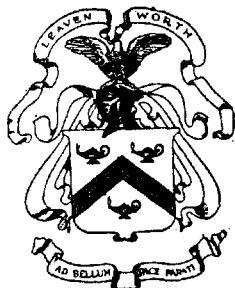


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THE GENERAL SERVICE SCHOOLS
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Letters on Applied Tactics.

PROBLEMS DEALING WITH THE OPERATIONS OF DETACHMENTS OF THE THREE ARMS.

DEvised AND DISCUSSED BY
MAJOR-GENERAL GRIEPENKERL,
Commandant of the Fortress of Thorn.

Authorized Translation
(with substitution of American Army Organization)
by
MAJOR C. H. BARTH,
12th U. S. Infantry.



1908.

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PREFACE.

THE TRANSLATION of this book was undertaken at the suggestion of General J. F. Bell and Major Eben Swift, at the time respectively commandant and assistant commandant of the Staff College and Infantry and Cavalry School at Fort Leavenworth, Kansas. To them I am indebted for suggestions and encouragement in the work.

The models for orders are copies from Major Eben Swift's pamphlet on Field Orders, recently adopted by the War Department for use of the Army. These models are an adaptation from General Griepenkerl.

The idea of sketch maps to illustrate tactical situations in the Sixteenth, Twenty-third, and Twenty-fourth Letters was suggested by a British translation by "A Retired Officer."

The vertical interval between contours of the four maps drawn to a scale of 1:25000 is 5 meters = 16.4 feet. Every fourth contour is drawn darker than the three intermediate ones. The numbers placed here and there on all five maps indicate the elevation in meters above mean sea-level of the point where each number is placed.

In this translation our own army organization at war strength has been substituted for the German organization of the original text. Therefore a company of infantry is supposed to have 128 and a troop of cavalry 100 men—the former divided into two and the latter into four platoons. A battery of field artillery is assumed at four guns with twelve caissons. Only where machine guns are concerned is the German organization retained—i. e., they are supposed to be assembled in groups or batteries of six guns each. Retention of the German organization was necessary, as otherwise the entire discussion in the text concerning the use of machine guns would have been inapplicable. The use and utility of machine guns with large

bodies of troops is still in an experimental stage. Therefore it was thought advisable to show how the Germans handle them. Our machine-gun service was placed on an official footing by G. O. 113, series 1906, War Department, and provides for a machine-gun platoon (two guns) with one squadron of each regiment of cavalry and one battalion of each regiment of infantry—the “provisional system of drill, etc., to be announced later.” Our not having definitely adopted any system of drill and maneuver for machine guns was an additional reason for retaining the German system of maneuver in the translation.

The German organization crops out in the translation where supports of outposts are said to consist of “two companies,” which about reproduces the strength given in the original—*i. e.*, one company of 250 men. In the endeavor to adhere closely to the subject-matter of the original text, the substitution of our army organization for the German made it difficult in certain cases to use the same number of men or to avoid dividing tactical units.

The distances between fractions of a column follow the author’s method, based on the German Field Service Regulations. It will be noticed that in doing this a greater distance is assumed between the support and reserve of the advance guard than between the latter and the main body. This differs from the method usually followed by us where these distances progressively increase from front to rear.

It is not intended that distances and length of columns in the text be considered as absolute or invariable. They simply show what was considered permissible or probable in the cases under consideration, and would be varied according to circumstances. “Normal” distances and formations are looked upon with disfavor, because they may become a fetich. But they serve a useful purpose: they act as a general guide for beginners.

THE TRANSLATOR.

PREFACE TO THE FOURTH EDITION.

THIS COLLECTION of tactical problems demands assiduous labor and considerable time of those who study it. The fact that a fourth edition has become necessary shows that my method of assisting my brother officers of various grades of the German Army in their tactical studies has met with wide approval. Therefore I see no reason for making any radical changes in the form of the problems or in the manner of their discussion. In the present edition only such changes were made as became necessary by the appearance of several tactical works that afforded me interesting points of view, and of new regulations. One of the problems, that many of my readers thought unwieldy, I have divided into several smaller ones.

It may be of interest to readers of my book to know that it has attracted attention in several foreign countries. A French translation by Captain Richert, of the Ecole Supérieure de Guerre, under the title of "Thèmes tactiques gradués," has been published by L. Baudoin (Librairie Militaire, Paris). A Japanese translation by Professor K. Shiba, of the War College in Tokio, assisted by officers of the Japanese General Staff, will appear next month in Tokio.

THE AUTHOR.

Hildesheim,

December, 1896.

PREFACE TO THE FIFTH EDITION.

AGAIN it has become necessary to issue a new edition of the "Letters on Applied Tactics." As stated in the fourth edition, after years of experience and criticism both at home and abroad, I have not thought it necessary to make any radical changes in the form or discussion of the problems. On the contrary, numerous officers for whom these letters primarily are intended (*i. e.*, older lieutenants) have assured me that the simplicity of the problems, the interesting form of the discussions, and the progression from the simple to the more difficult, have been very instructive to them.

Older and more experienced officers are requested good-naturedly to accept the intentional repetitions and whatever else is superfluous for them.

Although the problems are the same as in the preceding edition, changes in the discussions are more numerous than might appear at a glance. The new edition of the Field Service Regulations, the new Drill Regulations for Field Artillery, and other regulations, together with the appearance of new tactical works, imperatively demanded consideration.

I am happy to state that the use of my book in foreign countries has spread in a surprising manner. The French translation by Major Richert has passed through a second edition. An English translation has been made by "A Retired Officer"; and a Roumanian translation by Lieutenant-Colonel A. Saegin, of the General Staff. The Japanese translation mentioned in the preface of my fourth edition has appeared, and contains a characteristic preface that I shall repeat for the information of the friends of the book.

General Prince Akihito, Chief of Staff of the Japanese Army during the latter part of the Chino-Japanese War, and a recognized military authority in the Japanese Army, prefaces

the "Letters" with the profound saying of Confucius: "Right and left have the same origin" (amount to the same thing).

Viscount Soroku Kawakami, late Chief of Staff of the Japanese Army, wrote the following preface:

" 'The subtleties of tactics are intangible and cannot be expressed verbally or in writing. Therefore they cannot be communicated by words, but only by intuition.' (Quotation from a Chinese scholar.) This certainly is going to extremes. If anyone desires to instruct, he must previously thoroughly familiarize himself with his subject. The instructor must furnish the student with a guide and show him how to follow the same. It often does happen that the student carefully considers everything and thoroughly informs himself on a subject without being able fully to comprehend the same. To remove such obstacles and continue the instruction is the object of study everywhere—not only in the art of war.

"A short time ago Captain Shioda and Professor Shiba jointly translated 'Letters on Applied Tactics,' the work of a Prussian officer, and asked me for a preface.

"I have read the translation, and noticed that fundamental tactical ideas are well presented in the book, not only theoretically, but also practically and with constant reference to the Drill and Field Service Regulations. Therefore this book is very important for all young officers. If they read it, they will improve their military education, gain a better idea of tactical principles, and may originate ideas of their own, which is very important.

"I shall not speak of those who, as the old Chinese philosopher advises, scorn to read all military books."

I trust the new edition may be as favorably received as have been its predecessors.

THE AUTHOR.

Engers on the Rhein,
September, 1900.

PREFACE TO THE SIXTH EDITION.

AS SEVERAL years had passed since the appearance of the fifth edition, I found it necessary to make a number of changes in the present edition of these "Letters." The entire plan of the book remains unaltered, but the discussions have been somewhat shortened and cognizance has been taken of the changes in Regulations. No radical changes have been made in the problems, but in many cases the form has been changed to conform to what is now preferred. In addition I had to consider new adjuncts of war, such as machine guns and heavy field artillery, in so far as this was necessary for my purposes.

To the translations already mentioned has been added one in Greek by Lieutenant Anton F. Prantouna.

THE AUTHOR.

Saarlouis,
September, 1904.

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FIRST LETTER.

INTRODUCTION.

I HAVE often been asked by young officers preparing for the entrance examination of the War College* to set them tactical problems and to look over their solutions. Most of my remarks on such solutions had to be in writing. Thus in the course of time the following letters were evolved, intended mainly to assist such young comrades as did not have the opportunity to consult in the above-named work a qualified older officer of the garrison. Such an officer is not always available; but even if he were, it is no small task to prepare a number of problems and thoroughly discuss them when the instructor's time is largely required for regular military duties. Should he not be in the same garrison as the student, even more labor would be required of him, for this would limit all communication to correspondence. As it will be lacking in that detail so necessary for most beginners, instruction of this kind will not be very thorough. So it often happens that the earnest young officer must work by himself, and, however talented and industrious he may be, he will encounter almost insuperable obstacles, especially in the subject of tactics. The study of the Drill Regulations and tactical text-books forms only a part of the necessary preparation; for essays on applied tactics are not required by the examiner, but there is demanded the application of principles in the solution of problems that usually involve the framing of orders. The art of framing orders is not a natural gift, nor can it be learned from any text-book, for it involves *the solution of tactical problems*. Without having passed through the War College, to do this correctly is possible

*The Kriegs Akademie, in Berlin.—Translator.

only for exceptionally talented persons. Judging by my own experience, *the preparation for the examination should begin with the very simplest problems, or exercises, gradually proceeding to more difficult ones—should therefore be built up carefully and systematically with the foundation as carefully laid as possible.* The preparation must be in part a repetition of, and in part an addition to, what you learned to pass your examination for a commission; much of this you naturally have forgotten.

My object in the following letters is to prepare you so that, after carefully working out these problems, you may be able to advance farther by independent study.

A few weeks before taking the entrance examination to the War College it is now the general custom that an officer of the General Staff of your Army Corps will set you a number of tactical problems, the solutions to which will be carefully examined. It would be an egregious error to think that working out these few problems will be a sufficient preparation for the examination. Whoever wishes to travel anyways safely in this most important field of tactics must devote much more time to it. I therefore advise you first to carefully go over the following problems, and then to consider the General Staff officer's problems as a sort of preliminary examination. If by means of the following letters you have drilled yourself in the solution of simple problems, you will be able to correctly judge more complex situations.

The following problems purposely are *very simple*, for most problems that were given in recent examinations were not difficult, and experience shows that, particularly in the field of tactics, *simple* problems are the *most instructive*, provided they are *thoroughly* worked out. They certainly are more instructive than those based on complicated situations that often lead to absurdities. Besides, the paragraph of the Field Service Regulations referring to the examination expressly states that "the problem in applied tactics should deal with as simple a

situation as possible and be of such a character as to require the candidate to come to a decision and give his reasons therefor." In discussing the following problems I have intentionally gone into considerable detail, and I will admit that in many places I might have dealt more briefly with my subject. In some instances I have even not avoided repetition, for my own experience proves that with a beginner extreme briefness readily leads to misunderstanding, or at least renders a comprehension of the subject more difficult.

These letters, therefore, are in the first place intended for the future student of the War College. They have also been of service to officers desiring to prepare themselves for General Staff rides, tactical rides, or similar tactical exercises, or who have merely wished to refresh their tactical knowledge after several years' frontier service.

These letters are intended merely as a guide to personal mental activity—as an incentive for you to make your way to higher military culture; *they make no higher pretensions*.

As scene of operations for these problems I have chosen the vicinity of Metz. This locality was the most convenient for me; and, besides, the four maps on a scale of 1:25,000 are easy to read and admit of many changes in the scene of operations, which is desirable for beginners. A study of this district will also assist in a future study of the war of 1870, covering as it does those blood-stained fields that from August to October of that year witnessed so many glorious deeds of our Army.

With a view to affording you frequent opportunities of rapidly becoming familiar with a tactical situation, I purposely devised a different situation for most of the problems, instead of making all of them depend on the same general situation. Systematic progression requires that in the first problems the detachments be considered independently; later they are considered in connection with larger commands. It is natural

that Metz is mostly considered unfortified in these problems, for the fortifications are not shown on maps, and therefore could not be taken into consideration.

I take for granted that, after passing your examination for a commission, you have increased your military knowledge by careful preparation of winter exercises and the reading of military books and magazines. But you yourself know how much your regular duties have interfered with anything like a thorough course of study. Therefore do not be surprised if in the following letters I show myself a little skeptical of your knowledge and mention many things with which you probably are perfectly familiar. In the course of your work you will soon notice where your knowledge is deficient.

Before beginning the solution of the following problems I would advise you to prepare yourself as follows: First, study the general principles governing the employment of the three arms in the field as given in the latest edition of the "Tactical Guide" of the Royal Military Schools.* It will be well if you master the contents of that work. In the case of the arms other than your own you must get a clear idea of the formations for assembly, march, and attack.

Then I would advise you to carefully study Part II., Infantry Drill Regulations, which contains many principles regulating the action of the other arms as well. And if you are not of the infantry, it is of special importance for you to study the principles of this, the most important arm. Part IV., Field Artillery Drill Regulations, also requires special attention. In the latter you will find many principles, word for word, as already noted in the Infantry Drill Regulations; and you will then be able to obtain a clear picture of current tactical conceptions. This preparation, supplemented by a study of the Musketry Instructions and the Field Service Regulations,

*Leitfaden für den Unterricht in der Taktik an den Königlichen Kriegs Schulen.

will enable you to solve the problem in formal tactics* as required by the regulations for the above-named examination. Above all, you must thoroughly master the *Field Service Regulations*. And finally, you should carefully study the principles of attack and defense, the attack and defense of positions, and minor warfare as given in the "Tactical Guide." I consider this general preparation as ample, and would warn you not to confuse your mind by mixing with the foregoing a study of more complex tactical and strategical writings. In the following letters I shall often take occasion to refer you to passages in the Drill and Field Service Regulations, and you yourself will soon see that it is easier to *understand* the principles there enunciated than to *apply them to the case in hand*. Do not begrudge the time, but in each case look up the passages of the Regulations mentioned by me. In this way you will get an entirely different and more comprehensive meaning of the letters than by simply reading them through.

Also accustom yourself to work by the watch, noting the time taken from the moment when you first set eyes on the map and problem to the last stroke of the pen; and *force yourself to complete each exercise at one sitting*. With practice the time required will become constantly less. At the examination comparatively little time will be allowed you, but if you feel sure of being able to finish on time, you will work better and with greater confidence. In addition, you will be able to devote more attention to composition and handwriting. *An intrinsically good tactical exercise loses by faulty composition and careless or illegible handwriting, and naturally is apt to be judged unfavorably*. An experienced examiner can tell by the style of your work whether or not you have the necessary practice in solving problems.

In your work it is not necessary that you produce the same

*Formal tactics deal with each branch of the service taken separately.—Translator.

solution as mine. Nothing is further from my intention than to give so-called "patent solutions." Many tactical measures are a matter of opinion. In practice the same end may be obtained by different means; and how often it happens that there is no objection to a measure in itself, but that possibly some other measure may offer more advantages. In examinations, tactical rides, etc., the examiner will consider it more important that you should have *clearly and intelligently* worked out a *judicious decision* than that you should have hit upon his solution; for even a solution correct in itself may easily be very poorly worked out. But by comparing your solutions and views with mine and by frequently imagining yourself in different tactical situations and thoroughly debating them you will develop and sharpen your *tactical judgment*.

I would further advise you not to be alarmed at the models for framing orders that I shall give you. How often during your service have you been warned against all models in tactics—and *justly so!* And yet it is necessary for you to study a number of models of orders, so that, particularly at the beginning, you may not omit certain important details. My models are intended as *aids to memory*—nothing more. The correct and often absolutely necessary deviation from these models you will learn in due course of time, and I will so frame the problems as to counteract any tendency on your part to fall into any set form. The *form* of orders is generally of secondary importance after you have mastered the *essence* of the same; though *our customary forms are not founded on caprice, but on most practical considerations*. The art of framing orders must be made manifest by constantly giving suitable ones, and this must frequently result in deviations from the ordinary form. In the practice of issuing orders I am an opponent of all models, and look upon the latter merely as means to an end.

But it is a different story when an old general, tried in

peace and war, issues orders, and when a beginner first handles the simplest tools of the art.

The models agree with the forms generally in use in the Army and with those in the Field Service Regulations. Slight deviations will here and there be noted, but they are of minor importance.

I would recommend that the problems be worked out in the following manner:

1. *Read the problem carefully several times, map in hand; the longer the problem, the greater the care necessary.*

2. *Study carefully on the map the ground under consideration, particularly the various roads. A general knowledge of the map is not sufficient for tactical purposes, least of all for the solution of problems. You must be able to picture to yourself the country in question by imagining yourself on some particular height and asking yourself: "How will the surrounding country appear according to the map? What buildings are in sight? What roads and what part of each one? And, in fact, how extensive a view is there? Where do woods, rows of trees, heights and villages conceal the country beyond them?" etc., etc. This naturally requires care and much practice. The more defective the map, the more care is necessary. You will become somewhat spoiled by the excellent maps on which we shall work together, but at first that will do no harm.*

3. *Accurately realize your own situation and that of the enemy. Imagine yourself, for instance, in command and halting at the place designated, surrounded by your staff. Clearly picture to yourself the troops on the ground before you—your own troops as well as the enemy's. The more vivid your imagination in this, the better will be your tactical work. Fully assure yourself what your task requires.*

This is the foundation for all that then follows.

4. *Read the appropriate sections in the Tactical Guide, the Field Service Regulations, or the Drill Regulations. By doing*

so you will of course work more slowly, but the time thus spent WILL REPAY YOU. *On principle, verify everything* (by reference to the above books) *about which you are anywise in doubt.*

5. *In the movement of troops, calculate by measurement of distances the time necessary to march to the important points mentioned in the problem—not alone for your own troops, but also for the enemy's. In the case of positions, measure their frontage and depth.*

6. *Consider the counter-measures likely to be adopted by the enemy while you are marching or taking up a given position. In this particular the beginner is apt to commit the error of considering the enemy too inactive; for example, thinking that he is remaining halted, whereas, according to the conditions of the problem, he must have taken up his march. Remember that the enemy always is likely to do just what is most embarrassing to you.*

7. *Arrive at a definite decision.* As above indicated, great weight will be attached to this at the examination. I warn you against half-measures. For example, if you have decided to attack, do so energetically with all your troops; if you wish to retreat, do not come to a halt again after a few miles without the weightiest reasons. *Be perfectly clear in your own mind what you want to do, and then carry it out to the letter.*

8. *Consider the distribution of your troops.* Provisionally write this on a piece of waste paper, and then see if you have disposed of all the troops allotted to you. A beginner is prone to forget some portion or other. I especially caution you, as a result of my experience, on the distribution of the cavalry.

9. *Now, and not before, formulate the actual order.* In doing this, use my models until you feel quite sure not to forget anything. Also write the order on a piece of waste paper, and then carefully test it point by point to see if it complies with the following requirements:

(a) *Every order must be logically arranged.* My models insure this at first; later, you yourself will have acquired the

necessary practice. Never hesitate to deviate from the model whenever you have a good reason for doing so. Remember that every order should be divided into paragraphs, and that all pertaining to the same subject should be united in the same paragraph; the most important matter appearing first in order.

(b) *Every order must be as short as possible.* Short sentences are easy to understand. A rambling mode of expression, a long-winded, elaborate style, is unmilitary. Therefore test your order to see whether you cannot cross out some superfluous word, or whether you cannot think of some shorter and more suitable mode of expression; *grudge every word.* At first you will be obliged to change much in your memorandum, but this is just as it should be. There is an old saying that *an order is worth nothing unless it has undergone much alteration in the memorandum.* Experience proves that adjutants and other copyists are tempted of their own accord to shorten verbose orders. This, of course, is entirely inadmissible; for they are often not in a position to judge whether in changing the phraseology they do not also alter the sense.

Therefore, if evil consequences are to be avoided, orders must be so given that everyone *must* copy them *verbatim*. The reason for a given disposition is out of place in the order; for if the order is well-worded, it justifies itself. In examinations the reasons for certain dispositions are usually required, and then you will have the desired opportunity to state in conclusion the reasons for your dispositions. In the same way, instructions for the care of the sick and wounded, police regulations, requisitions, detail of orderlies, cyclists, etc., are out of place in tactical orders; and only as an exception should arrangements for the supply of ammunition be included. Such matters belong to the "Daily Orders" that are issued in conjunction with the "Operation Orders."*

*With us "Daily Orders" are known as "General" or "Special" Orders or "Circulars," and "Operation Orders" as "Field Orders."—*Translator.*

(c) *Every order must be perfectly clear and intelligible.* If misunderstandings arise, the chief fault lies with the one who issued the order. He should have given the order in such a way that mistakes would have been impossible. It is therefore perfectly proper to say that the execution mirrors the quality of the order. In practice an order must be suited to the personal equation and visual range of the recipient; though in the solution of problems on paper all subordinates are assumed to be perfect, still the question should be asked oneself: "What knowledge can the recipient have of the general circumstances? Will he understand my point of view from the wording of the order, and thus comprehend the order in my sense?" It will therefore be well for you to put yourself in the recipient's place, and consider what you yourself would do if you received an order in such and such terms and had to execute it yourself. *Clearness requires consideration before brevity*; therefore rather use a long expression where a shorter one might be misunderstood. *Brevity must never lead to superficiality.* Expressions that easily give rise to misunderstandings because their import depends on the actual position or view-point of the observer—such as "right," "left," "in front of," "behind," "on this side," "on that side"—are to be avoided. They should be replaced by points of the compass, thus: not "to the left of Verny," but "west of Verny." Moreover, you should not refer to "the southern outlet" of a village unless there be but *one*. In speaking of larger towns, doubts easily arise on this subject; but it would be more indefinite to choose intermediate points of the compass and speak, for example, of "the south-south-western outlet." It would be better to say, "at the outlet towards X," or, "at the outlet of the country road to X," if there are several such outlets.

Roads must be designated by two points named in the order of direction of the march. It is therefore not permissible to say, "the Metz chaussée," but, "the chaussée from

Verny to Metz," if the march is from Verny to Metz.* Unusual expressions and foreign words are to be avoided; our latest regulations are in this respect an excellent pattern.

(d) *Every order must be positive*; for an uncertain and weak order will be loosely executed. All weakening expressions, such as "as far as possible," "as well as you can," and "according to circumstances," must be rejected; for the commander must assume the entire responsibility, and shift none of it to the shoulders of his subordinates. It is the *positive* order that must give the subordinate confidence to undertake a dangerous task with determination; for it appeals to the subordinate's most necessary quality—namely, his military obedience. The more difficult the situation, the more clear and positive the order must be. It would therefore be most blameworthy if in composing an order you *intentionally* chose an obscure, indefinite, or even ambiguous form of expression to hide your own indecision.

(e) *The order must not trespass on the province of the subordinate*. This is an error only too often committed, both in the field and in the solution of problems. Beware of it. On principle, your orders should contain only what your subordinate cannot himself arrange to carry out your intentions. The *details of the execution* you must leave to him, especially if your orders require considerable time in transmission, where therefore it is possible that conditions you have presupposed may have completely changed. Through your orders acquaint your subordinate with his *task*; the *manner* of execution is *his* affair.

The higher the commander, the shorter and more general may his orders be. In practice you could always interfere later, if absolutely necessary; as, for example, if he were guilty

*Or, "the Verny-Metz chaussée." See par. 38, F. S. R. (This reference and others like it in pages to follow refer to our own Field Service Regulations.)—Translator.

of palpable errors that jeopardized the attainment of the object you had in view.

(f) *The order must not arrange matters too far in advance;* no farther than can be seen with certainty at the moment of framing the order. Such arrangements are seldom carried out; for the commander cannot foresee the next counter-measures of the enemy or any sudden unexpected contingencies, and only too often would he be forced to recall his first orders, and then: "*Ordre, contre-ordre, désordre.*"

Moreover, frequent changes in orders already issued weary the men, shake their confidence in their commander, and easily tend to make subordinates uncertain in their demeanor. Even elaborate directions for various hypothetical cases are to be avoided in orders. Of course it is possible that one of these contingencies may happen, but it is equally possible that something unforeseen will happen, and in the latter event the subordinates are uncertain what to do. In the same way you should not state in orders that you "*expect*" or "*presume*" this or that. If, later, the presumption is not verified, the subordinates see their leader's mistake, and that shakes their confidence. On the other hand, it is almost always of importance that the subordinates clearly understand the *object* of what is ordered, so they themselves may strive to attain it even should the general situation demand *different action on their part from that originally ordered.*

(g) *In every order particulars of time and place must be so exactly given as to preclude the possibility of errors.* I refer you to the appropriate instructions of the Field Service Regulations that I need not repeat here.* In giving particulars of time, I recommend that you write the minutes very distinctly; in the case of difficult names of places—as, for example, French

*See par. 34, F. S. R.

or Polish names—that you compare them letter by letter with the map.

Besides, simple as they are, it is only too easy to transgress the rules as to forms prescribed by the Field Service Regulations. Take pains in this from the beginning; for an error committed through mere carelessness is always very annoying. Besides, these precise rules in our Field Service Regulations are the result of *extensive experience in war*, and are not mere superfluous trivialities. If they are not accurately followed, mischievous misunderstandings may easily result.

After you have carefully worked out the distribution of troops and the order in your memorandum, copy both very clearly—the clearer the better; and in addition I would recommend that you *underscore the opening words** of each paragraph to emphasize them. The examiner in a measure should be able at a glance to comprehend a well-expressed order. This distinctness, moreover, has a value not to be overrated in actual service; for everyone concerned at once sees what concerns himself, and *the order is more easily and quickly understood*.

I shall now give you a very easy problem: orders for an advance, or forward march.

FIRST PROBLEM.

(See maps Metz and Verny.)†

A red division in an enemy's country bivouacs on the night of July 2-3, 1900, south of Liéhon (south border of Verny map). At 9.30 p. m. Brigadier-General A——, commanding a force consisting of the 8th and 9th Infantry, receives the following order: "Your detachment will be re-inforced early to-morrow morning by two troops, 1st Squadron 9th Cavalry, Battery A, 1st Field Artillery, Company A, Engineers, and

*Not prescribed by rules adopted for our service.—*Translator*.

†Underscore in red the places on the map named in the text. This will save you much time in further consulting the map.—*Translator*.

Detachment, Ambulance Section, First Field Hospital. You will interrupt (*sperren*) for a few days all railway traffic at Peltre. The division will remain in its présent bivouac to-morrow. Hostile cavalry patrols were seen this afternoon (July 2d) south of the unfortified town of Metz, and, according to reliable information, hostile infantry and artillery are bivouacked near Antilly (north border of Metz map)."

Required:

1. The order issued by General A the evening of July 2, 1900.
2. Reasons for the measures adopted.
3. Sketch* showing the order of march of the column an hour and a half after leaving bivouac.

I shall now give you a general model and an example of orders for a movement to the front, or forward march, which you naturally will be able to apply only in part to the present case. I intentionally give you no further aids or instructions. With the aid of the books above mentioned, you should begin work on the problem and thus determine what you remember of your former knowledge. I could make matters easier for you by referring to various difficulties in advance, but I purposely avoid doing so, because you will thus learn to work faster and more effectively. If you make some mistakes, these will have their uses, for especially in tactics most is learned through mistakes. Do not use too much time drawing topographical features of the sketch. The use of tracing-paper will expedite matters. But be careful in computing and drawing to scale the road-spaces occupied by the different

*To save the map, a piece of tracing-paper may be laid over it, the principal topographical features being traced and the troops drawn on the tracing-paper; or, only the troops might be drawn on the tracing-paper. In this case it will be best to copy three points on the tracing-paper from the map, so the paper could be at any time exactly superposed on the map as it was when the troops were drawn.—*Translator.*

bodies of troops; for I consider it especially important that you calculate accurately the position of each subdivision at given times.

Be careful not to read the next letter until you have finished everything of the above three requirements—even the last mark on the sketch.

AN ADVANCE.

Field Orders	[Title.]
No. —.	[Place.]
<i>Troops.</i>	[Date and hour.]
(a) Independent Cavalry:*	1. [Information of enemy and of our supporting troops.]
[Commander.]	2. [Plan of commander.]
[Troops.]†	3. (a) [Orders for independent cavalry—place and time of departure, roads or country to be covered, any special mission.]
(b) Advance Guard:	(b) [Orders for advance guard—place and time of departure, or distance at which it is to precede the main body, route, any special mission.]
[Commander.]	(c) [Orders for main body—distance at which it is to follow the advance guard, or place and time of departure.]
[Troops.]	(d) [Orders for flank guard—place and time of departure, route, special mission.]
(c) Main Body in order of march:	(e) [Orders for signal troops—lines of information to be established, special mission.]
(Generally as follows:	[Orders for outpost—when relieved, subsequent duties—generally to join column.]
Cavalry as messengers,‡	
Infantry,	
Artillery	
Infantry,§	
Engineers,	
Field Hospital.)	
(d) Right [left] Flank Guard;	
[Commander.]	
[Troops.]	

*When a command is not preceded by independent cavalry, some of that arm should form a component part of the advance guard. In this case there would be no reference to independent cavalry in 3 (a).

†Including machine guns, but seldom an ambulance section.

‡Or mounted orderlies from the infantry, if available.

§Machine guns, following infantry.

||The Germans are well equipped with signal troops and appliances, but do not count on their advanced or detached troops being able to make much use of them near the enemy.—*Translator.*

- (e) Signal Troops: ||
[Commander.]
[Troops.]
4. [Orders for baggage train ¶—escort, distance in rear of column, or destination when different from that of main body.]
[Orders for sanitary troops, ammunition, supply and pack trains, when necessary.]
5. [Place of commander or where messages may be sent, 2d in command.]
Authentication.
- [How and to whom issued.]

¶This term takes the place of "regimental train" in the proposed revision of our F. S. R.

All reference to machine guns in this translation concerns the German system of handling and disposing of them; and is a reproduction of the author's remarks on the subject.

The Germans deal with machine guns differently from ourselves. They form the guns into "groups" or "batteries" of six guns each, and do not use them as a part of any other organization.

Our system, as announced in G. O. 113, series 1906, War Department, is to have a machine-gun platoon (2 guns) as an adjunct to one battalion of each regiment of infantry and one squadron of each regiment of cavalry, but also capable of independent existence and action.

The entire subject of the use and utility of machine guns with large commands is still a matter of experiment. A pamphlet issued by the War Department, April 1, 1906, on Machine Guns, contains much that is interesting on the subject.—*Translator.*

Gen. Von Alten claims that this form of orders with troops shown in margin is suitable for such orders as issue in written or printed form from offices, but that when orders are copied from dictation there should be no marginal reference, the troops instead being shown in the body of the order; this because the adjutants' dispatch-books are narrow, not admitting of a division of the page, and the consequence being that the distribution of troops must be made on some other page, with the possibility of the writer forgetting to which order a particular distribution belongs.—*Translator.*

Example of an Order for an Advance, or Forward March.

Headquarters, Detachment 1st Division, 1st Army Corps,
 Field Orders Bivouac North of Z,
 No. ——. 11 May 00, 11-15 P. M.

Troops.

- | | |
|---|---|
| <p>(a) Advance Guard:
 Major B.
 1 Bn. 1st Inf.,
 2 Trs. 1st Sq. 1st Cav.,
 Co. A, Engrs.,
 1 Machine Gun Btry.</p> <p>(b) Main Body (in order
 of march):
 1 Tr. 1st Sq. 1st Cav.,
 1st Inf. (less 2 Bns.),*
 Btry. A, 1st F. A.,
 1 Bn. 1st Inf. (less 1 Co.),
 Det. Amb. Sec. 1st
 F. Hosp.</p> <p>(c) Right-Flank Guard:
 Captain A.
 1 Co. 1st Inf.,
 1 Tr. 1st Sq. 1st Cav.</p> | <p>1. The enemy's infantry has been seen near X and Y, and his cavalry patrols north of W. Our 3d Division of Infantry will march to-morrow from M to N.</p> <p>2. This detachment will march to-morrow towards O.</p> <p>3. (a) The advance guard will start at 6-15 A. M. to-morrow, and march by the main road through P towards O, reconnoitering towards D, E, and F, and keeping up communication with the 3d Division of Infantry.</p> <p>(b) The main body will follow the advance guard at 800 yards' distance.</p> <p>(c) The right-flank guard will start at 5-45 A. M. to-morrow, and march through S towards T, reconnoitering through V and W in the direction of U.</p> <p>(d) The outpost will remain in position until the van guard has crossed the line of supports.</p> |
|---|---|

By order of Colonel A: _____,

Capt. and Adj. 1st Inf. Adjutant.

Dictated to officers representing the various organizations (or, orally to Capt. A, Maj. B, Commanders of Engrs. Art., Machine Guns, and to staff; copy to division commander).

REMARKS.—As the *regimental* commander issues the orders in the above instance, he very properly could designate in the order the battalions to form the different parts of the column; viz., instead of writing under "Advance Guard" in the margin, "1 Bn. 1st Inf.," he might write, "1st (or such) Bn. 1st Inf."

*This form of expression indicates the location of the commander.

Even where the selection of companies, battalions, etc., for specific duties is left to subordinates, the commander of the entire force might embody this selection in his order if it is practicable for him to find this out before issuing his order. In fact, the commander must know what body of troops has been selected for any particular duty before issuing his order, where, as in the case of the advance guard and right-flank guard above, he wishes to announce the names of subordinate commanders.—*Translator.*

SECOND LETTER.

ORDERS FOR A FORWARD MARCH.

IF YOU have worked out the problem as I advised, according to my experience, it will have required about three or four hours; but this is by no means too long. With more practice you will learn to work more rapidly.

If a detachment is required to perform any kind of work and at the same time protect the working party (as, in this instance, the interception of railroad traffic), it must take up a position at such a distance between the working party and the enemy as to protect the workmen from the enemy's fire. Thus, in the event of an attack by the enemy, the place will not be under fire, making it possible for the work to be continued and possibly completed *while the engagement is in progress*. Protection must be secured not only from the enemy's *infantry*, but especially from his *artillery fire*. *This principle will regulate the distance of the covering detachment from the working party*. It is very advantageous if the latter, as in this instance, is covered from view and fire by a line of heights sufficiently far to the front. In such a case the greater part of the detachment occupies the heights while a smaller part (in the present instance a company of engineers supported, if necessary, by some infantry) undertakes the work itself. The covering heights extend from Mercy bei Metz to Basse Bévoye;* these heights, therefore, are the goal of the detachment.

The best route thither is the highway via Haute Grève.† The road farther west, via Chérissey, Orny, Chesny, is longer on

*Called Bévoye la Basse in former editions.—*Translator*.

†Called Grève la Haute in former editions.

account of its many windings, and is also poorer, especially in Hospital Woods (Hospital Wald). While bivouacked at Liéhon it is not in the least possible to tell the nature of the section of country between Orny and Chesny. In practice such doubts can sometimes be removed by previous reconnaissance, but in working out orders by the map it is better to be a little cautious and remain on the highway, even if it be a little longer. Slight detours matter little, for the troops march with more comfort, consequently with more speed and are less tired. Even the advantage of approaching Peltre by the less-exposed route through Hospital Woods should not induce you to select this inferior road. Again, the advance might be over the highway past Haute Grève and then branch off to Peltre via Chesny. If only the march to the station of Peltre were under consideration, this route would be about as long as the highway and almost as good. As, however, the heights north of Peltre are the objective for the greater part of the detachment, there is no reason for choosing the last-named route rather than the better highway; but there is no reason why the working party should not branch off via Chesny.

For the purpose of the march it is necessary to consider not only the road itself, but also the country along both sides of the road. First you have Hospital Woods on your left flank;* then, later, on your right flank the patches of woods east of Mécleuves, the large Champel woods (Gr. Wald von Champel), as well as the woods west of Ars Laquenexy. The rest of the country on both sides of the road is fairly open to view. As soon as your patrols have arrived north of Haute Grève, and especially, somewhat later, at the elevation marked 270.8 south-east of Pierrejeux, they can get an extended view of the country before them. The view to the north is limited by the distant line of heights extending between Mercy bei Metz and Basse Bévoys. On reaching these heights, how-

*That is, the left as you face the enemy.

ever, a view is obtained that extends as far as Metz and the heights of Belle Croix. Now, what can the enemy see? It will hardly be possible to prevent his patrols reaching the heights of Mercy bei Metz. Thence they can observe your advance as soon as you descend the elevation marked 270.8 south-east of Pierrejeux, and again, later, when you reach the higher parts of the highway.

Moreover, the enemy will try to push his patrols as near as possible to your column, under cover of the woods on either side of the road. You must keep this in mind while giving instructions for reconnoitering.

Your own position is much simplified because your detachment is assembled in a bivouac;* so that you have only to march off. The remainder of your troops remain in bivouac; the problem says nothing about them (nor about the outposts), so you need not trouble yourself about them. Nor need you worry why you are ordered to cut (*unterbrechen*) the railway at Peltre, while it might be just as efficacious, or more so, to do so elsewhere. Accustom yourself to take the problem as it is, and do not hunt for difficulties where none exist; beginners sometimes do the latter. In this problem it is expressly stated that the railway is to be cut at Peltre.

In the problem I intentionally used the word "interrupt" (*sperrén*) with regard to the railway, adding "for a few days." I wish to call attention that a distinction is to be made between thorough "destruction" and simple "interruption."† In the case of a "destruction," which generally requires many hours to accomplish, the covering body must keep the enemy at a distance from the working party much longer than in the

*Instead of being quartered in various villages on or near the road.

†"Destruction" should be such as to stop traffic for weeks or months, a very decisive step, to be ordered only by supreme authority or by a general with independent command. A simple "interruption" should be a matter of only a few hours or days.

case of a simple "interruption." If a "destruction" is interfered with, an attempt should be made to bring about one or more "interruptions." An "interruption" *for a few days* demands somewhat extensive work, and this explains why in the present case a detachment of such strength is employed.

You know that on the afternoon of July 2d the enemy bivouacked near Antilly with infantry and artillery; it is therefore probable that he will remain there during the night. The cavalry that he sent out beyond Metz will either return to the main bivouac at Antilly or camp near Metz. In any case the information about the enemy is rather indefinite. You know nothing of his strength, and so must be prepared for superior numbers. The statement "with artillery" indicates that at least one or two regiments are in bivouac at Antilly, for artillery seldom accompanies smaller bodies of infantry than this. The enemy's immediate destination presumably is the unfortified town of Metz, for he is not likely to pass so large a town with its many resources. This is further indicated by his having sent cavalry patrols in advance to Metz. It may thus be assumed with considerable certainty that on the morning of July 3d the enemy will be on the march from Antilly to Metz. When he receives word of the advance of our detachment, we cannot tell whether this will induce him to leave his former route and march to the east of Metz, directly towards us, but it must be considered as a possibility. The enemy's cavalry, being in friendly territory, probably already has learned from the inhabitants that there are troops south of the town; or it may itself have noticed some of our cavalry. At any rate, it will continue its reconnaissance farther south the following morning, when the opposing cavalry will soon come in contact. Only in case of superiority of our cavalry may it be possible to conceal from the enemy the advance of our detachment. But this is uncertain, and this *uncertainty is the rule in war*. Precisely here lies the difficulty of troop-

leading, that you seldom know with any certainty the movements, strength, and intentions of the enemy, and that you must therefore fall back on *conjectures*, mostly based on very scanty information. The more skillfully you learn to picture to yourself the whole situation, based on more or less trustworthy information available, the better will be your arrangements. As a rule, reports from the cavalry must prove whether or not your conjectures were correct; hence the great importance of continuous cavalry reconnaissance. Besides, remember that troops "*in a friendly country*," as a rule, are better provided with information than are troops "*in an enemy's country*."

You may now figure when the detachment can reach the heights of Mercy bei Metz and when the hostile infantry can do the same. For this purpose you must familiarize yourself with the rate of march of your troops. A small column consisting only of infantry, under favorable conditions, marches for short distances at the rate of 100 yards a minute (or 3.4 miles per hour) and for very short distances at the rate of 110 yards a minute.* Cavalry reconnoitering, where mostly it alternately walks and trots, moves at the rate of 6 miles an hour.† It will, as a rule, be able to move faster the first few miles, on account of its greater security, *until it has gained contact with the enemy*. Thereafter it has to take into consideration the necessity for advancing under cover, must halt longer at important points of observation, and can no longer advance continuously. I wish to call your especial attention to this, for beginners are prone to overestimate the pace of reconnoitering cavalry.

You will find in the Field Service Regulations that large

*At double time it marches 180 yards per minute. (See par. 42, Inf. Drill Reg.; also see par. 227, F. S. R.)—*Translator*.

†Five miles per hour in our service. (See par. 228, F. S. R.)—*Translator*.

commands, in which class I consider your detachment, on long marches and under *favorable conditions* march at the rate of $2\frac{1}{2}$ miles per hour, *including halts*. To ascertain the rate of march, you will have to ask yourself the following questions:

1. "Am I dealing with a large command?"
2. "Will it be a long march?"
3. "Must halts be taken into consideration, or is the distance so small that a short halt some time after starting, and not worth considering, will suffice?"
4. "Are all other conditions favorable?"

The first question is here to be answered affirmatively, but not the second, for from the place of bivouac north of Liéhon to the heights of Mercy bei Metz I measure the distance as about $7\frac{1}{2}$ miles. This is a *short* distance, and does away with the third question, as to whether you have to count on one or more halts. Halts, as a whole, are unnecessary, for the detachment, aside from a very short halt, can march without stopping to the heights of Mercy. This is much to be desired, for these heights should be reached ahead of the enemy. This tactical consideration therefore dictates that a consideration of husbanding the strength of the men step into the background. All other conditions are to be assumed as favorable. You therefore have a short, easy march without halt to consider. This you may figure at 3 miles per hour. A halt of 30 minutes, with another short halt of a few minutes, would necessitate your figuring on $2\frac{1}{2}$ miles per hour. You would figure on the latter rate in long marches under average conditions, but it would be a mistake to apply this rate under all circumstances. In most of the smaller tactical problems, often in maneuvers, almost always in the solution of field exercises, and always in deployments from column of march, you would figure on 3 miles per hour. You must expect less than a rate of $2\frac{1}{2}$ miles per hour when conditions are very unfavorable, such as long-

continued marching up-hill, bad state of the roads, unfavorable weather (heat, wind, smooth ice), great exhaustion of the troops after a forced march, or on night marches, etc. So no hard-and-fast rules can be adopted showing what allowance is to be made; each case requires separate consideration. According to Bronsart von Schellendorf ("Service of the General Staff"), an allowance of $4\frac{1}{2}$ minutes additional per mile must be made with the thermometer at 77° Fahrenheit, and for greater heat correspondingly more. Night marches take half as long again as those by day. Sandy or slippery ground causes an extra delay of 3 to 5 minutes per mile, heavy rain or snow 2 to 3 minutes, a strong head wind 6 to 9 minutes. In hilly country, with a road of moderate gradient, add 4 to 9 minutes per mile, according to the gradient.

In measuring distances on the map I would advise you to be liberal and be careful to give due consideration to the curves in the road. Should you thereby overestimate the distance by half a mile, it would correspond to about 10 minutes in time. To arrive about 10 minutes late might be awkward, but to be 10 minutes ahead of time doesn't matter. I take half a mile from the scale with a pair of dividers and apply this to the map—not too miserly.*

At the rate of 3 miles an hour the head of the infantry column will require 150 minutes (2 hours and 30 minutes) to complete its march of $7\frac{1}{2}$ miles. The enemy, marching from Antilly to Mercy bei Metz (a distance of 10 miles), will require 3 hours and 20 minutes.

Assuming that both parties start at the same time and do not halt, General A—— could thus arrive at the objective 50 minutes earlier than the enemy.

At this stage to make arrangements how the detachment

*A map-measure, consisting of gear wheels with dial-register, will be found of great help in map-measuring. Such a device can be obtained from any instrument-maker.—*Translator*.

shall occupy the heights of Mercy bei Metz, or for a part of it to branch off just beyond Chesny in the direction of Peltre, would be committing the error of making "arrangements too far in advance." *First let the command begin its march; the rest will come later, and is properly the subject for later orders.* We do not yet know whether we shall reach the heights without a fight, or whether we shall get as far as the fork of the road to Chesny.

It is unnecessary to detach a flank guard, as for the present we are opposed only by cavalry and the hostile infantry cannot become dangerous until later. So cavalry will be sufficient for the necessary reconnaissance and protection of both flanks. The detachment therefore marches on *one* road, in accordance with the principle that in such detachments your strength, if possible, should be concentrated in one column, to be broken up only when absolutely necessary.

From the foregoing considerations we arrive at the following *decision*: The detachment to march as early as possible, so as to arrive at the objective before the enemy; and to march in *one* column on the highway to the heights of Mercy bei Metz. The cavalry to trot on ahead.

Concerning the latter, remember that, on account of the conformation of the ground, it is desirable to dislodge the enemy's cavalry as soon as possible from the heights of Mercy bei Metz. Possibly, by fighting on foot, our cavalry can hold the heights until our infantry arrives. Whether this can be accomplished is an open question, but in any event the cavalry must hurry far ahead. To be equal to its task the cavalry must have considerable freedom of action, but nevertheless must not lose entire touch with the infantry following, so that the latter may be sufficiently near at hand in case an action develops. With this as a preface, you have the choice either of placing the bulk of your cavalry *directly* under the detach-

ment commander and pushing it *far beyond* the advance guard,* or of assigning it to the advance guard as *advance-guard cavalry*. In the present problem arguments can be advanced for either course.

The following is to be said in favor of placing the cavalry under the detachment commander: As has been shown, the cavalry should *as soon as possible* get a firm foothold on the heights of Mercy bei Metz. For this purpose it requires a certain *independence* in its movements; of this it will have the less the more it is fettered to the advance guard. Every advance-guard commander is naturally prone to use cavalry in the restricted field providing for the security of the march; whereas the commander of the whole force from his broader view-point can give it much more freedom of action and can judge when it is necessary by his intervention to prevent the cavalry getting out of hand. I also place the cavalry under the commander of the entire force when its mission lies outside the sphere of the advance guard—temporarily, at least, lies far in advance of it.

For "*advance-guard cavalry*" is to be said that, in the present case, our cavalry probably will very soon encounter that of the enemy. If it then is unable to make headway, the advance guard must assist; in which case it would be better if both bodies were under one command from the beginning. In other words, the assumed proximity of a strong hostile cavalry force might be an argument for employing the cavalry in the advance guard. Its numerical weakness also might be advanced as an argument for attaching it to the advance guard. If under the detachment commander, after deducting a platoon for the advance guard, another for the main body, and mounted orderlies and a guard for the baggage train, the cavalry will be reduced to about one and a half troops. Such a small force

*Called "independent cavalry" in former editions.—*Translator*.

of cavalry is *un-independent*, being deficient in the necessary fighting strength.

I will give you the following from our Regulations as an axiom: *As a rule, detachments should employ their cavalry with the advance guard*, unless they be *exceptionally strong* in this branch. By "exceptionally strong" I mean three or more troops, if one troop, or less, were sufficient to provide for the safety of the march. It is a radical error to send the cavalry forward independently unless there is sufficient additional cavalry on hand to ensure the *safety of the march*.* The cavalry is placed directly under a detachment commander when there exists some independent task outside the sphere of the advance guard, be it with reference to time or place. However, there is always the risk that the cavalry may abuse its greater independence, may disappear and not be on hand when required. If, in a detachment, cavalry thus employed is of less strength than two troops, the reason for such employment must be specifically stated, as it would be an exceptional case.

In connection with the distribution of cavalry in this instance bear in mind that, considering the small number and the difficulty of the task before it, as few men as possible should be withdrawn from the troops. In time of peace, during maneuvers, we are spoiled with reference to strength of cavalry, because detachments usually have twice as much cavalry as they would have in a campaign.

The few troops of cavalry attached to an infantry division in a campaign must be carefully handled, if for days and months to come they are to develop their full strength. In the future mounted infantry will, to a great extent, relieve the divisional cavalry.

As in this instance the advance is on a good highway, a liberal use can be made of cyclists, so that mounted orderlies will be needed only in carrying orders across country. Cy-

*See 2d paragraph, page 52, F. S. R.

clists thus materially aid in husbanding the strength of cavalry, though the former are confined to the roads.

The detachment commander should be satisfied with a non-commissioned officer and 3 or 4 troopers and possibly 2 cyclists* as his messengers—without the necessity, however, of mentioning their detail in the tactical order. An officer with 6 or 8 troopers can take charge of the baggage train,† and the advance-guard commander takes the few mounted orderlies he may need from the cavalry assigned to him; *for there must always be some cavalry with the advance guard.*

Apparently in contradiction of what precedes, I suggest that a platoon of cavalry be attached to the main body—marching at the head of the same—so that the detachment commander may always have some left at his disposal for emergencies. A platoon of cavalry at the head of the main body is particularly desirable in *flank marches*; or in marching through a very close country where, in spite of the cavalry in advance, hostile bodies might suddenly appear and threaten the main body; or, finally, when it is likely that the main body at some point will have to assume the rôle of advance guard—a thing that sometimes happens, and when a scarcity of cavalry would be very much felt.

The advance guard receives from one-sixth to one-third of the infantry, though tactical units should not be broken up to attain this exact proportion. In this case two battalions are used. The remainder of the infantry is assigned to the main body. There is but one battery of artillery on hand. This will naturally remain with the main body, and, as from considerations of safety it cannot march at the head of the

*The Germans have two cyclists in each battalion of infantry.—*Translator.*

†U. S. Field Service Regulations prescribe that this train will be under control of the regimental quartermaster, with a picked-up guard. (See pars. 401-2.)—*Translator.*

main body, a battalion of infantry will precede it. The company of engineers is best with the advance guard. Later, if all goes well, it can promptly turn off towards Peltre and at once begin its work there. As a rule the engineers remain with the main body in forces no larger than detachments. But, if there is any probability whatever that the services of the engineers will be soon needed, they are assigned in whole or in part to the advance guard. For instance, if a water-course must be crossed during a march, and it is possible that the enemy has destroyed the bridges; or when some other obstructions of the road may be anticipated; or, as in this case, when the engineers should begin some piece of work as soon as possible—they should be with the advance guard. Every bridge on your line of march serves as argument for placing the engineers in the advance guard. They should march either with the van guard or the reserve.

As a rule, the sanitary troops remain with the main body, marching at the tail of the same. There will seldom be more than one ambulance section with a detachment (like those discussed in these letters), and it is not required until the fighting has become severe at some point, thus entailing many casualties. Until then the wounded are looked after by the surgeons and hospital-corps men accompanying the troops.*

The commander of the advance guard decides the order of march of the same. You simply assign him his troops, mentioning them in the usual manner, according to the branch of the service, in the margin of your order.

The commander of the whole force himself usually decides the order of march of the main body, drawing attention to this in the margin of the order by the words "in order of march" immediately following the heading "Main Body." The main body has no separate commander designated (the command-

*See par. 652, F. S. R.

er of the whole force acting as such).† Now write the order of march in accordance with the Field Service Regulations. This will shorten the main body of the order without making it less clear. Furthermore, every subordinate commander in the main body likes to see by means of the order whom he is to follow in the column. In operations on a larger scale other considerations dictate, and the order of march of the main body cannot be announced until the time has arrived for the troops to start. Let us suppose that we have decided on the distribution of troops to be made. I give it to you in two forms, to cover your having assigned the cavalry to the advance guard, or not:

- | | |
|-----------------------------|---------------------------------|
| (a) Advance Guard: | or: (a) Independent Cavalry: |
| Lt.-Col. B. | Major C. |
| 2 Bns. 8th Inf., | 2 Trs. 9th Cav. (less 2 plat.), |
| 2 Trs. 9th Cav. | (b) Advance Guard: |
| (less 1 plat.), | Lt.-Col. B. |
| Co. A, Engrs. | 2 Bns. 8th Inf., |
| (b) Main Body (in order | 1 plat. 9th Cav., |
| of march): | Co. A, Engrs. |
| 1 plat. 9th Cav., | (c) Main Body (in order of |
| 8th Inf. (less 2 Bns.), | march): |
| Btry. A, 1st F. A., | 1 plat. 9th Cav., |
| 9th Inf., | 8th Inf. (less 2 Bns.), |
| Det. Amb. Sec. 1st F. Hosp. | Btry. A, 1st F. A., |
| | 9th Inf., |
| | Det. Amb. Sec. 1st F. |
| | Hosp. |

In conclusion, you should verify *whether every organization belonging to the force has been disposed of*. Concerning abbreviations of designation of troops, the Field Service Regulations

†Gen. Von Alten insists that at least for large forces a separate commander should be designated for the main body.—*Translator*.

(German) prescribe that infantry and artillery battalions be designated by Roman numbers.* The "place, date, hour of issue" you can give as: "Bivouac south of Liéhon, 2 July, 00, 10 p. m." The hour of issue is when the order is *signed*,† and not when it is *begun*. As the orders for the detachment arrived at 9.30 p. m., its commander could hardly issue his own orders before 10 p. m. He must attentively read the orders received and study the map before composing the orders for his detachment. In the meantime the officers to receive the orders for the different organizations have been ordered to assemble, and not until all are present can the order be dictated. All this requires time that must be taken into account.

It is permissible, instead of issuing complete orders the night before, to merely issue a short order, stating when and where the troops must be assembled ready to march the next morning; postponing the issue of the actual order for the march until then, shortly before beginning the march. I shall not at present dwell further on this subject, but want to call your attention to it, as I shall revert to it later.

Paragraph 1 will read: "Hostile infantry and artillery are bivouacked near ANTILLY. Hostile cavalry patrols are reported south of METZ. Our division will remain in its present bivouac to-morrow."

Thus the information concerning the enemy is repeated almost word for word as received in the original orders from headquarters. But you must not always do this. The point is to give your subordinates what is essential for them to know, so they can execute their individual tasks in accordance with your intentions. Anything more is unnecessary; unimportant details must be omitted. Very *unfavorable* news, such as might arouse doubt in your subordinates, should, whenever practi-

*Thus, 1st Battalion, 8th Infantry, is written in the German text: I. R. 8. I.

†See par. 50, F. S. R.

cable, be either entirely omitted, or, at least, be referred to in very circumspect terms. Good news, on the contrary, should be given special prominence. Always remember that your orders pass through many hands, and that pessimists, who can unfavorably influence the *morale* of the troops, are to be found everywhere. That our division will remain in its present bivouac to-morrow must be published in orders to the troops of the detachment.

No. 2. "The detachment will march to-morrow towards MERCY BEI METZ."

You must tell your subordinates but little of the enterprise, but it should be sufficient to insure that each one in his own sphere, even if something unforeseen happens, will without further prompting do what will be correct and suitable to the general situation. Should it prove impossible to carry out the orders (as, for example, if Peltre be found occupied by the enemy in greatly superior force), your subordinates will not notice the failure of the enterprise and you prevent all sorts of talk. Indiscreet orders will only too easily shake the confidence of your troops in you as a leader. The harm once done is with difficulty remedied and is nearly always noticeable in the impaired fighting efficiency of the troops. Besides, *your plans should be kept as secret as possible*. It will be soon enough to let your subordinates know what the objective is after reaching the heights of Mercy bei Metz. The commanding officer is, however, justified in personally giving more detailed information of his intentions to some of his subordinates—*e. g.*, his senior staff officer, and especially the officer commanding the cavalry. The latter will then know to what points to call special attention in his messages; and if he sees, in this case, that it is doubtful if the interruption of the railway can be carried out as planned, he can with means at hand attempt a minor interruption. This being done, possibly, in the neighborhood of Peltre or elsewhere. (If you have the opportunity,

look over the "*Instructions for the Employment of Cavalry in the Field*, 1893." There you will find much worth knowing in this connection, especially on the subject of demolitions and the passage of rivers in canvas pontons.)*

It is further advisable that the detachment commander send for the officer in command of the engineers the same evening, and discuss with him the latter's task. The latter will thus have an opportunity of making some preparations, possibly during the night.

Nothing is ordered concerning a possible retreat, although the commanding officer will consider what he intends to do if he should meet a greatly superior enemy. At the beginning of the march the command must think only of "*forwards*," surely not of "*retreat*." Besides, in this case it is entirely unnecessary to mention a line of retreat, as usually a retreat is in the direction whence the command came, which would here be towards the bivouac of the division. As a rule, too, the position of the baggage train indicates the direction of retreat.

No. 3. You now might decide the hour when the detachment must leave its bivouac, which, as you know, is governed by the consideration that you should reach the heights north of Peltre *as soon as possible*. This desire to reach some place or other as quickly as possible is an element in most tactical exercises. But I must warn you not to fix too early an hour for departure in your orders, as otherwise you might encounter various difficulties. *Especially, out of consideration for the mounted troops, avoid starting until an hour after daybreak.* But, to give the troops as much as possible of the absolutely necessary night's rest, the march should begin even later, unless it is desired to avoid marching in the heat of the day. Usually a start from bivouac is made somewhat earlier than from quarters. Early in July the sun rises at about 4 a. m.

*See "Floating Bridges" and "Demolitions," Beach's Manual of Military Field Engineering.

You should set the departure for 5 a. m. at the earliest; which would necessitate the mounted troops beginning their day's work sometime before 4 o'clock. It is hardly probable that the enemy will start much before 5 a. m. But an invariable hour for beginning a march cannot be prescribed; this will vary with the military necessity, the weather, and the length of the march. If you intend starting at an exceptionally early hour, you will be expected to fully explain your reasons.

I take this opportunity of giving you average figures in round numbers for sunrise and sunset,* that you must note, so as not to make arrangements inconvenient for the troops. For tactical purposes scientific accuracy is, of course, not necessary.

	Sunrise.	Sunset.
January	8	4
February	7	5
March	6	6
April	5	7
May	4	8
June	4	8
July	4	8
August	4	8
September	5	7
October	6	6
November	7	5
December	8	4

From this point the orders will differ, depending on whether you have assigned the cavalry to the advance guard or not. In the latter event No. 3 (a) would be: "The independent cavalry at 5 a. m. will trot ahead towards MERCY BEI METZ, reconnoitering towards COLOMBEY, BORNY, QUEULEU, and SABLON. HOSPITAL WOODS and the large CHAMPEL WOODS must be observed."

*Latitude of Central Europe.

The reasons for the cavalry going forward at a trot have been given. Although you mention Mercy bei Metz as the objective, the commanding officer of the detachment doubtless realizes the improbability of the cavalry being able to trot the entire distance; but that the latter upon coming in touch with the enemy must advance more slowly. The farther ahead you fix the goal for the cavalry, the more energetically is it likely to act, and will at least try to reach it quickly. It may succeed; if it does, so much the better. There is an established axiom *to require what is next to impossible*, so that the *possible* may be attained. But there must be no hounding.

Borny is named as a point to be reconnoitered on account of the road leading thither via Vallières;—Colombey, to promptly secure the right flank;—Queuleu and Sablon, as a matter of course.

I would not order more extensive reconnoitering than this at present. But, in case it should become necessary to continue this to Antilly, I would provide for it by a new order; possibly not issued until we reach the heights of Mercy bei Metz. The reconnoitering thus goes on, in a way, *by instalments*. This procedure has the advantage of counteracting any tendency of the cavalry to get out of hand, and besides assures the detachment commander that the reconnaissance of the region first coming under consideration has been thoroughly carried out. You thus see that the program is: give the cavalry *a wide field of work*, but, for all that, with certain restrictions. By specially mentioning Hospital Woods and the large wood of Champel in the order, we insure greater attention being given to the examination of these woods. As to how the cavalry will do this—whether by small patrols or larger bodies—is the business of the cavalry commander, and cannot be passed upon by the detachment commander when

issuing his orders. The more cavalry the enemy shows in these localities, the more we must send there.

There is no doubt that in giving orders to search the woods you are interfering somewhat with the independence of the cavalry commander; for the latter doubtless of his own accord realizes that the woods lying on the flank of the line of march must be watched. Nevertheless it is desirable to insert this clause in the order so as to be *perfectly certain* that both flanks will be carefully protected by reconnaissance. In practice, the amount of independence allowed a subordinate depends on his personal character; a factor that is wanting in the theoretical solution of problems. Yet even in practice the commander of the whole force is sometimes justified to encroach on the domain of even his *most tried and trusted subordinate* (as, for instance, in the present case, where instructions are given concerning the directions in which certain reconnaissances should be made); for the continuity of the whole, the unity of leadership, and the *leader's own views and intentions outweigh all other considerations*. The preservation of the independence of the subordinate officer recommended by me in my First Letter must not be overdone. But hampering him with unnecessary details is a much greater error. You must have very good reasons for interfering with your subordinate's freedom of action.

I would not advise you to simply order: "The independent cavalry will reconnoiter on the front of Colombey-Sablon." This might be sufficient for a judicious cavalry leader, who has the same understanding of the situation as the detachment commander, for he probably would of his own accord act in a manner to suit the situation; but it would always be a question whether the assumption would be correct. The commanding officer will be on safer ground if he not only gives a general idea of the reconnaissance, but also specifies the directions in which it shall take place. Then he will be certain that detach-

ments will be sent in those directions (or localities); which assurance he would not have under the mode of expression first named.

The commander of the whole force will often send out officer's patrols, if he very much wishes to reconnoiter in particular directions; *but this must not become a habit with him.* As a rule, all such arrangements are equally well made by the cavalry commander, or by the commander of the advance guard; and the whole matter of reconnaissance remains more in one hand; nor does the subordinate then depend on his superior to do this work for him.

I do not consider it necessary in this case to have the cavalry start before the infantry, as the former will soon get ahead the necessary distance by going at a trot. It is not necessary to name the place of departure, considering that the cavalry is in the same bivouac with the other troops; nor is the route mentioned, so as to give it a free hand in this matter.

No. 3 (b). "The advance guard will start at the same hour towards MERCY BEI METZ, via the highway through HAUTE GREVE." The advance-guard commander's task is assigned him by naming the route of march. He is expected of his own accord to arrange all details, such as providing for the protection of the march, halts, order of march of his command, and keeping touch with the cavalry in advance.

If you have assigned your cavalry to the advance guard, No. 3 (a) would be as follows: "The advance guard will start at 5 a. m. to-morrow towards MERCY BEI METZ, via the highway through HAUTE GREVE. The cavalry will trot ahead to MERCY BEI METZ, and in addition to observing HOSPITAL WOODS and the large wood of CHAMPEL, will reconnoiter towards COLOMBEY, BORNY, QUEULEU, and SABLON." You would thus interfere with the independence of the advance guard commander, as far as the cavalry is concerned; but this would be on account

of your not being certain that his views on the subject of employing cavalry are the same as yours.

No. 3 (c) or (b). "The main body will follow at a distance of about 800 yards."

You can either fix a certain hour for the departure of the main body, or, as above, mention the distance in yards at which it is to follow the advance guard. The latter, as a rule, is more practicable, because the main body will then have the correct distance even if, by any accident, the advance guard should be delayed in its departure. The only case where you should arrange for the departure of the main body by reference to time is when the advance guard and main body have to start from different rendezvous that lie so far apart and are separated by such close country that the head of the main body cannot see the advance guard start. A distance of from 600 to 900 yards is usually sufficient for detachments of only a few battalions, under ordinary circumstances where the enemy is still distant and the general situation has not yet been developed. Habitually two factors control the distance to be taken: On the one hand, the advance guard must be far enough in advance to prevent any checks to its advance also delaying the main body; on the other hand, the main body must be near enough to intervene opportunely if the advance guard encounters the enemy. An exception (which you should bear in mind for future reference) is the case of an advance against an enemy whose presence in position near at hand has been reliably reported. In this case the distance between advance guard and main body may be reduced to expedite the deployment against the enemy. But even in such cases it is not advisable to have the main body too near, for the commander as a rule, retains greater freedom of action as to where to deploy the main body if the latter is some distance behind.

No. 4. "The baggage train, conducted by 6 troopers and an officer from Troop A, 9th Cavalry, will remain stationary

on the road leading from LIEHON into the highway—head of column at the junction of this road with the highway.”

As a rule, a cavalry officer and the necessary troopers are allotted to the baggage train for purposes of guidance and maintenance of discipline. The exact strength of the escort cannot always be given. This usually is best left to the discretion of the troop commander concerned, who probably has some horses weaker than others or for other reasons wishes certain ones to be spared fatigue and to which he will be glad to give easier work for a day. Ordinarily it will not do to place a non-commissioned officer in charge, because he would lack the tactical view necessary to keep the train out of difficulties, and would not command the necessary respect among the non-commissioned officers of the train. The baggage train might be left in the bivouac. This is often done when certain of returning to that point again. In the present case this is not at all certain, so it is better not to leave the train behind.

If there is any probability of an engagement, on the one hand, the train must be left well in rear; on the other hand, it must be readily available for the night's cantonment or bivouac, and therefore must not be too far in rear. But it is often impossible to foretell where you will pass the next night. In the present instance the baggage train should not be taken along very far—in fact, it would be a downright mistake to do so, for you cannot foresee whether you may not be unfortunate and have to retreat hurriedly, in which case the clumsy wagons might be very much in the way on the highway. The best course here is to let it go a little way, so that the wagons may take their place in single column on the road. We post it on a byway, *with the head of the column at the junction of this byway with the highway*, so that it readily can move to the front or retreat southwards. You might in this case let the train follow a little farther—say to Basse Grève, as you can be pretty certain that it will not be in the way there. But I

would not take it along any farther, and under no consideration must it go down the steep descent near Pierrejeux too soon.

In ordinary detachments the baggage train follows at about $1\frac{1}{4}$ miles in rear of the end of the troops. Bear in mind, for future reference, the following cases that may occur with regard to the baggage train:

1. It follows the main body at a distance of about $1\frac{1}{4}$ miles.
2. It follows the main body at the foregoing distance, but only to some designated point, where it awaits further orders.
3. It is moved but a short distance, just enough to properly form its column of march.
4. It remains behind in bivouac or cantonment.
5. It immediately follows the main body without any, or very slight, intervening distance (in flank marches).
6. It does not follow the main body, but has a separate road assigned it (in flank marches).
7. It does not follow, but is on in advance, as where troops remain stationary temporarily; or it is sent back (in retreat or defense, less frequently in attack).

In orders you never have to prescribe concerning the *combat train*. This follows *without further orders* (except on rare occasions in mountain warfare); but the baggage train must always be mentioned. Your wagons always march in the order of the troops to which they belong, and they must always leave the column as soon as an engagement is imminent. The same rule holds for tactical problems.

No. 5. "I shall be with (messages will reach me at) the reserve of the advance guard.

A.

"Brigadier-General."

At the beginning of a march the commanding officer will best remain between the advance guard and the main body, observing if the column is formed in accordance with his intentions; then he might take his place between the van guard and the reserve, where he can await his first messages. In that way he is less subject to distractions and can better exercise supervision than by being way in front, where his attention might be taken up by comparatively unimportant details. But as soon as the messages received indicate beyond a doubt that *touch has been established in earnest with the enemy*, he must gallop to the front. There he interrogates the advance-guard commander as to what the latter has seen, and then above all things sees for himself, because, as the Infantry Drill Regulations say: "The commander's own observation of the situation as regards the enemy and the ground cannot be replaced by maps or messages."

In case of necessity, others might be in observation for the commander in chief, but he alone can give orders to the whole force, and for this purpose he should be as far to the front as possible, where also messages would reach him most promptly.

At the foot of the order should be briefly noted in what manner it was promulgated to the troops. As in the present case the order is given in bivouac, it is only necessary to assemble the officers detailed to receive the order for the different organizations and dictate it to them.

I can be very brief concerning the reasons for the measures adopted. The one who gives the problem wishes to learn from the reasons adduced by you whether you have clearly grasped the *whole situation*, and whether you are clear in your own mind why you applied the various *tactical principles*. Keep this in mind and then concisely write your reasons for the measures adopted. Aim to express yourself very clearly, strictly log-

ically, and with military precision. In the present problem you might have arranged your reasons as follows:

1. Statement of your comprehension of the situation as regards yourself and the enemy.
2. Reasons for the adopted decision.
3. Reasons for the distribution of troops.
4. Reasons for the subject-matter of each paragraph of the order, as far as is necessary.

Beginners, in stating reasons, often give a statement of the situation almost word for word as contained in the problem. It is hardly necessary for me to say that this is superfluous. Begin without any preliminaries. With the very first sentence begin the statement of your understanding of the case.

While you are writing the reasons it will sometimes occur to you, especially if you are a beginner, to alter some points or expressions in the orders. This is one of the chief advantages in writing your reasons for the measures adopted. Giving your reasons in writing compels you to so thoroughly think about the various measures that, very likely, while doing so you arrive at more suitable decisions. Your subsequently written reasons are the best test to show whether your work was sufficiently thorough when you drew up the orders. *It is on this account that I advise you on principle to write out the reasons for all orders composed by you.*

A few words in conclusion concerning the required sketch: The advantage of drawing this lies therein that at a glance you can see where the different parts of the detachment will be at a given time. And, above all, you at a glance get an idea of the length of the column on the road. Always try to thoroughly realize this: (1) when it becomes a question of issuing an order *on the march*; as, for example, where the existing distribution of troops must be changed by reason of a change of direction of the column (see 4th problem), or, for an attack, or for occupying a position; (2) when, at the *conclusion* of a march,

new orders will be required to distribute the troops to different places of bivouac or cantonment.

You will find the road-spaces required for different organizations in the Field Service Regulations (see par. 233, U. S. Field Service Regulations).^{*} After marching an hour and a half, the infantry advance party of the van guard will have advanced about $4\frac{1}{2}$ miles—*i. e.*, to near La Horgne au Cheval Rouge. This is our reference point. In advance of this point at a variable distance is the cavalry of the van guard,[†] maintaining communication with the main body of the cavalry still farther to the front. The order of march of the detachment will be as follows:

^{*}The following modifications, computed by Captain Charles Crawford, 20th Infantry, Assistant Instructor, Department Military Art, are in use at the Staff College and Army School of the Line, and were used in calculating road-spaces:

Infantry—

Company	45 yards;
Battalion with combat train	214 yards.
Pioneer Company Engineers	121 yards.

—Translator.

[†]As a cavalry advance party.

Van guard:

Infantry advance party (1 officer and 1 section):	Yards.
Distance	400
1 company of infantry* (sometimes omitted)	34
20 per cent elongation . . .	6.8
Distance (omitted if company is) .	400

(Support):

1 company of infantry	45
20 per cent elongation . . .	9
Distance	20
Company of engineers (with tool wagon and explosives)	121
20 per cent elongation . . .	24.2
Distance (1000 to 1600 yards) . .	1000

Reserve:

2 platoons of cavalry	50
20 per cent elongation . . .	10
Distance	30
6 companies of infantry (with combat train† of both battalions) . . .	354‡
20 per cent elongation . . .	70.8
Distance	800

General Gripenkerl makes no allowance for elongation or opening out of troops in his calculations—possibly because he considers the troops, etc., perfect for purposes of the problems, as he does the officers.—*Translator.*

*Less one section.

†This name takes the place of “light train” in proposed revision of our F. S. R.

‡Includes distance of 24 paces (20 yards) between battalions.—*Translator.*

Main Body:

1 battalion of infantry (with combat train)	214	
20 per cent elongation	42.8	
Distance	30	
1 battery of artillery	350	
20 per cent elongation	70	
Distance	30	
1 regiment of infantry (with combat train)	680	
20 per cent elongation	76	
Distance	30	
Detachment, ambulance section	100	
20 per cent elongation	20	2442.8*
		5017.6

It would take about an hour† for the detachment to form on the infantry advance party. If the baggage train followed, it would be about $1\frac{1}{4}$ miles in rear, and its length would add about 700 yards.

The tail of the advance guard will thus be on the highway about 500 yards south of the point 270.8; the head of the main body about 270 yards north of Haute Grève, and the tail of the main body about 700 yards north of point 203.2. The baggage train has just left Liéhon. I have not allowed for possible halts. In fact, such a calculation can only be an *approximation*, which, however, is sufficient for practical purposes. A hundred yards more or less is of no importance, as a rule. On this account your sketch need not exactly agree with the above; for instance, your distances between bodies might differ from mine, thereby giving a different total road-space. I have left you to decide how far the cavalry is ahead of the column.

*This includes 800 yards from preceding page.

† $5017.6 \div 88 = 57$ min., say 1 hour.

Headquarters, Detachment, 1st Division, 1st Army Corps,
Field Orders Bivouac South of Liéhon,
No. —. 2 July 00, 10 p. m.

Troops.

- (a) Independent Cavalry: 1. Hostile infantry and artillery are biv-
Major C. ouacked near ANTILLY.
2 Trs. 9th Cav. (less Hostile cavalry patrols are reported south
2 plat.) of METZ. Our division will remain in
(b) Advance Guard: its present bivouac to-morrow.
Lt.-Col. B. 2. The detachment will march to-morrow to-
2 Bns. 8th Inf., wards MERCY BEI METZ.
1 plat. 9th Cav., 3. (a) The independent cavalry at 5 A. M. will
Co. A, Engrs. trot ahead towards MERCY BEI METZ,
(c) Main Body (in order reconnoitering towards COLOMBEV,
of march): BORN, QUEULEU, and SABLON.
1 plat. 9th Cav., HOSPITAL WOODS and the large
8th Inf. (less 2 Bns.), CHAMPEL WOODS must be observed.
Btry. A, 1st F. A., (b) The advance guard will start at the
9th Inf., same hour towards MERCY BEI METZ
Det. Amb. Sec. 1st F. via the highway through HAUTE
Hosp. GREVE.
(c) The main body will follow at a distance
of about 800 yards.
4. The baggage train, conducted by six
troopers and an officer from Troop A,
9th Cavalry, will remain stationary on
the road leading from LIEHON into the
highway—head of column at the junc-
tion of this road with the highway.
5. Messages will reach me at the reserve of
the advance guard.

A.

Brig.-General.

Dictated to officers representing separate organizations. Copy to division commander.

If the cavalry be attached to the advance guard, the orders must be altered as previously mentioned. The names of places should be written in capitals. In working out a tactical

problem, begin a new page with the order, for the sake of distinctness.

SECOND PROBLEM.

(See maps Metz, Verny, and Ars a. d. Mosel.)

The 3d Division, in friendly territory, bivouacs on the night of July 5-6, 1900, between Retonféy and Vivier* (Metz map, south of Retonféy). A flanking detachment under Brigadier-General A, consisting of 29th and 30th Infantry, 1st and 3d Battalions of Sharpshooters, † Troops A and B and 2 platoons of Troop C, 7th Cavalry, Battery A, 5th Field Artillery, and Battery A, 6th (Horse) Artillery, and 1 platoon of Company A, Engineers, goes into cantonment at Colligny late in the evening of July 5th.

At 11 p. m. General A receives the following order from the division commander:

“Headquarters 3d Division, 2d Army Corps,

“Vivier, 5 July 00, 10.30 p. m.

“The enemy crossed the Mosel about noon to-day, near Novéant, with a column of all arms, and occupied Féy, Cuvry, Pouilly, and Fleury with a few companies. Isolated hostile cavalry patrols appeared north and east of Hospital Woods. Metz is not occupied by the enemy. This division will start for Metz via Planchette at 5.15 a. m. to-morrow. You will cover the march again to-morrow as left flanking detachment, marching via Colombey in such a manner that your detachment will have passed the ravine of the Vallières brook by 7 a. m. The baggage train of the division will assemble at 8 a. m.

*Vivier is the farm at the cross-roads, about 700 yards northeast of Puche. Its name is omitted from the map accompanying the 6th edition.—*Translator.*

†Although no sharpshooters are now included in our organization, they were during our Civil War, and again might be in case of an extensive war requiring many volunteer organizations.—*Translator.*

to-morrow on the Vivier-Petit Marais highway, with head of column at Petit Marais.

X.

"Major-General.

"In writing by an aide."

Required:

1. Arrangements made by General A for 6 July '00.
2. Reasons for the same.

NOTE.—The woods in the neighborhood of Metz have dense underbrush and off the roads infantry could only work through them slowly and in extended order. Concerning the fortifications of Metz, see remarks in the First Letter, according to which you must leave them wholly out of consideration.

THIRD LETTER.

FLANK MARCH.

THE PROBLEM I gave you (at the end of the preceding letter) simply involves an advance of a flanking detachment whose division is about to proceed from Vivier via Planchette to Metz.

It is not within our province to inquire why the division does not at once advance against the enemy, who has already crossed the Mosel, because the division commander in the problem expressly states that the division will march to Metz. The division commander doubtless has his reasons for this step. I would again advise you to always strictly confine yourself to the problem, and never be led astray to consider circumstances outside the scope of the problem.

The road to be followed by the detachment runs from Colligny via Colombey to Metz, and thus the detachment must cross the steep and deep ravine of the Vallières brook near Colombey. The division will have to cross the same ravine at Planchette. Although the highway at both points is good, still, precautions must be taken. The division commander will be glad when his main body has safely crossed the ravine, for, if attacked while crossing, he would find himself in an awkward position. In view of this, the detachment must take up a position to cover the passage of the ravine by the main body. That is, it will not be sufficient for the detachment to march parallel with the division towards Metz, but it *must halt in a suitable place en route* and let the division march by in rear. It is at present impossible to say where and how the halt is to be made; but this must be determined on the march after the receipt of further information. For the present all that can be done is to so begin the march that the

detachment will pass the Vallières brook at the proper time, and to make careful provisions for reconnaissance. It is certain, however, that until the situation becomes more clear the detachment must not go beyond the French Monument (Französische Denkmal).^{*} This point, therefore, may be considered for the present as the *objective* in the order to be issued. That the division commander did not expect the detachment to stop east of the Vallières brook is evident from his order specifying that the detachment should be across the brook by a given hour.

Possibly you have asked yourself: "Why did not the division commander state where the detachment should stop?" There is doubtless some ground for asking such a question. But, as he has left his subordinate perfect freedom of action in deciding the details, and has not hampered him with any special requirements, *it is the duty of the latter to arrive at a right decision for himself.*

As it advances the detachment must keep close touch with the division, so the former may always know how far the latter has gone. There will not be much difficulty in doing this, as the country between the two roads is quite open to view, except in the immediate vicinity of the Vallières brook; and there are many good cross-roads suitable for cyclists. But besides the highway on which the detachment will march we must also consider what roads may be of importance in facilitating reconnaissance; that is, those south of and parallel to the first named. These are:

1. The Marsilly-Aubigny-Colombey road. Patrols going by this route would have to strike across country part of the way. But even if we were willing to have them do so, the road is too near the route of march of the detachment to be of much use for reconnaissance or security.

^{*}"Franz. Denkmal." on Metz map.

2. The Marsilly-Ars Laquenexy-Grigy road. Near Ars Laquenexy this road meets another important highway which, about $1\frac{1}{4}$ miles south of the route of the detachment, also leads to Metz. But between Colombey and Borny on the one hand, and Ars Laquenexy and Grigy on the other, there are so many patches of woods between the two highways that it would be difficult to keep up visual communication.
3. The Marsilly - Ars Laquenexy - Mercy bei Metz road, thence via Grigy or Haute Bévoye to Queuleu. Using this road, near Mercy bei Metz, we obtain a view of the country east of Hospital Woods. From this point, too, if fortunate, we can prevent hostile cavalry detachments—passing between the large wood of Champel and the wood west of Ars Laquenexy—from observing the advance of our detachment. From Haute Bévoye also a view can be obtained of the country west of Hospital Woods and of the important highway Verny-Pouilly-Metz. *It follows from the above that this highway through Mercy bei Metz promises most for reconnaissance.*

The enemy crossed the Mosel about noon, July 5th, with columns of all arms. In what strength we do not know, but the fact that he occupied Féy, Cuvry, Pouilly, and Fleury the same afternoon indicates that he probably sent more troops across the Mosel the same afternoon or the night following. It is therefore quite probable that the enemy is in superior numbers, even if we at first would have only his advanced parties to deal with. But if the enemy already had strong detachments of cavalry on the right bank of the Mosel, they would have been noticed in very different form than as scattered

patrols. We therefore may assume that, for some reason or other, the whole of the enemy's cavalry is still on the left bank of the Mosel. It is very strange, as shown by the division order, that so far the enemy has not occupied Metz. This would indicate that the enemy already has learned of the approach of the 3d Division and intends to attack it with his whole force while still east of the city. To the east, Hospital Woods lie directly in his way. He would not like to pass south of these woods, as this would be a roundabout way. He therefore will either advance north of the woods, via Peltre or Mercy bei Metz, or through the woods via Chesny. His patrols will probably reconnoiter the highways leading from the east towards Metz, and thus will soon encounter our patrols. Should the hostile patrols reach the vicinity of Ars Laquenexy or Grange aux Bois, it would no longer be possible to conceal the advance of our detachment from them, even if not previously made known to them by inhabitants or in some other way. From this it is evident that *the detachment must count on a serious engagement with the enemy.*

The enemy therefore may be expected to advance on Grange aux Bois or on Ars Laquenexy, either

- 1, via Peltre and Mercy bei Metz; or
- 2, via Chesny.

On reaching Ars Laquenexy it is more advantageous for him to advance west of the Vallières brook and attempt to prevent the division's crossing it, than to cross the brook and advance along the east of the same. In this latter event he probably would be too late. It is therefore quite likely that we shall have to fight the enemy between Colombey and Borny. But mark that it is a case of *perhaps*, or *probably*, but whether *really* is an open question.

By what time, approximately, can the enemy reach the line Colombey-Borny? The distance in an air-line from the nearest villages occupied by him—Fleury and Pouilly—is about

5 miles; by road considerably more. The flanking detachment, on the other hand, from Colligny to the Vallières brook has only about $2\frac{1}{2}$ miles to go, and thus ought easily to obtain the necessary lead to cross the ravine unmolested and select a position west of it. *Of course this is on the assumption that the enemy does not start at an unusually early hour.* The more difficulty the hostile cavalry has in reconnoitering, the slower will the troops in rear of it march. The cavalry of the flanking detachment must therefore be sent far in advance to the southwest, especially towards Mercy bei Metz, and from this point must endeavor to push back hostile patrols and even larger bodies of cavalry on Hospital Woods. If it does no more than this, our cavalry will have sufficiently performed its task, for you must realize that the cavalry cannot as a rule guarantee *protection in the full sense of the word* to infantry marching in rear of or beside it. *For this purpose cavalry lacks the necessary defensive power.* In this case it will have done its duty if it prevents hostile patrols from approaching the column and if it gives the infantry timely warning as to where and whence the enemy is approaching. Both these things the cavalry will best accomplish by riding close to the enemy and keeping his cavalry so occupied that the latter cannot at all think of taking the initiative. But even here I must emphasize: give the cavalry a *wide field of work*; get out of it all you can, *but let it have the necessary freedom of action.*

But I would not recommend in this instance the throwing out of an additional flank guard of infantry with the idea of thereby gaining additional security—this flank guard to march possibly via Marsilly and Ars Laquenexy towards Grigy. Such a flank guard would become too far separated from the detachment by the ravine of the Vallières brook and the woods west of Ars Laquenexy, and run the risk of being destroyed while thus isolated.

Let us assume, for the sake of argument, that you have

detached say a battalion with some cavalry as a flank guard, marching via Marsilly and Ars Laquenexy towards Grange aux Bois. The enemy approaches via Mercy bei Metz, and the battalion attempts to delay him somewhere near Grange aux Bois, while the rest of the detachment has taken up a position for defense at the French Monument (Franz. Denkm.). No doubt the battalion will delay the enemy for some time. Smokeless powder will make it difficult for his cavalry to learn with what force it has to deal. This prolonged uncertainty imposes caution and will delay the enemy for some time. But now for the other side of the picture. After a while the enemy will discover the weakness of the flank guard, and then, during the inevitable retreat, the battalion will be exposed to the annihilating fire of modern fire-arms. In what state will the battalion rejoin the main body? Does the advantage gained by the detachment justify the sacrifice? *Would it not have been just as well to be satisfied with information of the enemy's approach transmitted by our cavalry?* As soon as it came to an engagement, in which the detachment took up a defensive position, the rôle of any flank guard (if there had been one) would become identical with that of "*advanced posts*" of a defensive position. The improvements in modern fire-arms only intensify the objections that existed to advanced posts in the past.

Note therefore for future reference that, when the enemy is reported as being on the flank of your line of march and you are in doubt whether or not you should throw out a special flank guard of infantry, you must consider:

1. Whether, after all, an infantry flank guard is necessary *to gain time*.
2. Whether there is a suitable road for such a flank guard.

3. If this is the case, how far apart are the two roads under consideration? It is very exceptional for a detachment to send out such an infantry flank guard more than $1\frac{1}{4}$ miles.
4. Whether the two roads are not separated by ravines, woods, etc., forming obstacles and exposing the flank guard to the danger of being destroyed before support could reach it from the main body of the detachment.

After applying this test, you will usually prefer to dispense with an infantry flank guard; unless, in a special case and not likely to occur often, you should consider it important to divert the enemy's attention from the main column by sending out such a flank guard. *Where you can get along with cavalry, infantry should not be employed*, as the latter, on account of its slow movement, would have difficulty to rejoin the column from which detached.

In the present problem protection can and must be provided by the cavalry. To fetter the latter to the advance guard would be a positive blunder, as, *with adequate strength*, it must operate beyond the sphere of the advance guard with an *independent* mission; and push far out in search of the still distant enemy.

The above considerations lead us to the following *decision*: The detachment to march in one column to the French Monument (Franz. Denkm.) as a preliminary measure; to push forward the cavalry via Ars Laquenexy towards Mercy bei Metz.

The next point to consider is the distribution of troops. Considering the whole situation, it is highly improbable that the advance guard will soon become engaged; but we cannot be certain, since in war, even with the best information, everything is uncertain. *We must therefore be prepared for everything*, and arrange the composition of the advance guard ac-

cordingly. It is best to assign the sharpshooters to the advance guard. They are used the same as infantry battalions, for it is not always possible to derive any advantage from their superior marksmanship and mobility, as they can but seldom be spared for that purpose. They will often be at a different place from the one where their services are most needed. If we have to *attack*, the undoubtedly superior marksmanship of the sharpshooters will prepare and support the attack of the other troops and make itself felt in the long-drawn-out fire action. If we have to remain on the *defensive*, an opportunity often occurs for placing the sharpshooters where they can find a field of action suitable to their special qualities. I would not place less than the two battalions in the advance guard, for we want a considerable force of infantry west of the Vallières ravine as soon as possible. If, however, this consideration were not so important in this case, you could make the advance guard weaker in infantry; because, as a rule, the rôle of an advance guard is not as important in a flank march as in an advance—*consequently it need not be as strong*. The advance guard must in addition have the necessary cavalry; *i. e.*, a number of patrols will suffice, as it will be necessary only to reconnoiter the Colombey road and the country close to either side of it, and to keep up communication with the main body of the division and with the cavalry sent on in advance. For the two last-named purposes cyclists might be used to advantage. I would attach a platoon of cavalry to the advance guard—possibly two, but no more, for we must be careful to economize in cavalry *wherever possible*, so as to have a superiority of that arm where most needed.

The next point for consideration is whether one of the two batteries should be assigned to the advance guard. It is well to note that as a general rule field artillery is kept together in larger bodies, unless there are very particular reasons for doing otherwise. For when opposed to a superior enemy, single

batteries are frequently exposed to great and often annihilating losses. And, besides, artillery needs the protection of other arms. We have, in the present case, but two battalions in the advance guard, and as a rule would most reluctantly attach artillery to so small a force of infantry; because small detachments, which, like an advance guard, are obliged to act independently for some time, are often compelled to occupy a front out of all proportion to their strength, and therefore are unable to afford sufficient protection to artillery. Here there is less necessity for attaching artillery to the advance guard, because the main body of the flanking detachment follows closely enough to be able quickly to send one or both batteries to the front at a trot. A force having two batteries, and not more than two battalions in the advance guard, *as a rule*, would have both batteries in the main body of the detachment—the more so as the artillery is thereby kept united. It is advisable to give the advance guard a battery only in the very exceptional case of the former having to *gain a firm footing* somewhere with *as little delay as possible*. Say, for example, the object is to secure a position on a height, or the passage of a ravine, with as little delay as possible; keeping the enemy at a distance, meanwhile, by long-range artillery fire, or compelling him to deploy prematurely. Here the intervention of artillery a few minutes earlier is in some cases such an advantage that we are willing to have the artillery well forward and accept the risk it runs by being for some time isolated and insufficiently protected. But special reasons must always be given where artillery is thus assigned.

It is on principle never permissible to divide a battery, as, for instance, to send two guns with the advance guard. A battery must always operate as a unit. An exception might occur in mountain warfare, when not more than two guns could be brought into position in narrow valleys, and it were desired to force hostile bodies to deploy at long range. Should

you wish to separate the batteries and one of them is a horse battery, as I have purposely assumed in this case, then the latter would better remain with the main body, for the advance-guard battery needs less mobility, as it usually would unlimber near the road. The greater mobility of the horse battery finds its application therein that it is able quickly to bring the desired support from the main body to the front. Should you have thought of sending the horse battery with the cavalry, I must say that I could not agree with you. Not more than 2 troops will be available, and this force is so weak a support for a battery that the assignment must not be ventured.

The platoon of engineers goes with the advance guard, as its services may be needed in crossing the Vallières ravine. Should it later have to strengthen a position occupied for defense, this forward position will enable it to begin work earlier.

It would be well even in this case to assign a platoon of cavalry to the main body, and not be content with a few mounted orderlies, for the left flank of the main body of the detachment must be adequately protected by patrols, as the protection afforded by the cavalry far in advance, or by the few patrols of the advance guard, is not sufficient. The platoon for the advance guard, the one for the main body, and the detail for the baggage train should all be taken from the same troop, so the others may remain intact.

The artillery of the detachment will follow the leading battalion of the main body. A special escort for the baggage train, somewhat in the nature of a small rear guard, is not necessary. One is, as a rule, most unwilling to employ complete organizations for this purpose, and prefers to leave the protection of the train against, say, the enterprises of small bodies of the enemy's cavalry to the temporarily disabled infantrymen with the train, who will usually suffice for this purpose.

The distribution of troops therefore will be as follows:

- (a) Independent Cavalry: Major B.
Trs. A and B, 7th Cav.
- (b) Advance Guard: Lieutenant-Colonel C.
1st and 3d Bns. Shrpshtrs.,
1 plat. Tr. C, 7th Cav.,
1 plat. Co. A, Engrs.
- (c) Main Body (in order of march):
1 plat. Tr. C, 7th Cav.,
1 Bn. 29th Inf.,
Btry. A, 5th F. A.,
Btry. A, 6th (Hs.) A.,
29th Inf. (less 1 Bn.),
30th Inf.

On the subject of orders I have already indicated in the previous letter that frequently, instead of one set of orders, two may be issued. Always remember that it is most desirable for the troops to know, if possible the night before, what time they must be ready to march the next morning. Company commanders, etc., then can make their arrangements better on matters of interior economy, such as the issue of rations, etc., than if the order reaches them almost like an alarm order just before the assembly for the march. Moreover, every one of the men would like to know when to begin cooking, for this takes time, and nothing is more unpleasant than to be obliged to stop cooking because of an order to fall-in at once; especially when it is probable that great exertions will be required and no one knows when there will be another opportunity for cooking.

But if two orders are issued, the first (issued the night before) provides only for the *assembling* of the troops *for the march*; the second, the *real order for the movement*, would be given verbally just before the march is to begin. *This method of issuing orders is the one most used in the field*, especially when

near the enemy, because of the advantage of thus retaining control of the troops until just before starting and of being able to choose between several routes of march.

This method is peculiarly applicable if further information or orders are expected from higher authority during the night which might compel one to cancel any previously issued orders. The following morning the commanding officers are assembled about 10 or 15 minutes before the actual time for the march, to receive the orders for the same. As a rule, in the field, orders are not issued until late at night, both for divisions and detachments, because one must usually await the reports on the events of the day and the orders of superior commanders. Adjutants and others detailed to receive orders often must wait for hours before they are completed. Every one is tired out with the exertions of the day and will be glad when at last he can depart; but even then all must proceed to their respective commanding officers, who generally will have to be awakened. In short, if you vividly picture to yourself the whole situation, you will realize how desirable it is that orders that must be issued in the middle of the night should be as *simple as possible*. Otherwise, how easy might fatal mistakes arise! Giving orders verbally has the advantage of making it possible to explain and make clear any doubtful points.

During the night the detachment was in close cantonment in Colligny; *i. e.*, the troops were crowded into the houses. Those that could not be accommodated in the houses and barns rested in the immediate vicinity. The different organizations are not as well in hand as in bivouac, but are reasonably so. An assembly of the troops outside the village prior to marching off is therefore not necessary—would only prove a burden to them. The most convenient thing for the troops will be to announce in orders *when they should be ready to march*—then each organization can patiently wait until its turn comes to join its proper place in the column.

It is the duty of the individual subordinate commanders to see that this happens.

In figuring the hour of departure you must remember that according to division orders the detachment—though not its baggage train—must be across the Vallières brook by 7 a. m. The distance by road from Colligny to the Vallières brook is about $2\frac{1}{2}$ miles = about 50 minutes' marching—as for similar reasons you can assume the same rate of march without halting as in the preceding problem. This much time (50 minutes) will be required by the infantry advance party to cover the distance. But to this must be added the total length of the column. My calculation—somewhat more summary than in the previous letter—is as follows:

	Yards.
Sharpshooters and combat train . . .	448
29th and 30th Infantry and combat train	1400
1 platoon of cavalry (with main body)*	25
2 batteries (1 horse battery)	750
1 platoon of engineers (tool-wagon and explosives)	60
	2683
20 per cent elongation	537
Distance between:	
Engineers and infantry	20
Cavalry and infantry	30
Infantry and artillery	30
Artillery and infantry	30
Advance party and intermediate company.	400
Intermediate company and support . .	400
Support and reserve	1000
Reserve and main body	800
	5930

*The platoon with the advance guard is not counted, as it supposedly is divided into patrols.

This would require about 1 hour and 7 minutes marching. Thus the detachment would have to start 1 hour and 57 minutes before 7—*i. e.*, at 5.03 a. m., say 5 a. m. The commanders would be assembled at 4.40 a. m. to receive orders, and have the detachment ready to march at 5 a. m. Note that the cavalry, with the exception of the platoon with the main body, is not figured in the length of the column, as it has trotted on ahead. I wish to casually remind you that if your detachment is ready to march at 5 a. m., the last man will not start until 1 hour and 7 minutes later. The issuing of orders to the different commanders would best take place at the exit from Colligny to Colombey. As soon as this is completed and the commanders have returned to their troops, these can begin the march. The hour for departure above calculated happens to be about the same as the earliest you would have considered permissible, considering the time of year and sunrise. But should it have been necessary for the troops to start earlier, *tactical requirements would take precedence*. A very much later hour of departure is purposely chosen for the baggage train than for the troops. In this way the latter will have left the village some time before the wagons and will have had the streets to themselves for assembly. On the other hand, the wagons must be ready early enough to start in good time. It is, moreover, very desirable to assemble the train on the road in column of route, to which end the orders should state where the head or the tail of the train shall be, because this is the easiest way of placing the train *en route* and makes it unnecessary for the heavy wagons to turn much or leave the road.

I take this opportunity of impressing on you that as a rule the baggage train of a division is massed and marches in *one body*. It is on this account that the division commander in his order expressly stated where the baggage trains of the division would be assembled. It is for the detachment com-

mander to see that his baggage train joins the remainder at the proper time. The detachment commander will be glad thus to be rid of the care of the train.

If the problem had required that the baggage train also should be across the Vallières brook by 7 a. m., accompanying the detachment, you would have had to add 700 yards in round numbers for its length.

The first order (for assembling the troops) would be:

Headquarters, Detachment, 3d Division, 2d Army Corps,
Field Orders Colligny, 5 July 00, 11-15 p. m.
No. —.

1. The detachment will be ready to march at 5 a. m. to-morrow.
The baggage train, escorted by an officer and six men of Troop C, 7th Cavalry, will be in column of route at 7 a. m. on the COLLIGNY-VIVIER road, with the tail of column at COLLIGNY.
2. All mounted officers* will assemble at 4-40 a. m. at the exit of COLLIGNY towards COLOMBEY, to receive orders.

A.
Brig.-General.

Dictated to officers receiving orders for separate organizations. Copy to division commander.

*In the German Army all captains of infantry are mounted.—*Translator.*

The actual order of march would be as follows:

Headquarters, Detachment, 3d Division, 2d Army Corps,
Field Orders Northern Exit of Colligny,
No. ——— 6 July 00, 4-50 a. m.

Troops.

- (a) Independent Cavalry: 1. The enemy yesterday afternoon occupied
Maj. B. FREY, CUVRY, POUILLY, and FLEURY.
Trs. A & B, 7th Cav. His cavalry patrols were seen near Hos-
(b) Advance Guard: PITAL WOODS. METZ was not occupied
Lt.-Col. C. by the enemy.
1st & 3d Bns. Shrpshtrs., Our division will march to-day via PLAN-
1 plat. Tr. C, 7th Cav., CHETTE on METZ.
1 plat. Co. A, Engrs. 2. This detachment will march to-day as a
(c) Main Body (in order of left-flank guard for the division, pro-
march): visionally to the French Monument,
1 plat. Tr. C, 7th Cav., west of COLOMBEY.
1 Bn. 24th Inf., 3 (a) The independent cavalry will at once
Btry. A, 5th F. A., advance at a trot via ARS LAQUE-
Btry. A, 6th (Hs.) A., NEXY towards MERCY BEI METZ,
29th Inf. (less 1 Bn.), reconnoitering in the direction of
30th Inf. CHESNY, ORNY, and POUILLY, and
will try to prevent an advance of
hostile cavalry east of HOSPITAL
WOODS.
(b) The advance guard will start at once
by the highway through COLOMBEY
for the French Monument, keeping
up communication with the divi-
sion, GRIGY and BORNLY.
(c) The main body will follow at a distance
of about 800 yards.
4. The baggage train of the detachment will
join that with the division via VIVIER.
5. Reports will reach me at the reserve of the
advance guard.

A.

Brig.-General,

Verbally to the assembled commanders. Copy to division commander.

Note the following concerning the above orders:

PAR. 2. I do not consider the expression "as a left-flank

guard for the division" redundant, for these few words facilitate a rapid grasp of the situation, and *form the central idea for every one's action.*

Provisionally the objective of the march is the French Monument west of Colombey, in accordance with the reasons above named.

At the beginning of the march it cannot be foreseen what must be done after arriving at the monument; whether a "position in readiness" or a "defensive position" must be occupied, and, if so, where; therefore nothing is said about it in the order. This would be the subject of a new order which cannot be issued until after receipt of messages that may be expected. For the present, all that we can do is to start the detachment on its march. Neither can we tell, for the present, how long the detachment will stop in its position, although we know the hour when the division will leave Vivier, and so can estimate when it can be in a place of safety. Such a calculation is *never absolutely trustworthy*, because unexpected obstacles may intervene.

PAR. 3. (a) The cavalry is first sent as far as *Mercy bei Metz*; from this point it has its special task to perform. How this is to be accomplished is the business of its commander. It would be a mistake to impose any restrictions on his action. It is probable that the commander will not be able to form an opinion of the situation until he reaches the heights of *Mercy bei Metz*—where an extensive view can be had—and until he has received some reports from his patrols, as is likely to happen in the meantime. Where the cavalry is to operate later, if the detachment takes up a position, would form the subject of a later order.

(b) The advance guard is not ordered to do any reconnoitering, for its commander of his own accord can order the usual reconnoitering on both sides of the line of march and towards Borny. On the other hand, it is advisable—though,

strictly speaking, perhaps superfluous—to especially mention in the orders the necessity of keeping touch with the different bodies, so as to be sure that this duty is properly performed.

PAR. 4. It is often advisable, when two orders are issued, to provide for the care of the baggage train in the first order. The officer to command the escort can thus be designated before the order to march is issued, he knows the duty required of him, and will more readily understand all that concerns him when the second order is issued. In this case, of course, no further reference is made to the conduct of the baggage train in the order for the march.

You should now be able to work out the reasons in the same sequence as I gave you in the last letter. You would particularly have to explain why there is no flank guard for the detachment, why the cavalry is under the immediate orders of the detachment commander and not attached to the advance guard, and why you intend for the present to march only as far as the French Monument.

The next problem is intended to afford you an opportunity of again calculating road-spaces and time of departure. With this I combine a problem of quartering troops in several localities.

THIRD PROBLEM.

(See General map* and maps Metz and Verny.)

A detachment under Brigadier-General A——, in the enemy's country, August 1, 1900, is on the march southward on the highway Vigy (General map) —Ste. Barbe (Metz map). During the afternoon hostile cavalry patrols fell back via Nouilly, Lauvallière, and Planchette in the direction of Metz; and a large hostile bivouac has been reported as being located west of Borny. At 5 p. m., when the infantry advance party

*A reading- (magnifying-) glass will be found a valuable aid in studying the General map.—*Translator.*

of the advance guard has reached Petit Marais (north of Retonféy), General A—— decides to quarter his troops in the villages of Gras, Cheuby, Erpigny, and Ste. Barbe, and to place outposts (1st Battalion of 40th Infantry and 2 platoons of Troop A, 7th Cavalry) on the line Poixe–Retonféy. At the same time an aide of the 2d Division delivers the following order to General A——: “The 2d Division will march to-morrow from Rémilly (General map), via Sorbey, towards Metz. Your detachment will be formed up east of Laquenexy at 8 a. m. to-morrow, so as to join the 2d Division.”

General A——’s force consists of the following:

40th and 41st Infantry,
Troops A and B, 7th Cavalry,
Batteries A and B, 1st Field Artillery,
1 platoon of Company A, Engineers,
Detachment, Ambulance Section, 1st Field Hospital.

Required:

1. Order of march of the detachment August 1, 1900, in the form of a sketch.
2. Arrangements for quartering the detachment for the night (omitting outposts).
3. Arrangements made by General A—— for August 2, 1900.
4. Reasons for the latter arrangements.

FOURTH LETTER.

QUARTERING OF TROOPS AND FLANK MARCH.

TO PREPARE the sketch of the column of march of the detachment you first had to consider the distribution of troops or order of march on the 1st of August. The distribution of troops might have been as follows:

(a) *Advance Guard:*

1st Bn. 40th Inf.,

Tr. A (less 1 plat.) and Tr. B, 7th Cav.

(b) *Main Body* (in order of march):

1 plat. Tr. A, 7th Cav.,

40th Inf. (less 1st Bn.),

Btries. A and B, 1st F. A.,

41st Inf.,

1 plat. Co. A, Engrs.,

Det. Amb. Sec. 1st F. Hosp.

Whether you had a different battalion in the advance guard or had less cavalry with the main body, or had the engineers in the advance guard, is immaterial as far as concerns the question of quartering the troops for the night. Such a disposition of the troops could be justified, but in this event the figures I am about to give you would have to be somewhat modified and you would have to substitute the corresponding battalions for mine.

For the purpose of figuring on the distribution of the troops among the various villages, it is important to know where the several parts of the column are at 5 p. m., when the detachment commander decides to halt for the night; because we should try to so quarter the troops that *no one need retrace his steps*. This is why I asked you to prepare a sketch of the

column of march. I take for granted that the detachment commander will halt his troops *promptly* at 5 p. m. and assemble the officers designated to receive orders. Part of the cavalry is pushed out to the south-west. Its location is of no importance as far as the question of quarters for the night is concerned. As the infantry advance party is at Petit Marais, the head of the reserve would be near the cross-roads at Ste. Barbe, the head of the main body would be just south of Champ de la Lune on the cross-road leading north from Ste. Barbe, the tail of the infantry of the main body would be at the intersection of the Vry-Sanry road with the highway, and the tail of the entire detachment (without baggage train) would be about 250 yards farther north.

It is immaterial whether or not your calculations exactly agree with mine. Hand in hand with the first principle in quartering troops—viz., that if possible no organization should be obliged to march back—goes the second, which is that *the troops should be distributed among villages with reference to their next day's order of march in the column*; provided that, as in this case, it can be foreseen. **THUS THE QUARTERING OF TROOPS IN A WAY IS THE BEGINNING OF THE NEXT DAY'S MARCH.** Therefore, *before quartering the troops the detachment commander must consider how the detachment will advance on Laquenexy the next day* (2d of August).

The principal route of march naturally is the great highway as far as the cross-roads north of Colligny; thence either past Ogy direct to Laquenexy or via Colligny and Villers-Laquenexy to Laquenexy. Other roads, that likewise come into consideration, are:

1. The road via Ste. Barbe, Gras, Retonféy, Flanville, Ogy.
2. From Servigny bei Ste. Barbe, via Noisseville, Montoy, Coincy, and then either through Ars Laquenexy or through Marsilly.

3. From Ste. Barbe, via Cheuby, Glattigny, Vaudreville, Maizery (General map), and Colligny.

All three of these, tactically speaking, may be considered as roads parallel to the line of march. The first is, at the farthest points, about 1600 yards from the highway; for the most part nearer. On account of the numerous bends, it is about two miles longer. The second is, at the farthest points, about two miles from the highway, but is inconvenient, as it crosses the ravines of Noisseville, Montoy, and Coincy. The third not only is much longer than the highway, but is also much worse, so that we would hesitate to march troops or wagons over it without a previous reconnaissance.

Finally, of great importance are the highways leading to Metz—therefore towards the enemy—via Lauvallière, Planchette, Colombey, and Ars Laquenexy. If you study the country along these roads, the following points will strike you as good lookouts:

1. The brewery (Brauerei) of L'Amitié, with a view towards Belle Croix.
2. Le Haut Montoy, with a view to the "Todten-Allee" (about 2000 yards west).
3. The highway south of Coincy, or the heights near Aubigny, with a view as far as the heights west of Colombey and to the woods southwest of the latter.

It is much more difficult to find a point whence a good view can be had on the highway through Ars Laquenexy to Grigy. On the first three mentioned roads therefore (to Metz via Lauvallière, Planchette, and Colombey) a comparatively small force of cavalry will suffice for reconnaissance; but the last-named road will require careful watching.

The country west of the main line of march as far as the Vallières brook is, as a whole, open to view, for even the valleys of Noisseville, Montoy, and Coincy can be easily ob-

served by a few patrols. Less open to view is the Vallières ravine itself, and the view is very restricted by the woods south-west of Colombey. But, after all, the line of heights east of the Vallières brook affords such a fine view that the detachment will be safe from surprise as long as it has cavalry there. In case the enemy attacks from the west, the villages of Retonféy, Flanville, St. Angan, Ogy, and Marsilly are so favorably located along the line of march that by defending them we can check the enemy's advance for a sufficient time.

The detachment's mission is accurately defined by the fact that it has to be at Laquenexy by a *certain* time; so the point is to decide how we shall utilize the roads at our disposal. All the hostile patrols fell back towards Metz; from this direction, therefore, we may expect the enemy. Moreover, reports state that there is a large bivouac of hostile troops near Borny. The detachment therefore will have to make a *flank march* on the 2d of August. To provide protection on the threatened flank will devolve on the cavalry, which must go in advance towards Metz on the most important roads—viz., those through Lauvallière, Planchette, Colombey, and Ars Laquenexy. Especially must it reach the roads as soon as possible, passing through the last two places named, so as to find out definitely where the enemy is who was reported near Borny. A division of the cavalry is thus unavoidable, as is so often the case with independent detachments, no matter how desirable it may be to keep the cavalry together. Small patrols alone will not suffice; depending on the activity of the enemy, they must be backed up by bodies in close order—by platoons or troops. In the vicinity of Ars Laquenexy, moreover, we may come in touch with the reconnoitering cavalry of the 2d Division.

In doing as above indicated the cavalry will become separated from the detachment by the Vallières ravine. This is unavoidable in the present instance, as it is absolutely nec-

essary to find out what is happening on the other side of the stream; besides, there is not much risk incurred, as there are many crossings to the ravine, and the *separation* is to some extent *compensated for by the rapidity of movement of the cavalry*.

As a rule, however, you should guard against having impassable obstacles between cavalry and the troops it is covering; otherwise unity of action and the transmission of information ceases. It must always be possible for the whole force to unite in time with a view to combat. You will do well to bear this in mind for future occasions.

As we have the enemy on our flank, you might well ask whether a special flank guard of infantry should be detached. In this case it is desirable, as, should the enemy attack, we must not only have early information of his approach, but must hold him back *as long as possible*, until the main body either is ready for action or has gained a sufficient start. It would thus be a question of *gaining time*, which the cavalry, on account of its small defensive power, cannot accomplish unaided. For this purpose infantry is needed, supported, if necessary, by artillery.

Since the main body of the detachment is to march on the highway through Colligny, the road for the flank guard will be that through Gras, Retonféy, Flanville, etc. The flank guard will thus be near enough to the highway to be easily supported. There are no obstacles between the two roads, and the view from one to the other is good. The road Noisseville-Montoy, etc., is *too far from the main route of march* for an infantry flank guard, and, also, is *too near the enemy*; considering that we have no occasion to seek an engagement or to provoke the enemy to an attack, but shall be content if we can effect a junction with the 2d Division without fighting. On this account, too, it would be objectionable to have the main body march through Retonféy and Ogy, and the flank guard possibly through Noisseville and Montoy, with the mistaken idea that

the flank guard would thus be favorably placed to prevent the enemy's crossing the Vallières brook. Neither would I recommend that the cavalry march parallel with the main body on the last-named road, because the former should go straight to the place where the enemy is reported to be.

The problem does not say whether the enemy has occupied Metz; but you may assume so, because his patrols have fallen back on that town. The troops near Borny may thus be considered as pushed out from Metz. The enemy thus will either retire, hold his ground, or advance. Should he retire, there will be nothing to interfere with our intended junction with the 2d Division. Should he remain where he is, we shall probably attack him in close support with the 2d Division. Should he advance, the detachment must be maneuvered to escape the danger of being defeated while isolated. *But in any event we must promptly try to effect a junction with the 2d Division.*

The enemy might advance:

1. *By way of Lauvallière.* As we have seen above, reports probably will come in soon enough for us to take counter-measures in good time. An effort will be made to continue the march, leaving the flank guard to follow as a rear guard.
2. *By way of Planchette towards Flanville or St. Agnan.* Of this, too, owing to the favorable nature of the terrain, we may hope to have timely notice, so that the flank guard, possibly reinforced, may make a stand until the detachment has obtained the necessary start towards Colligny. This engagement also will be in the nature of a rear-guard action; but in this case the flank guard probably will have to hold its ground much longer than in the first case.

3. *By way of Colombey.* It is more likely that the enemy will advance on this line than on any other, because he already has troops at Borny; *that is to say, on this road.* His advance probably will not be noticed until he descends the heights west of Colombey. But his advance on this road is to be expected only in case he has another detachment at the same time advance via Grigy and Ars Laquenexy against the 2d Division; otherwise the enemy would easily come between two fires. In this case a proper course for the detachment, after effecting a junction with the 2d Division, would be to assume a vigorous offensive to drive the enemy in confusion into the Vallières ravine. But in both cases the flank guard of the detachment must check the enemy long enough to enable the detachment to deploy for action.
4. *By way of Ars Laquenexy alone.* In this event the enemy will collide with the 2d Division, which we must support.

The foregoing considerations show how important may be the rôle of a right-flank guard, and hence the *decision* to march the bulk of the detachment by the highway to Colligny, thence via Villers-Laquenexy to Laquenexy, while a flank guard marches via Gras, Retonféy, and Ogy to Laquenexy.

But you must not, on account of the importance of the flank guard, be led astray into making it too strong; still less is it advisable to divide the detachment into two (equal) columns. With larger forces the latter arrangement certainly has the advantage of enabling one column to support the other more effectively and promptly from the flank than from the rear—provided that the lateral distance between the two roads is less than half the depth of the column with the entire

force on one road; and that the two roads do not cross each other, and are not separated by an impassable obstacle. However, with small detachments a division into two columns too easily leads to a *frittering away of the strength*. *The more compact a force is, the stronger it is*; for bodies of troops once detached are out of hand for the time being, and one is never sure whether they are not being committed to the engagement in a manner not intended by the commander of the whole force; whereas troops retained in one column on the march can be utilized according to a fixed purpose. Before dividing your force, always ask yourself the question, "*What is the least force that can do the work?*" and detach only what is *absolutely necessary*. A flank guard of a battalion must suffice in this case, particularly because the detachment, being small, will not require long to form for action.

In flank marches such as this one the advance guard, *as a rule*, is of minor importance; especially in the present instance it is difficult to suppose that we shall meet the enemy right in our front, as he would then be pushing in between the 2d Division and the detachment. This is most improbable, because the enemy, in the vicinity of Metz and in friendly country, is sure to receive information from the inhabitants, officials, etc., and thus will hardly remain ignorant of the advance of a hostile division via Sorbey.

Two companies are sufficient for the advance guard. These with the battalion in the flank guard will be all that will be necessary for the service of security and information. There might be an equal division of troops for the two purposes; but I prefer the first distribution, because the flank guard may become involved in an obstinate fight. Moreover, as it is possible that the flank guard may have to be supported by a battery from the main body, it may be as well to allot it the extra strength for the greater security of the guns. At first no artillery must be attached to either the flank guard

or the advance guard, as both are too weak. If an artillery support is needed, the guns can always be obtained in time from the main body, the latter providing for their safety while so moving. Therefore the two batteries will remain united in the main body. Neither is there any need for engineers with either the flank or the advance-guard, as no particular obstructions are likely to be encountered, and there would hardly be time to prepare any locality for defense.

In small detachments it is not desirable to require the fatiguing duty of advance or flank guard from the troops on outpost, who have had no rest all night. But the outpost is kept in position until the new van guard, or, as in this case, the infantry advance party, has passed through its line, when it closes on the road and takes its place in the column. Thus the outpost protects the assembly for the march of the other troops, and is not withdrawn *until the reconnoitering cavalry has gained the necessary distance to the front*. In this way you effect the desired relief easily and naturally. Larger bodies of troops (divisions) prefer to retain the same troops for some time on advance-guard duty, thus avoiding the disadvantages attendant on an inevitable breaking up of the battle organization, and make a change only when necessary through a weakening of the detailed troops through casualties. This method is practicable, too, because these advance guards are so large that they can detail their component parts in turn for the heavier duties. On the other hand, *small* detachments cannot do this, and have to detail a new advance guard each day, as indicated above.

The relief of troops detailed for purposes of security and information would better take place just before beginning a new march (therefore in the morning) than at the end of the previous day's march; because, (1) if relieved at night the insight into the situation, as regards the enemy, that has been gained by the advanced troops during the day's march would

probably be temporarily lost, and (2) the beginning of a march often is viewed from a different standpoint from that under which the orders of the previous day were framed. The new situation thus also has new subordinates to grasp it. If we are in touch with the enemy's patrols, this itself would make it inadvisable to withdraw the outpost *too soon, as thereby the enemy will the earlier have notice of your prospective march.*

As in this case the first battalion of the 40th Infantry furnished the outpost (for night of August 1-2), the advance and flank guards for August 2d would be taken from the remainder of the same regiment.

Cavalry and flank guard here will have the same duty, and the closer the connection they keep with each other the better will that duty be performed; the infantry of the flank guard in a way forming a support for the cavalry. It will thus be well for you to treat of them together in orders; and it is desirable, if the relative rank permits it, to assign the command of the flank guard to the officer commanding the cavalry. But if you wish to place the cavalry under the direct control of the detachment commander, it might be justified by the need of sending the bulk of the cavalry in advance towards Metz. In this event, however, you must give the flank guard some cavalry—at least a platoon—whereby the cavalry would become somewhat scattered and weakened. I therefore prefer the first arrangement, especially as it will tend to counteract any tendency to abuse of liberty by the cavalry, while not restricting its necessary freedom of action. The advance guard can get along with very little cavalry, as it has to examine only the country in the immediate vicinity of the highway; for which purpose a non-commissioned officer and 6 troopers will suffice. Communication with the 2d Division will be obtained through cyclists. The remainder of the platoon I would attach to the main body of the detachment.

Consequently the distribution of troops might be as follows:

- (a) *Advance Guard*: Major B——.
 2d Bn. 40th Inf. (less 2 Cos.),
 1 n. c. o. and 6 troopers Tr. A, 7th Cav.
- (b) *Main Body* (in order of march):
 1 plat. Tr. A, 7th Cav.,
 1 Bn. 41st Inf.,
 Btries. A and B, 1st F. A.,
 41st Inf. (less 1 Bn.),
 40th Inf. (less 6 Cos.),
 1 plat. Co. A; Engrs.,
 Det. Amb. Sec., 1st F. Hosp.
- (c) *Right-Flank Guard*: Major C——.
 3d Bn. 40th Inf.,
 Tr. A (less 1 plat.) and Tr. B, 7th Cav.*

It might be added that you could either detail the companies by letter for the advance guard, or, as it is not usual to choose any particular companies, leaving this to the battalion commander, you would say (as above), "2 Cos. 2d Bn." The latter course is preferable, partly on account of the personal equation of company commanders, which in such a case always plays an important part, especially when the superior commander is not personally acquainted with the officers in question; and partly because there may frequently be circumstances making it desirable to employ on this duty some other companies than those designated by the superior commander.

Troop A, which was on outpost duty, is named to furnish the platoon for the main body and advance guard, since it may be assumed that the two platoons of this troop on outpost will

*In the above will be noted a departure from the general rule of not naming specific battalions, etc. This is due to the fact that, as on August 1st the 1st Battalion of the 40th Infantry was the advance guard, the freedom of action of the colonel in selecting battalions was temporarily curtailed. The same may be said about the cavalry.—*Translator.*

have continued their reconnaissance towards Metz the next morning before the march is resumed, and that some time will therefore elapse before they can be assembled. Troop B thus remains *intact* for the purpose of reconnoitering towards the flank. To promptly secure the services of the present advance-guard cavalry again for covering the march, a specific time and place must be designated when it will assemble and be placed at the disposal of the cavalry commander. Let it assemble half an hour after the march begins at the point where the Retonféy-Noisseville road intersects the Petit Marais-Lauvallière highway, this being about the center of the line on which it has been operating as outpost cavalry. Then orders can reach it in the proper way, and we avoid having patrols and orderlies from outpost companies wandering about and not knowing where they are to assemble after the detachment has begun its march; for the result of the suggested arrangement is that platoon commanders can announce early in the morning where platoons shall assemble. It would be a mistake to assemble the outpost cavalry too early, because it should reconnoiter most vigorously while the other troops are assembling.

The 1st Battalion of the 40th Infantry will follow at the end of the column of infantry.*

As you thus have obtained an idea of the advance for the next day, it is time to consider the arrangements for quartering the troops. For this purpose I shall once more review the various considerations bearing on the question of distributing the troops in the different localities. These are: first, the existing order of march—care being taken that no detachment of troops must retrace its steps to reach its quarters; second, due consideration for the next day's march—care being taken that no detachment will be required to make a detour to reach its place in column; finally, the arrangements for battle, care be-

*This partly because considerable time may be necessary for it to assemble from outpost duty.

ing taken that the organizations of each command are *quartered as near each other as possible*. And the farther a body is from the enemy the more regard can be had for the *convenience* of the troops; but in the *immediate vicinity of the enemy tactical requirements prevail*—*i. e.*, infantry occupies the villages nearest the front, therefore the most exposed part; cavalry is quartered more towards the rear or flank, where it is safer and the horses can get more rest; and artillery must *never be quartered by itself, and never too far to the front*. The nearer the enemy, the closer are troops crowded into the villages, to which end all available barns and stables should be fully utilized.

The 1st battalion of the 40th Infantry and two platoons of Troop A, 7th Cavalry, are on outpost. The remainder of Troop A and the 2d battalion of the 40th Infantry (furnishing the advance guard for the next day) will be quartered in Gras.

We prefer to leave infantry and artillery on the main road, while cavalry can be quartered farther away. Therefore Troop B will be quartered in Cheuby, where it is safe and can rest, and because sufficient stable-room is there.

The best place for the battalion of the flank guard will be on the road by which it will march next day—*viz.*, in Erpigny. The 41st Infantry and the two batteries will be quartered in Ste. Barbe, where the latter are assured safety as well as ample stable-room for their numerous horses.

The engineers and ambulance section will be either in Ste. Barbe or in the farms of Soliel d'Or and Point du Jour, where they will find ample room. The detachment commander will select his quarters (1) with reference to a rapid communication of his orders to his troops—*i. e.*, in as central a position as possible; and (2) so that messages from the front or orders from higher authority may readily reach him—*i. e.*, on the main road. For these purposes Ste. Barbe is suitable.

The baggage train accompanies the various organizations; that of the outpost will either remain in Gras, or, as the enemy

is still sufficiently distant and there is no reason to fear a sudden attack, it can be placed at the disposal of the outpost companies, at least for a few hours.

Should you have adopted a different order of march from mine, some changes in quartering the troops would be necessary. You will be able to make correct arrangements yourself. Possibly you have not taken into consideration the march for the following day, on the ground that it is not yet possible to foresee just how it will take place, as much may change in the meantime. It is self-evident that in practice we cannot always tell at the time of quartering the troops what will be the exact arrangements for the next day's march; but if, as in this case, we can tell, it would be a mistake not to take advantage of it. From the fact of the enemy's patrols falling back towards Metz you can conclude that there is not likely to be any change in the situation before the beginning of to-morrow's march, otherwise the enemy would have shown more activity in reconnaissance.

The time for beginning the march is fixed by the requirement in the problem that the detachment must be assembled east of Laquenexy by 8 a. m. to-morrow. From what was said in the preceding letter it would be wrong to assemble the whole detachment at one point, such as Ste. Barbe or Petit Marais; for we must as far as possible avoid causing any body of troops an unnecessary detour, such as the flank guard would have if an assembly took place as above indicated. We therefore leave each body of troops on its own road.* It is the duty of each of these to be ready on time for the march.

The *flank guard*, to be composed of the battalion from Erpigny with cavalry from Cheuby and Gras, can assemble at and start from Gras. A special order must be sent to the two platoons of Troop A, heretofore on outposts, at their place of

*The assembly to be made well forward on the road, but under protection of the outpost, and, if possible, out of sight of the enemy.

assembly (intersection of the Retonféy-Noisseville and Petit Marais-Lauvallière roads). For the *advance guard* we have two companies and cavalry from Gras. They can start from Petit Marais.

The *main body* will be composed of cavalry and two companies of infantry from Gras, a regiment of infantry and two batteries from Ste. Barbe, the outpost, engineers, and ambulance section. The outpost does not affect the question, for it will march by the shortest route to the highway and will join the column, probably at Retonféy.

The *baggage train* can be assembled at Petit Marais—the wagons forming column while driving forward. The part with the outpost need not go back (it is at Gras), but can draw up to the highway as most convenient and wait for the rest of the train.

In calculating the time of departure we begin, as before, with the infantry advance party, which must march about 5.6 miles, requiring 112 minutes, without halting, going from Petit Marais via Colligny to east of Laquenexy. The length of the column (not counting the flank guard) I figure as 4730 yards.* This reduced to time equals 54 minutes. Adding 112 and 54 gives 166 minutes, or 2 hours and 46 minutes. So the infantry advance party of the advance guard must leave Petit Marais 2 hours and 46 minutes before 8 a. m.—i. e., at 5:14 a. m.

The departure of the flank guard is regulated so that it will march approximately on a line with the advance guard, remembering to give the former a little start, as it has to follow a winding road. So it can leave Gras at 5 a. m. The main body will march about 2300 yards in rear of the infantry advance party. But the distance the main body must traverse from Ste. Barbe to Petit Marais (whence the infantry advance party starts) is about 1900 yards. Therefore the main body

*Omitting the intermediate body and the corresponding distance (400 yards) in the *van guard*.

should start 2300 — 1900, or 400 yards = about 5 minutes later than the advance guard. We will not take such a small difference of time into account in the order. When it is a question of so small an amount, the leading subdivisions of the main body will see to it that as soon as practicable the necessary distance is gained from the troops next preceding (the reserve).

The baggage train in this case would best follow close behind the main body to shorten the entire column as much as possible and get past the enemy as soon as possible. Perhaps you have thought of sending it via Cheuby, Glattigny, etc., parallel to the route of march and away from the enemy. This is not advisable, because, as above indicated, the road is too bad for heavy wagons. Doubtless this is unpleasant for the detachment, but remember that there are so many roads leading east from the highway that in case of necessity we can always withdraw the train by one of them as soon as it appears by the reports from the front that a serious engagement with the enemy is imminent. I do not consider a separate protection in the shape of a rear guard necessary for the baggage train, as it can be sufficiently protected if attacked, say, by hostile cavalry, by men with the train unable to march or by the last subdivisions of the main body.

The baggage train will be assembled in column with head at Petit Marais. As you have seen above, the column will require 54 minutes to pass a fixed point; therefore the baggage train must start this much later than the infantry advance party. Thus we have determined the following as hours for departure:

Advance guard: 5.14 a. m. Flank guard: 5 a. m.

Main body: 5.14 a. m. Baggage train: 6.08 a. m.

The order for the march would be as follows:

Headquarters, Detachment, 2d Division, 1st Army Corps,
Field Orders Knoll North-east of Gras, 2 Aug. 00, 4-50 a. m.
No. —.

1. The enemy is reported to be in bivouac near BORN; his patrols fell back towards METZ yesterday afternoon.
2. At 8 A. M. to-day, near LAQUENEXY, this detachment must join the 2d Division advancing via SORBEY.
3. (a) The advance guard will start at 5-14 A. M. to-day, on the COLLIGNY-VILLERS-LAQUENEXY highway, for LAQUENEXY, and will seek to open communication with the 2d Division.
(b) The main body will follow at a distance of 800 yards.
(c) The right-flank guard will at once march via RETONFEY, FLANVILLE, and OGY for LAQUENEXY, reconnoitering towards METZ via LAUVALLIERE, PLANCHETTE, COLOMBEY, and ARS LAQUENEXY.
4. The baggage train will follow closed up on the main body.
5. Reports will reach me at the reserve.

A.

Brig.-General.

Verbally to the assembled commanders. Copy to division commander.

The distribution of troops is contained in the first order, issued the night before the march, because the different organizations must know their assignment so they can take their proper place in the column. The command of the baggage train also had to be determined in advance, because the presence of its commander was wanted when orders were to be issued the following morning; and it had to be made practicable for the outpost commander to make his arrangements on time for the assembly of the outpost, so that time would not be wasted in the morning waiting for the necessary orders from him, possibly resulting in companies farthest from the chaussée arriving too late.

The knoll north-east of Gras is selected as the place for the issue of orders, because thence a fair view can be had of the country under consideration. This is always desirable where questions from subordinates have to be answered, as may

happen in practice, *even with the clearest of orders*. In time of war the peace-time scruples disappear that some subordinates have about asking for further information in case of doubt, to avoid being suspected of indecision or accused of lacking power of comprehension, or seemingly insinuating that the superior officer has not clearly expressed himself. *The subordinate who in war-time does not ask a question when in doubt is as culpable as the superior who shows intolerance of being questioned.* The principal advantage of assembling all subordinate commanders before starting is that the commanding officer has an opportunity of quickly and easily explaining himself.

You will have noticed that paragraph 3 of the assembly order is expressed differently from the corresponding paragraph of the assembly order of the preceding problem. In that case all mounted officers were ordered to be present to receive orders; in this case mention is made only of those absolutely necessary for the purpose. Either method may be followed in detachments, though the first is shorter and therefore perhaps preferable. Where larger forces are concerned, it is, as a rule, impracticable to assemble all mounted officers at one point.

In conclusion I will ask you to briefly review the problems thus far worked out. In the first problem it was a question of a simple advance with nothing to expect on our flanks but hostile cavalry; so we could limit ourselves to having the attention of our cavalry especially directed towards the parts threatened—a separate flank guard was not necessary. In the second problem we expected hostile infantry on one flank, though it was so distant that we could depend on reconnaissance with cavalry alone warning us in time so we could occupy a suitable position. Thus a flank guard was unnecessary; the more so as the country between the road on which the detachment had to march and that by which a flank guard would

have marched was unfavorable.* In the third problem (the present one) again we had a case of a flank march, but on this occasion the enemy was so near that an engagement was quite possible. In this instance, owing to the favorable roads and the favorable nature of the country lying between the roads under consideration, a flank guard was not only allowable, but necessary, to gain the time necessary for the main body to take counter-measures. Also in the next problem the enemy will appear on our flank, but under somewhat different circumstances from any preceding.

FOURTH PROBLEM.

(See General map and maps Metz and Verny.)

A detachment, in a friendly country, under Brigadier-General A——, consisting of

8th and 9th Infantry,
1st and 3d Battalions of Sharpshooters,
Troops A and B, 9th Cavalry,
Batteries A and B, 1st Field Artillery,
Company A, Engineers,

Detachment Ambulance Section, 1st Field Hospital,
is on the march June 3, 1900, from Tenneschen (General map, east of Metz) towards the unfortified town of Metz, which is occupied by parts of the 3d Division. The cavalry of the detachment has been sent in a south-western direction towards the Metz-Saarbrücken railway.† At 8.30 a. m. an aide reports to Brigadier-General A—— from the 3d Division with the following information: "According to reliable information, a hostile division is advancing west of the French Nied (Französischen Nied). The 3d Division provisionally will maintain a defensive attitude until the arrival of reinforcements, expected

*The flank guard would have been separated by woods and a ravine from the main body of the detachment.

†The same as Metz-Remilly, General map.

from Diedenhofen. The suburbs of Plantières and Queuleu are weakly garrisoned. Cavalry is reconnoitering towards Courcelles a. d. Nied."

At 9 a. m., when the infantry advance party of the advance guard* has arrived about 600 yards west of Amitié brewery (*brauerei*), the following message from an officer's patrol reaches Brigadier-General A——, who has ridden forward to the brewery:

"High Ground East of Aubigny,

"3 June 00, 8-35 a. m.

"Hostile column of all arms advancing from Courcelles on the Nied towards Ars Laquenexy; advance-guard infantry will reach Chamberdine in 5 minutes. Have noticed a troop halted at the Ars Laquenexy cemetery ["Khf." on map], and sending patrols towards Colombey. A native reports that last night a hostile infantry brigade and several batteries bivouacked south of Sorbey.

"Remain in observation."

Required:

1. Distribution of troops during the march of June 3d.
2. Arrangements made by Brigadier-General A——.
3. Reasons for the arrangements.

*The advance guard contains 2 battalions infantry, 1 company of engineers, and 1½ troops of cavalry.—*Translator*.

FIFTH LETTER.

CHANGE OF DIRECTION OF MARCH.

OF THE NETWORK of roads, we must first consider the larger ones leading to Metz, then those leading towards the enemy. If continuing on its present road, the detachment after passing Amitié brewery will have to descend into the deep ravine of the Vallières brook* and then ascend the heights of Belle Croix. The latter are particularly noticeable, for thence towards the south we can overlook the country beyond the Borny-Colombey road, as far as the woods south-east of Borny, and towards the south-east to beyond the "Todten Allee" (though Colombey itself cannot be seen nor the bottom of the Vallières ravine between Colombey and Lauvallière). West of Belle Croix the Metz highway as far as Les Bordes is hidden from view from the south by the spurs close alongside of it, marked 219 and 214. The roads south of the highway through Belle Croix are of less importance for the detachment, *as we have no occasion to seek an engagement by marching towards the enemy*, than those to the north—over which it may be possible to reach Metz without an engagement. These are:

1. The Noisseville-Nouilly-Vallières road. This excellent road, soon after leaving Noisseville, descends into the valley of the Vallières brook, running parallel with and on the north bank of the brook as far as the village of Vallières, after that south of it. An enemy approaching from the south cannot see this road until he arrives at the crest of the southern slope of the valley, immediately overlooking the stream.

*The stream flowing N. W. past Lauvallière.

2. The Gras-Servigny bei Ste. Barbe-Poixe road, then along the Friesdorf* highway. This road has a bad section between Gras and Servigny bei Ste. Barbe.
3. The road from Petit Marais via Ste. Barbe, Krug (near Vrémy), then the Friesdorf highway—a roundabout way. As soon as the enemy reached the heights of Belle Croix or Amitié, he would be able to detect columns of troops in the distance marching on the Friesdorf highway.

Roads leading towards the enemy, or, what amounts to the same thing, *available* for his advance against our detachment, are:

1. The highway via Colligny.
2. The Retonféy-Ogy road.
3. The Ars Laquenexy-Coincy-Montoy road.
4. The road from Colombey via "Todten Allee" to Belle Croix.
5. The Ars Laquenexy-Grange aux Bois-Belle Croix road.
6. The Ars Laquenexy-Grigy-Bornay road.

The enemy moving by roads 1, 2 or 3 would hardly be able to reach the detachment with infantry, *though he might with cavalry*. Road 6 leads from Grigy to the vicinity of the villages of Queuleu and Plantières, which are held by detachments from the garrison of Metz. The enemy will soon find out that these villages are occupied, so he will avoid taking this road and confine himself to roads 4 and 5. On the other hand, the detachment can use all these roads in reconnoitering, to determine the direction of the enemy's march, and for this purpose the outer roads (1, 2, 3, and 6) will be of great value, lying as they do on both flanks of the advancing enemy.

*See General map.

After working out the two previous problems you will have seen the necessity (without my calling your attention to it) of knowing where the different parts of the column are when orders reach them from the detachment commander—these orders being issued by the latter on the strength of the message received by him from the officer's patrol.

According to the problem, General A—— has ridden forward as far as Amitié brewery, whence he has a commanding view, especially towards the west and south-west. Besides General A——'s adjutant-general, an aide, some mounted orderlies and cyclists, it is to be expected that the officers commanding the artillery, the engineers, and the advance guard will have gone with him. Thus the above-named commanders could receive the orders *verbally and at once*; but orders would have to be *sent* to the cavalry, the main body, and the baggage train. As it is a question of an *important* order, it would better be *in writing*. Officers are sent with such orders if it is intended that additional verbal information be given the subordinate commanders. If this requirement should not exist, *cyclists* or *mounted orderlies* will do to carry *written* orders.* Orders may be sent *verbally* only in case they consist of nothing but a short notice to the officers concerned; as if, in the present case, you simply wished to notify the baggage train to turn off to the Friesdorf road. But as it is also necessary to refer to the general state of affairs of the detachment, to make the *whole situation clear* to the recipient, undoubtedly the *written* order is preferable. In this case I would send the written orders to the main body and the baggage train by cyclists.

If orders are given *verbally*, great care should be taken to *avoid haste*. It often happens that an adjutant after galloping off a short distance is in doubt as to the exact wording of the order to be delivered; and we know from experience that only

*See par. 51, F. S. R

too easily errors are made in the names of places. In such a case it is not only best to have the messenger repeat the order to be delivered, but also to show him the names of the places on the map; he will then not only remember them more easily, but he can quickly show the recipient of the order the names on the map, in which way much time may be saved.

Instead of issuing a combined order to your different sub-units collectively, you might issue several separate orders: one to the cavalry, one to the advance guard, one to the main body, one to the artillery, and one to the baggage train—five in all, some verbally and some in writing. But, to insure the combined action of all, I prefer the *combined* order, for the several subordinates will obtain a clearer conception of their respective duties if each one knows what the others are expected to do; and *they will make their dispositions fit better into the general plan of action*. As in this case the orders are heard by the advance guard and artillery commanders, while being dictated to the adjutant-general and the aide, less time will be needed to issue the combined order than several separate ones. Remember this case; later I shall have occasion to refer to it often.

Let us suppose that for deliberating on the situation and issuing the order only 5 minutes are required—this is very little and presupposes a *very able* commanding officer—and that during this time the detachment continues its march. The advance-guard commander would receive his orders at once—*i. e.*, at 9:05. The latter would send a mounted officer to the cavalry. Two cyclists ride to the main body, deliver their orders, and then ride to the baggage train. Therefore the first point to determine is the position of the main body and the baggage train at 9:05 a. m., and next, their positions when they receive the orders.

I assume as follows, leaving you to make the detailed calculation for yourself:

The *infantry advance party* is near the eastern edge of Lauvallière. The *head of the main body* is about 1300 yards east of the road from Retonféy to Noisseville. The tail of the main body is about 1300 yards east of Petit Marais. The head of the baggage train is about 2 miles east of Petit Marais.

A cyclist (better two) traveling on the excellent highway will reach the main body in a few minutes; therefore before the latter reaches the Retonféy-Noisseville road. If the cyclists stop 5 minutes with the main body, which is sufficient, they would start again at 9:12 a. m. In going to the baggage train (passing the whole length of the main body) they have to cover a distance of nearly 3 miles. Under unfavorable conditions this ought to take not more than 12 minutes, thus reaching the baggage train at 9:24 a. m., which is still east of Petit Marais. From the message (from the officer's patrol) we learn that the advance guard of a hostile column of all arms reached Chamberdine at 8:40 a. m. Regarding the strength of said column we simply have the statement of a native that a hostile infantry brigade with several batteries has been in bivouac near Sorbey. This statement is so definite that it is perhaps correct, but only *perhaps*, for all such information, even from friendly natives, must be received with caution, and deserves much attention only if *corroborated*, or, as in this case, has some semblance of reality lent it by the report of our cavalry. Much of the information received in war is either false or very indefinite and contradictory; and only that is *really trustworthy* which a *competent officer has plainly seen with his own eyes from not too great a distance*. From the information received, all that is certain is that the enemy is advancing and is quite near the detachment; but this is sufficient to induce the detachment commander to come to an important decision. There are enough questions remaining unanswered. We have learned from Metz that a hostile division is advancing (north) to the west of the French Nied.

What connection has the hostile column, whose advance is reported, with the division? If it is its advance guard, where will the main body of the division be found? Or, if it is a flank guard, where is its main body? Or, is the enemy marching in two columns of equal strength?*

If the enemy has continued his advance in the same direction without a halt, of which there hardly can be a doubt, he will reach Chagny la Horgne at about 9.05 a. m. Then, as we concluded when considering the network of roads, he probably will advance either via Colombey or Grange aux Bois. From his advanced troop he at least has learned that it has gained touch with our patrols; and possibly in the meantime it has reported to him something more concerning our detachment's advance. The fact that the troop has halted at the cemetery of Ars Laquenexy and provisionally is only patrolling towards Colombey leads to the conclusion that in consequence of news received it intends for the present to limit its action to a *very cautious* reconnaissance. And, as the cemetery of Ars Laquenexy is on the road to Colombey, and the hostile patrols are *for the most part* moving towards the latter place, it may reasonably be assumed that the hostile troop has orders to reconnoiter more towards Colombey than Grange aux Bois. It is strange that the officer's patrol saw but one hostile troop. Thus it appears that the enemy either is very weak in cavalry or he is employing some of his cavalry elsewhere, for example, in the neighborhood of the large Champel woods, or of the woods west of Ars Laquenexy, reconnoitering beyond his left flank and towards Metz. At all events, *for the present* we have the advantage of being *superior* to the enemy *in cavalry* in the vicinity of Colombey. Thus not only will his reconnaissance be retarded, as he will have to proceed cautiously, but also his advance as a whole will be retarded. This means *gaining time* for General A——'s detach-

*The division is supposed to consist of 2 brigades.

ment. Under conditions most unfavorable for us the head of the enemy's column, passing Chagny la Horgne at about 9.05 a. m., may appear on the heights south of the French Monument (Franz. Denkm.) in 36 minutes—*i. e.*, at 9.41 a. m., and thence open fire on Belle Croix with artillery that he could bring forward.

Were General A—— simply to continue his march as before, the head of his main body would be just about at the Lauvallière bridge. Thus the main body and baggage train would be exposed to the danger of marching up from the valley towards Belle Croix under the enemy's fire. The inevitable result would be an engagement with the enemy. But the detachment has no occasion whatever to *bring about such a conflict on its own responsibility*, particularly because it cannot be foreseen what magnitude the conflict might assume or how the detachment would manage to withdraw from it. Whoever engages in a combat *without a definite object commits an error, if the combat was avoidable*. In addition, the following is to be considered: It is known that until reinforcements arrive the 3d Division in Metz wishes to remain strictly on the defensive. The detachment would go counter to this definitely known plan were it intentionally to bring about an engagement with a supposedly superior enemy, for as soon as the detachment became hard pressed the 3d Division would have to come to its assistance. From the foregoing we conclude that the detachment must diverge from its present line of march. Should the main body intend to continue its march from Lauvallière, south of the Vallières brook, across country behind the north slope of Belle Croix, it certainly would be covered very soon by the heights of Belle Croix. This, however, would not only be an inconvenient and slow march, but the Vallières brook would be an obstacle on the right flank that might cause a serious predicament should the enemy make a determined attack with superior numbers. It will therefore be better for

the main body to continue its march *north* of the Vallières brook, by turning off through Noisseville *into the Nouilly valley*, where it will be completely hidden from view. To cover the main body, the present advance guard must occupy a good position south of the Vallières brook—viz., at Belle Croix, to keep off the enemy if necessary. But the necessary gaining of time must be accomplished as far as possible *without committing the infantry* to an engagement.

The main body is out of danger as soon as the tail of it reaches the village of Vallières; this will be in about 2 hours (about 6 miles)—that is, at 11:05 a. m. At least until this hour must the advance guard hold the enemy in check. But, as above figured, the enemy cannot make himself felt until about 9:45 a. m. Thus it is that on behalf of the *main body only* it will be a question of about 1 hour and 20 minutes engagement for the advance guard. Now we must consider the *baggage train*. If we also wanted this to diverge by way of Noisseville, the advance guard would have to hold its ground proportionately longer. It is therefore preferable to move the train out of danger farther to the north, and, as the road between Gras and Servigny bei Ste. Barbe is too bad, to move it from Petit Marais via Ste. Barbe to the Friesdorf highway. Assuming that the head of the train reaches Petit Marais at 9:40 a. m., it will be safe at St. Julien in two hours—i. e., 11:40 a. m.—distance about 6 miles.

It must be remembered that in practice tactical operations require *very much more time* than would appear from our peace maneuvers, where we sometimes carry out several distinct attacks in the course of a forenoon. In reality our opponent, when operating in an enemy's country, requires a long time for reconnaissance, owing to his uncertainty and ignorance of the situation; particularly when, as here, he is inferior in cavalry. It also requires time when, as here, the enemy must be doubly cautious on account of having Metz on one

side and the awkward obstacle of the Vallières ravine on the other. Time is also required for the enemy's deployment and for the artillery preparation of his attack. In short, the enemy would not be able to consider an attack on Belle Croix until after some hours had elapsed; that is, suppose he decides to do so at all, *which is quite uncertain*, as he could not undertake such a movement until he had detached a sufficiently strong force against Metz to protect his left flank. Yet it would be a false conclusion to say, "The enemy will not attack—we can continue our march undisturbed"; for *you must always reckon with this possibility*.

General A——'s advance guard for the present can take up a "*position in readiness*" at Belle Croix, which is very suitable for this purpose, and wait to see if or where the enemy will advance. As its infantry advance party was near the eastern edge of Lauvallière at about 9:05 a. m., it should have reached Belle Croix in 25 minutes.

The principal duty of the advance guard is to gain time without committing itself to an obstinate and bloody infantry engagement, if such can be avoided. For this reason it is reinforced by both of the batteries, whose fire should force the enemy to an early deployment and a slow advance to the attack. Thus our object is to carry on the fight entirely with the artillery. This, moreover, may mislead the enemy as to the strength of the force holding Belle Croix, as usually several batteries are found only with a considerable force of infantry. It is a fact that two battalions are a rather weak support for the two batteries, but this does not matter in this very good position, as the guns, if really endangered, can easily withdraw, or, in case of necessity, additional infantry easily can be sent up from the main body. There would be no difficulty in carrying out the latter measure, as there are plenty of crossings over the Vallières brook, which could also be forded by the infantry

if necessary. It is unnecessary to reinforce the infantry of the advance-guard at the outset.

The *decision* therefore is: The advance guard, reinforced by the two batteries, to take up a position in readiness at Belle Croix; the main body to turn northward via Noisseville; the baggage train to go via Ste. Barbe.

Do not be surprised that thus far I have occupied your attention so much with calculations. It is by no means "*colorless theory*," for *the correct estimation of time and distance is the foundation* on which to base correct tactical decisions; and this must be constantly practiced in solving tactical problems. Thus a pair of compasses are the troop-leader's best friend. They protect him from serious mistakes, though not pretending to mathematical accuracy, which latter is not found in tactics, as a rule, because we so often have to depend on all kinds of contingencies, which may upset the most careful dispositions. Without assigning any *exaggerated* value to the result of your calculations, you now will appreciate the advantage of these estimates of time and space. Think of your own experience in maneuvers. For example, how easily a leader taken from the cavalry or artillery becomes impatient over the "incredible slowness" of the infantry. How often the infantry commander wonders why the reports from the cavalry are so long in reaching him, or why artillery cannot change position in the twinkling of an eye. Just calculate how long it would take the two batteries, in the present case, to reach Belle Croix under the most favorable circumstances.

I assume the existing distribution of troops to be as follows:

- (a) *Advance Guard*: Major C——.
1st and 3d Bns. Shrpshtrs.,
Tr. A and Tr. B (less 1 plat.), 9th Cav.,
Co. A, Engrs.

(b) *Main Body* (in order of march):

1 plat. Tr. B, 9th Cav.,
 1 Bn. 8th Inf.,
 Btries. A and B, 1st F. A.,
 8th Inf. (less 1 Bn.),
 9th Inf.,
 Det. Amb. Sec., 1st F. Hosp.

Headquarters, Detachment 3d Division, 2d Army Corps,

Field Orders

Amitié Brewery, 3 June 00, 9-5 a. m.

No. —.

1. A hostile column of all arms is advancing from COURCELLES A NIED towards ARS LAQUENEXY. The 3d Division has small detachments in the suburbs of PLANTIERES and QUEULEU.
2. The detachment will turn to the north and continue the march to METZ.
3. (a) The advance guard, reinforced by Batteries A and B, 1st Field Artillery, will take up a position near BELLE CROIX to delay the enemy for the present. It will watch ARS LAQUENEXY and LAQUENEXY through GRIGY, COLOMBEY, and COINCY, and along the VALLIERES BROOK.
- (b) The main body will march via NOISSEVILLE, NOULLY, and VALLIERES to LES BORDES.
4. The baggage train, escorted by a company of the 9th Infantry, will proceed via STE. BARBE and KRUG of VREMY to METZ.
5. Reports will reach me at BELLE CROIX.

A.

Brig.-General.

Verbally to the advance guard and artillery commanders. Copies to the 3d Division, the main body, and the baggage train by cyclists.

I have given you the whole order so you can obtain a general idea of the measures adopted that I consider necessary. I shall now go over the order by paragraphs.

1. In the order you need not mention the report concerning the hostile troop, for you cannot be sure it is still at Ars Laquenexy when the order is issued. Your cavalry, whom the information principally concerns, in the meantime will have observed the further conduct of the hostile cavalry.

2. The words "turn to the north" at once summarize

your intention, so they are not superfluous; although in subsequent paragraphs it appears that the detachment will thus turn and how it is to be done.

3. As soon as the direction of the enemy's advance has been determined, you must above all things try to watch his movements from his *flank*, for nothing more can be learned from a position in his front as soon as you are engaged with the infantry of his advance guard. Send the bulk of your cavalry towards that flank of the enemy which is most dangerous *to you* (in this case the right flank, on account of Colombey), to find out as much as possible. The other flank, in this case less dangerous to you because of the proximity of Metz, must be watched by smaller bodies—platoons and patrols. The nearer the hostile infantry approaches, the more will your cavalry close in on the flanks of your position. As long as the enemy is still distant, it is better as a whole to give the cavalry leader a free hand as to details of the distribution of his command, for he is better able to judge of these matters on account of being in touch with the enemy. Provisionally, therefore, you can leave him his former freedom, although you now are indicating the roads to be *particularly* watched by the advance guard. As the detachment commander remains at Belle Croix near the advance-guard commander, *both* these officers will receive information *simultaneously* from the cavalry patrols.

The advance guard is allowed to make its own arrangements for taking up a position near Belle Croix, but is directed to hold fast "until further orders," because the detachment commander will, if possible, have it remain in position until the main body and train are in safety. Of course it can be estimated *approximately* by what time this will be accomplished, but not with absolute certainty, as unforeseen delays may occur. The detachment commander constantly will keep himself informed of the position of the main body and train, and thus will retain a general supervision over the *whole force*,

while the advance-guard commander can devote his entire attention to the enemy's advance and to the *fighting*.

I would not recommend that now a separate commander be named for the main body. The main body is the detachment itself—to designate a commander for it would amount to designating a *deputy for the detachment commander; for this there is no occasion whatever*. Should the detachment commander not be at the head of the main body, the commander of the leading battalion of infantry without further orders assumes the duty of leading the column; and upon receiving the order to change the direction of march would comply with it and notify the other subordinate commanders of the order. I consider it unnecessary in this case for the main body to form a new advance guard, because of the nearness of Metz.

4. The order directing the march of the detachment doubtless provided for a cavalry officer to conduct the baggage train and need not be repeated here; but it now becomes necessary to give it a *special escort*. This must be considered as an *exceptional* measure, based on the necessity to provide greater security for the train, which might be attacked at any moment by strong bodies of the enemy's cavalry moving north through Colligny or Marsilly. More than one company is not necessary, and naturally the last company of the main body would be detailed, which can wait at Petit Marais until the train arrives there. As to which company it will be, General A—— can hardly say. He therefore says, "a company."

In conclusion, compare the various measures that have been adopted, in the problems thus far worked out, with regard to the baggage train. The first problem dealt with a simple advance, where a collision with the enemy was probable—so the baggage train remained behind at a suitable place, after advancing only far enough for the wagons to form

column. In the second and third problems it was a question of flank marches—so the baggage train in both cases followed *close in rear* of the main body without any special escort. Had there been suitable roads for it to take on the side away from the enemy, we would have had it move on one of them. It had to follow the main body without any intervening distance, to reduce the length of the whole column as much as possible. In the present problem (also a flank march), on the contrary, there is a serviceable parallel road available. The train was promptly transferred to this, under escort, as soon as the enemy threatened the flank of the column.

FIFTH PROBLEM.

(See map Ars a. d. Mosel.)

A convoy of provisions $1\frac{1}{2}$ miles long intended for troops in the unfortified town of Metz, after an exhausting march in a friendly country, camps in and south of Marieulles for the night of August 1-2, 1900, under protection of the 13th Infantry and Troops A and B, 13th Cavalry, commanded by Colonel A—. This town was reached late in the evening. During the march word was received by the detachment from a railway official of Novéant that at about 4 p. m. the enemy arrived at Gorze with a column of all arms; that hostile outposts had been placed at the Château Ste. Cathérine (Schl. Ste. Cathérine); that a troop of dragoons, followed by two companies of infantry in wagons, had passed through Novéant to Corny. Colonel A— thereupon sent his cavalry towards Corny. His cavalry reported at 9 p. m. as follows: "Encountered hostile cavalry patrols east of Corny. These fell back on Corny. Fired upon from Corny and the brick-yard (Zgl. on map) south of it." Colonel A— posted an outpost (the 2d Battalion and 1 platoon of Troop A) on the line Bois le Comte-Arry Woods (Wald von Arry). All the bridges over the Mosel

between Corny and Metz have been destroyed by the Metz garrison.

Required:

The arrangements made, by Colonel A—— for August 2, 1900, with reasons for the same, on the supposition that until the time of departure no further information is received about the enemy.