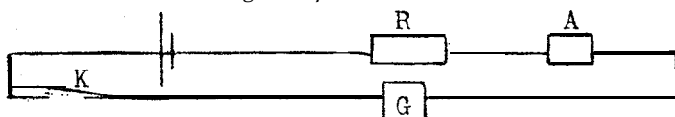
Practical Exercise No. I-X

(a) Extemporize a detector galvanometer using a box compass, and some insulated wire wound on an H shaped wooden block. Wind one layer of No. 24 B & S single cotton insulated wire on the block, the resistance will then be about .5 ohm.

(b) Calibrate the detector galvanometer for use as an ammeter.

Method : Orient galvanometer in a position free from local magnetic fields, especially those produced by Weston instruments. Connect the galvanometer, an adjustable resistance, two cells of storage battery, and a mil-ammeter in series. Using 1500 milimeter scale, calibrate with about ten different readings. Tabulate your results and draw calibration curve for mil-amperes.

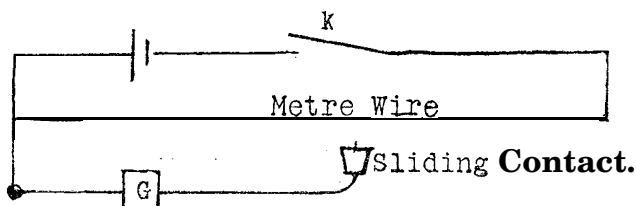
Diagram of Connections :



(c) Calibrate the detector galvanometer for use as a voltmeter.

Method: Cover the ammeter winding with one layer of paper. Then wind block **full with** No. 36 B & S double silk insulated wire; the resistance will then be about 200 ohms. Orient galvanometer as in (b). Connect a meter wire and two cells of storage battery, in series. Connect one terminal of galvanometer to one terminal of meter wire. Connect other terminal of galvanometer to the sliding contact, and by means of proportional parts on meter wire get volts at galvanometer. Tabulate your results and draw calibration curve for volts.

Diagram of Connection :

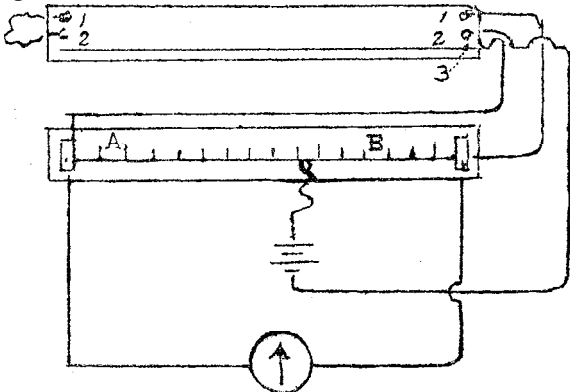


Location and Faults in Cables

The case ordinarily met, is that of a, multiple conductor subterranean cable where one or more conductors have developed faults (leak) in insulation.

Apparatus used. Telephone receiver. Two or three cells of battery. Wire bridge constructed in laboratory with meter scale. Galvanometer. One hundred ohm coil. An even number of resistance wires mounted on a board represent the wires of a number of twisted pairs in the cable, and a copper strip alongside takes the place of the metallic armor or ground.

Method. All apparatus or connections at the far end of the cable are disconnected, and the conductors at the testing end are attached one at a time to the telephone receiver, a cell of battery, and armor ground, and a rough test is made for faulty ones (Page 321 Manual No. 8; Page 170, Manual No. 3). Having found the faulty ones, the good ones should be identified and marked with a designating number at both ends. This may be done by bunching all good wires at distant end and connecting them through some galvanometer, sounder or bell, with the ground. One good wire at test end is also connected with ground. The wires at distant end are then disconnected one at a time until the indicator shows no current. This is the wire connected at testing end and is numbered the same at both ends. This is repeated until all are identified. This of course identifies the pairs where one or both wires of the pair are good (See also 'Practical Notes for Electrical Students' Kennelly & Wilkinson, Pages 68-69). Join a good wire with a faulty one at the distant end. If the records of maps fail to accurately locate the cable so its length is known, it may be determined as follows: With the wire bridge, 100 ohm coil and battery measure resistance of the looped wires. Half this is the resistance of one wire. With wire gauge or micrometer ascertain size of wire. From table ascertain corresponding resistances. The length of the cable may then be determined from its total resistance. Then connect as shown in diagram below.



- 1 and 2 _____ cable conductors
- 3 Ground or cable armor

Supposing two has been found to have a leak to ground, When balance is obtained, the distance in feet (on the scale) to the leak from the testing end is; Length of cable L multiplied by the reading A on the meter bridge divided by 50.

Substitute telephone receiver for galvanometer and obtain balance by ascertaining point where there is no scratching sound in receiver as the slider is moved along the bridge wire. It is best to note when the sound *ceases* and then again where it begins and take the mean of these for the point of balance.

2d Case. When all the wires of the cable are faulty, as is usually the case in damages to lead covered paper insulated cable of post telephone systems, a conductor without leaks, such as a wire on an aerial line or other roundabout conductor connecting testing and distant end, must be arranged. This conductor takes the place of 1 in above diagram. Measure the resistance of this loop as in first case; call this L ohms. From size of conductor, find in tables its resistance per foot. Then connect as in diagram. When balance is obtained,

$$A = \frac{A}{100R} L$$

A--Distance in feet from testing end;

R--Resistance of faulty conductor in ohms per foot.

DEPARTMENT OF SIGNAL ENGINEERING

THE ARMY SIGNAL SCHOOL

1908-9

Course in Radio-Telegraphy

Problem No. 1.

(Time allowed, 2½ hours)

1. How are damped electric oscillations produced in wireless telegraphy?

2. State in general terms method of producing undamped electric oscillations by means of an electric arc.

3. (a) What is the type of condenser generally used in an oscillating circuit?

(b) What is an oscillation transformer?

4. Show by diagram (1) the transmitting circuit and (2) the receiving circuit of Signal Corps field wireless set.

5. State how you would practically determine when resonance exists between oscillating and radiating circuits in the Signal Corps field wireless sets.

6. Describe briefly the mast, antennæ, and counterpoise system of the Signal Corps field. wireless set.

7. What is the difference between (a) close and loose coupling in transmitting circuit; (b) direct and inductive coupling?

8. State generally some of the arrangements of directive antennæ for giving direction to electro-magnetic radiation.

9. What are some of the devices and materials used as oscillation detectors?

10. State how you practically determine when a detector is sensitively adjusted for the reception of signals.

11. The closed oscillating circuit of Signal Corps field wireless set with three turns in primary of oscillation transformer (linking coil) gives a wave length of 335 meters. The capacity of the condenser is .006 m.f.

(a) What is the inductance in c. m. in the circuit?

(b) What is the frequency?

NOTE: $\lambda = 59.6 \sqrt{C_{mf} L_{cm}}$

DEPARTMENT OF FIELD SIGNALING
THE ARMY SIGNAL SCHOOL
1908-9

Visual Signaling
Problem No. 1

(Time allowed, 2 hours)

1. Write the Myer code including the alphabet and numerals.

2. Show *everything* that a visual signalist would send in transmitting the following message :

Omaha, Nebraska,
September 9, 1908.

Commanding Officer,

Fort Leavenworth, Kansas.

Private John McIntyre, deserter Troop G, 19th Cavalry, apprehended at New York City, New York, in custody here. Send guard to take him to Fort Leavenworth.

By command of Brigadier General A:

BROWN,
Adjutant General.

3. What are the duties of each man at a visual signaling station, assuming four men in detachment?

4. Name two advantages of heliograph for visual signaling, not possessed by other day instruments.

5. Describe any one method of setting up a heliograph using two mirrors,

6. Name two methods of using the searchlight as a means of signaling.

7. You have properly set up a field lantern, but after pressing the key and applying match to the burner, it fails to

light. Where would you look for the trouble? (The carbide is assumed to be all right.)

8. Give equivalents for the following conventional signals :

- (a) 3
- (b) 121—121—3—22 -3 (word)
- (c) 12-12-3
- (d) 22—22—3
- (e) 2122-121-3
- (f) 1111--3
- (g) 121-121-33
- (h) 221-221-3
- (i) 2212-3

9. Indicate the words in following message 'which you would be authorized to abbreviate in visual signaling transmission and give abbreviation :

Fort Leavenworth, Kansas,
September 9, 1908.

Outpost Commander,
Sheridan Drive Ridge.

Before withdrawing outpost have patrols reconnoiter well to your front. You are not to hold position after 5 A.M. Why have you not furnished me word of your dispositions? Send with the bearer.

BROWN,
Commanding.

10. (a) What two methods are there for producing acetylene gas?

(b) Which system is used in the field lantern of the U. S. Signal Corps?

Solved September 8, 1908.

DEPARTMENT OF SIGNAL ENGINEERING
THE ARMY SIGNAL SCHOOL
1908-09

Course in *Practical Electricity*

Problem No. 6.

(Time allowed, 3 hours)

1. You have available a resistance coil of known value (graduated rheostat)+ voltmeter and a battery. Describe how you would, with this apparatus, determine the value of an unknown resistance X. Draw diagram.

2. You wish to arrange 16 lamps, 2 in series, 8 in parallel, 2000 ft., from a dynamo having an E. M. F. of 240 volts and an internal resistance of 4 ohms. Each lamp requires 110 volts and .5 ampere. Direct current double wire system used.

(a) Make sketch and state current required for the group of lamps.

- (b) What is the power of dynamo in K. W.?
- (c) How much power is used up in the lamps?
- (d) What size copper wire is required for the leads (in C M area)?

(e) How much power is lost in the leads?

3. A certain telegraph line having a grounded return is 10 miles in length and is strung on X poles. At one end of this line is introduced into the circuit between the last pole and the ground a tangent galvanometer and a battery, in the order named. The galvanometer deflection is 30 degrees 30 minutes. The same galvanometer and battery in circuit with a resistance of 15000 ohms, reads 69 degrees.

(a) Draw diagram of circuits.

(b) What is the insulation resistance of the line in megohms?

(c) What is the insulation resistance per pole in megohms if there are 440 poles in the line?

4. The highest and lowest resistance in the rheostat of a Wheatstone Bridge are 10,000, and .1 ohms respectively. The A and B arms have each 3 coils! 1, 10, 100 ohms respectively. What are the highest and lowest resistances the bridge is capable of measuring?

5. (a) Cite an experiment to prove that the heat developed in a circuit is proportional to the square of the current.

(b) What is the relation between Fahrenheit and Centigrade thermometer scales.

6. To find the voltage of a dynamo you connect to its brushes the ends of a German silver wire 120 feet long, wound on an insulated cylinder and find that when one terminal of a Daniel cell (1.05 volts) is joined to a point on the wire and the other terminal in series with a galvanometer is connected to another point, one foot from the first, no deflection is observed. What is the voltage of the dynamo?

Solved January 19, 1909.

DEPARTMENT OF FIELD SIGNALING
THE ARMY SIGNAL SCHOOLS
1908-9

Visual Signaling

Problem MO. 3

[Time Allowed 1½ Hours]

1. Discuss briefly the following qualities of field glasses for military purposes.

- (a) Power
- (b) Light.
- (c) Field
- (d) Definition

2. What are the advantages and disadvantages of a high power glass?
3. What are the advantages of a Porro-prism field glass?
4. Give a simple method for determining approximately the power of a telescope.
5. Give the principles of one form of distance measuring glass.,

Solved September 16, 1908.

Problem No. 7

[Time Allowed, 3 hours]

1. Three inductive coils are joined in parallel across the mains of an alternating circuit. The voltage impressed is 110.

Coil A, $R = 20$ ohms

$L \omega = 5$ ohms

B, $R = 10$ ohms

$L \omega = 20$ ohms

C, $R = 5$ ohms

$L \omega = 10$ ohms

- (a) What will be the reading of an A. C. ammeter placed in the mains?

(b) What is the reactance voltage of each coil?

(c) What is the angle of a lag of the current behind the E. M. F. in coil B?

2. A pair of 110 volt alternating-current mains are bridged by three branches—

Branch A, $R=10$ ohms $L\omega=20$ ohms

B, $R=30$ ohms “ $=10$ ohms

C, $R=10$ ohms $\frac{1}{K\omega} = 15.7$ ohms

- (a) What current is flowing in the main?
- (b) What will be the reading of a wattmeter placed in the mains?

(c) Does the current lag or lead the E. M. F. and by what angle?

(d) What is the joint impedance of branches a and B?

3. Suppose $n=139$ obtained from speed indicator on generator.

E=84.5 obtained from voltmeter reading at terminals of the coil.

R=390 ohms by Wheatstone bridge.

I =0.1214 amperes obtained by voltage drop across non-inductive resistance of measured value in series with coil.

What is the coefficient of self-induction of the coil?

