Thus, in the physical sense, as in the didactic sense, the definition is doubly inexact, but supposing it even tolerable, still it would be necessary that a river, in order to be used as a line of operations for an army, should always flow in the direction in which this army should march; and it is almost always the contrary. The greater part of rivers are rather defensive barriers or *fronts of operations*, which they could not be, and considered at the same time as lines of operations. The Rhine is a barrier for France as for Germany; the lower Danube is a barrier for Turkey and Russia; the Ebro is a barrier for Spain, the Rhone is a barrier against an army which should come from Italy to attack France; the Elbe, the Oder, the Vistula, are barriers against armies marching from west to east, or from east to west.

With regard to routes, the assertion is not more just, for it could not be said that the hundred traveled roads through Suabia are a hundred lines of operations. There are, doubtless, no lines of operations without roads; but a road in itself could not be a line of operations.

I have enlarged somewhat upon this article upon lines of operations, because I regard it as the corner-stone of strategical movements, and that it is important for the art not to allow sophisms to be accredited. The public will decide upon these controversies; as for myself, I have the innate consciousness of having sought in good faith to advance the science, and without being accused of self-love, I think I may flatter myself with having contributed thereto.

ARTICLE XXII.

STRATEGICAL LINES.

We have made mention, in Articles 19 and 21, of strategical lines of manœuvre, which differ essentially from lines of operations; it will not be useless to define them, for many military men frequently confound them.

Strategical lines are of several kinds, as has been seen in Article 19. We have not occupied ourselves with those which have a general and

permanent importance from their situation, and from their relations with the configuration of the country, such as the lines of the Danube, or of the Meuse, the chains of the Alps and the Balkan. As the latter figure in the number of the decisive points of the theatre of war, or in that of the lines of defense of which we have already spoken, and as they are traced by nature, we shall have nothing to say of them, for they could be subjected to no other investigation than the detailed and profound study of the military geography of Europe, and to a description, the immense scope of which, it may well be supposed, does not accord with that of this summary; the Arch-Duke Charles has given an excellent model of this study in his description of Southern Germany.

But we name strategic lines also, all the communications which lead by the most direct or the most advantageous way from one important point to another, as well as from the front of operations of the army to all the objective points which it may have the project to attain.

It is comprehended, therefore, that the whole theatre of war is found furrowed with such lines, but that those which it should be wished to pass over with any object whatever, are alone of any real importance, at least for a given period. This fact will suffice to make comprehended the great difference which exists between a general line of operations adopted for a whole campaign, and those eventual strategical lines, changeable as the operations of armies themselves.

Finally, independently of material or territorial strategical lines, we have already said that there existed a kind of combination, in the disposition and the choice of those lines, which constitutes as many different manœuvres, and we have named them *strategical lines of manœuvre*.

An army which should have Germany for a general *échequier*, would take for zone of operations the space between the Alps and the Danube, or else that between the Danube and the Main, finally, that between the mountains of Franconia and the sea. It would have upon the zone adopted, a simple line of operations, or at most, two concentric lines of operations, it would have those lines interior and central, or else exterior; whilst it would embrace perhaps twenty strategical lines, one after another in proportion as its enterprises should be developed; it would have at first one, for each of its wings, which would terminate in the general line of operations; then, if it operate upon the zone between the Danube and the Alps, it might adopt according to events sometimes the strategical line which should lead from Ulm upon Donauwerth and Ratisbon, sometimes that which should lead from Ulm towards the Tyrol; finally, that

which should conduct from Ulm upon Nuremberg or upon Mayence, and all according as the turn of events should render necessary.

It may be affirmed, then, without incurring the blame of creating a confusion of words, that all the definitions given in the preceding article for lines of operations, are necessarily reproduced for strategical lines, and also the maxims which are derived from them. Those lines must be *concentric* when the object is to prepare for a decisive shock, then *excentric* after the victory; strategical lines are rarely simple, for an army will scarcely march upon a single road, but when they shall be double, triple, quadruple even, they must also be interior if the forces of the armies are equal, or exterior for those which should have a great numerical superiority. We could, it is true, deviate at times from the too strict application of this maxim, by throwing an isolated corps in an exterior direction, even in case of an equality of forces, when it shall be the question to obtain a great result without running great risks, but this is already entering again into the category of detachments, which we shall treat separately, and could not be applicable to principal masses. Of course strategical lines could not be interior in the case when our efforts should be directed against an extremity of the hostile front of operations.

Departing from thence, it will seem that all the maxims which we have presented upon lines of operations, would be the only ones which we could reproduce, and our readers will not blame us for sparing them their repetition; they can easily of themselves make the application of them.

There is, meanwhile, one which it is our duty to point out: it is that in general, in the choice of momentary strategical lines, it is important to avoid wholly uncovering the line of operations and exposing it to the enemy. This may be tolerated when it is the question to extricate one's self from a great danger or to seek great results; but it is necessary at least, even in this case, to prepare the means of escape by one of those sudden changes of lines of operations which we have before indicated, and it is important that the operation be not of long duration.

Let us apply those divers combinations to the lessons of history, it is the best means of comprehending them; and let us take for first example the campaign of Waterloo. The Prussian army had the Rhine for a base; its line of operations ran from Cologne and from Coblentz upon Luxemburg and Namur; Wellington had Antwerp for a base, and for a line of operations, the short route to Brussels. The sudden attack of Napoleon on Fleurus decided Blucher to receive battle parallelly to the English base, and not to his own, for which he did not appear to trouble himself. This was pardonable, because strictly he could always hope to regain

Wesel or at least Nimeguen, and in the last extremity he would have been able even to seek a refuge in Antwerp. But if a Prussian army, deprived of its powerful maritime allies, had committed such a fault, it would have been annihilated.

Beaten at Ligny, and a refugee at Gembloux, then at Wavre, Blucher had but three strategical lines to choose, that which led direct to Maestricht, that which went farther to the north towards Venloo, or else that which led to the English army near *Mont Saint-Jean*. He audaciously took the latter, and triumphed by the application of interior strategic lines, which Napoleon had neglected for the first time, perhaps, in his life. It will be admitted that the line followed, from Gembloux by Wavre, upon *Mont Saint-Jean*, was neither the line of operations of the Prussian army, nor a line of battle, but rather a strategic line of manœuvre: a central or interior line, audaciously chosen, in that the natural line of operations was left uncovered in order to seek safety in the important junction of the two combined armies, which in reality rendered this resolution conformable to the principles of war.

An example less happy was that of Ney at Dennewitz; debouching from Wittemberg upon the direction to Berlin, he prolonged himself to the right in order to gain the extreme left of the Allies; but by this movement he left his primitive line of retreat exposed to all the blows of an enemy superior in numbers and in veteran troops. It is true that he had the mission of putting himself in connection with Napoleon, whose project was to join him by Herzberg or Luckau; but then the Marshal should at least have taken, from his first movement, all the logistical and tactical measures for assuring this change of strategical line, and to have informed his army of it. He did nothing of the kind, whether through neglect, or from a feeling of aversion to every supposition of a retreat; the cruel losses which he sustained at Dennewitz were the sad result of this imprudence.

One of the operations which best retraces the different combinations of strategic lines is that of Napoleon through the gorges of the Brenta in 1796. His general line of operations, departing from the Appenines, led to Verona, where it stopped. When he had repulsed Wurmser upon Roveredo and had resolved to penetrate into Tyrol in his pursuit, he pushed into the valley of the Adige to Trent and the Lavis, where he learned that Wurmser had thrown himself by the Brenta upon the Frioul, without doubt to take him in reverse. There were but three courses to choose: to remain in the narrow valley of the Adige at the risk of being compromised there; to retrograde by Verona to meet Wurmser; or else, what was grand, but rash, to throw himself after Wurmser in that valley

of the Brenta enclosed by rocky mountains, and the issues of which could be barred by the Austrians.

Napoleon was not a man to hesitate between three such alternatives; he left Vaubois upon the Lavis to cover Trent, and threw himself with the remainder of his forces upon Bassano; the brilliant results of this bold movement are known. Surely the route from Trent to Bassano was not the line of operations of the French army, but a strategic line more audacious still than that of Blucher upon Wavre. However, it was a question only of three or four days operation, at the end of which Napoleon would either be conqueror or vanquished at Bassano; in the first case he opened his communication direct with Verona and with his line of operations, in the contrary case he regained Trent in all haste, where, rallied upon Vaubois, he would equally fall back upon Verona, or Peschiera. The difficulties of the country which rendered this march audacious under one aspect, favored it also under another; for Wurmser, though even he had triumphed at Bassano, could in no wise disturb the return upon Trent, no road permitting him to anticipate Napoleon in that direction. There would have been only the case in which Davidovich, left upon the Lavis, should have driven Vaubois from Trent, which would have somewhat embarrassed Napoleon; but that Austrian general, beaten anteriorly at Roveredo, ignorant for several days of what the French army was doing, and believing that he had it all upon his back, would scarcely have thought of retaking the offensive when Napoleon, repulsed at Bassano, would already have returned. Even though Davidovich had advanced to Roveredo, facing Vaubois, he would there have been surrounded in that gulf of the Adige between the two French masses which would have made him undergo the fate of Vandamme at Culm.

I have enlarged upon this incident to show that the calculation of time and distances, joined to a great activity, can cause to succeed enterprises in appearance altogether imprudent. I conclude from thence, that it is sometimes permitted to throw an army momentarily on a direction which would uncover its lines of operations, but that all measures should be taken that the enemy do not profit from it, as much by the rapidity of its execution, as by demonstrations which might deceive him, and leave him in ignorance of what is passing. Meanwhile, it is one of the most hazardous of manœuvres, and one which should never be resolved upon but in urgent cases.

We think we have sufficiently demonstrated the divers combinations which those strategic lines of manœuvre present, in order that each of our readers may be able to appreciate their different species and the maxims which should preside over their choice.

ARTICLE XXIII.

MEANS OF ASSURING LINES OF OPERATIONS BY TRANSIENT BASES OR STRATEGICAL RESERVES.

When you penetrate offensively into a country, you may, and you ought even, to form *eventual bases* which, without being either as strong or as sure as those of your own frontiers, can nevertheless be considered as temporary bases; a line of river with *têtes de ponts*, with one or two large cities secure from a *coup de main* for covering the grand depôts of the army, and to serve for the union of the troops of reserve, may form an excellent base of this kind.

Such a line, however, could not of course serve as a transient base, if a hostile force were found in proximity with the line of operations which should conduct from this supposed base to the real base of the frontiers. Thus Napoleon would have had a good real base on the Elbe, in 1813, if Austria had remained neutral: but this power having declared against him, the line of the Elbe being taken in reverse, was no longer but a very good pivot of operations for favoring a momentary enterprise, but dangerous in the end, if one chanced to sustain there a notable check.

Now as every army beaten in a hostile country may always be exposed to his adversary manœuvering in a manner to cut it off from its frontiers if it persisted in remaining in the country, it must indeed be acknowledged that those remote temporary bases will be rather momentary points of support than real bases, and that they enter in some sort into the category of eventual lines of defense.

However this may be, we cannot either flatter ourselves with always finding, in an invaded country, posts secure from insult, fit to offer as points of support suitable for forming even a temporary base. In this case we might supply it by the establishment of a strategic reserve, an invention altogether peculiar to the modern system, and the advantages, as well as the inconveniences of which deserve to be examined.

STRATEGICAL RESERVES.

Reserves play a great part in modern wars; scarcely was there an idea of them formerly. From the government which prepares the national reserves, down to the chief of a platoon of skirmishers, each at this day wishes to have his reserve.

Besides the national reserves, of which we have spoken in the chapter on military policy, and which are only raised in urgent cases, a wise government takes care to assure good reserves for completing the active armies; it is, then, for the General to know how to dispose of them when they are in the circumference of his command. A State will have its reserves, the army will have its own, each army corps, and even each division or detachment will not fail either to assure itself one.

The reserves of an army are of two kinds: those which are in the line of battle, ready for combat, those which are destined to keep the army full, and which, whilst organizing, may occupy an important point of the theatre of war, and serve even as strategical reserves. Doubtless many campaigns have been undertaken and brought to a successful close without such reserves being thought of; their establishment also depends, not only upon the extent of the means that can be disposed of, but still more upon the nature of the frontiers, and the distance which separates the front of operations, or the objective aim from the base.

However, so soon as the invasion of a country is decided upon, it is natural to think of the possibility of being thrown back upon the defensive. Now, the establishment of a reserve intermediate between the base and the front of operations, offers the same advantage as the reserve of an active army will procure on the day of battle; for it can fly to the important points which the enemy should menace, without enfeebling the acting army for that purpose. In truth, the formation of such a reserve will require a certain number of regiments which must be drawn from the active army; meanwhile it cannot be denied that a rather large army has always reinforcements to expect from the interior, recruits to instruct, moveable militia to exercise, regimental depôts and convalescents to turn to account; in organizing then a system of central depôts for laboratories of munitions and equipment, by causing to be united to those depôts all the detachments going to and returning from the army, joining thereto

merely a few battalions of good troops, to give a little more consistency, a reserve would thus be formed from which eminent services might be drawn.

In all his campaigns, Napoleon never failed to organize them; even in 1797, in his audacious march upon the Noric Alps, he had at first the corps of Joubert on the Adige, afterwards that of Victor, returning from the Roman States to the environs of Verona. In 1805, the corps of Ney and Augerau alternately played this part in Tyrol and in Bavaria, as well as Mortier and Marmont around Vienna.

Napoleon, marching to the war of 1806, formed such reserves on the Rhine; Mortier used them for subjecting Hesse. At the same time second reserves were formed at Mayence under Kellerman, and came, as fast as they were formed, to occupy the country between the Rhine and the Elbe, whilst Mortier was called into Pomerania. When Napoleon decided to push upon the Vestula at the end of the same year, he ordered, with a great deal of ostentation, the union of an army of the Elbe; its force was to be sixty thousand men, its object, to cover Hamburg against the English, and to impose upon Austria, whose dispositions were as manifest as her interest.

The Prussians had formed a similar one at Halle in 1806; but it was badly placed; if it had been established upon the Elbe, at Wittenberg or Dessau, and had done its duty, it would, perhaps, have saved the army, by giving to the Prince of Hohenlohe and Blucher time to gain Berlin, or Stettin at least.

Those reserves will be especially useful in countries which should present a double front of operations; they can then fulfill the double destination of observing the second front, and of being able at need to concur in the operations of the principal army, if the enemy chance to menace its flanks, or if a reverse forced it to approach the reserve. It is useless to add, that it is necessary, nevertheless, to avoid falling into dangerous detachments, and whenever those reserves can be dispensed with, it will be necessary to risk it, or at least to employ them only at the depôt. It is scarcely but in remote invasions, or in the interior of one's own country, when it is menaced with invasion, that they seem useful, for if war be made at five or six marches only from the frontier, in order to dispute an adjacent province, those reserves would be an altogether superfluous detachment. In your own country you can most frequently dispense with them; it will only be in the case of serious invasion, when you will order new levies, that such a reserve, in an intrenched camp, under the protection of a place serving as a grand depôt, will be indispensable. It is for

the talent of the general to judge of the opportuneness of the reserves, according to the state of the country, the depth of the line of operations, the nature of the fortified points which should be held therein; finally, according to the proximity of any hostile province. He will also decide upon their position, and the means of turning to account detachments which would enfeeble the active army less, than if drawn from choice divisions.

I shall be excused from demonstrating that those reserves ought to occupy the most interesting strategic points which should be found between the real base of the frontiers and the front of operations, or between the objective point and this same base; they will guard the strong-holds if there be any already subjected; they will observe or invest those which shall not be so; and if none are possessed to serve as points of support, they can labor in tracing at least a few intrenched camps or *têtes-de-ponts*, to protect the grand depôts of the army, and to double the strength of their own position.

For the rest, all that we have said in Article 20 upon lines of defense relative to pivots of operations, may also be applied to transient bases, as well as to strategic reserves, which shall be doubly advantageous when they shall posses such pivots well situated.

ARTICLE XXIV.

OF THE ANCIENT SYSTEM OF WARS OF POSITION, AND THE PRESENT SYSTEM OF MARCHES.

We understand by the ancient system of positions, that ancient manner of making war with armies encamped in tents, living by their magazines and their bakeries, reciprocally watching each other, the one for besieging a place, the other for covering it; the one coveting a small province, the other opposing its designs by self-styled impregnable positions; a system which was generally in practice from the middle ages down to the French revolution.

In the course of this revolution great changes supervened; but there were at first divers systems, and they were not all improvements in the art. In 1792, war was commenced as it had been finished in 1762; the French armies encamped under their places, and the Allies encamped for besieging them. It was not until 1793, when it saw itself assailed within and without, that the republic threw a million of men and fourteen armies upon its enemies; of necessity other methods were to be taken; those armies having neither tents, nor pay, nor magazines, marched, bivouacked or cantoned; their mobility was increased by it, and became an instrument of success. Their tactics changed also; their chiefs held them in columns, because they are more easy to manage than deployed lines, and by favor of the broken country of Flanders and the Vosges, where they fought, they threw out a part of their forces as skermishers to cover their columns.

This system, which was born thus of circumstances, succeeded at first beyond all expectation; it disconcerted the methodical troops of Prussia and of Austria, as well as their chiefs: Mack, among others, to whom the successes of the Prince of Coburg were attributed, augmented his reputation by publishing instructions for extending lines to the end of opposing a thinner order to those skermishers! The poor man had not perceived that the skermishers made the noise, but that the columns carried the positions.

The first generals of the republic were fighting men, and nothing more; the principal direction came from Carnot and the Committee of Public Safety; it was sometimes good, but also frequently bad. It must be owned, nevertheless, one of the best strategical movements of this war came from him; it was he who directed, at the end of 1793, a choice reserve successively to the succor of Dunkirk, Maubeuge and of Landau; so that this small mass, transported by post, and seconded by the troops already assembled on those places, succeeded in causing the French territory to be evacuated.

The campaign of 1794 began badly, as has already been said; it was the force of circumstances which led to the strategical movement of the army of the Moselle upon the Sambre, and not a premeditated plan; for the rest this movement decided the success at Fleurus and the conquest of Belgium. In 1795, the French committed such great faults, that they were imputed to treason; the Austrians, on the contrary, better directed, by Clairfayt, Charteler and Schmidt, than by Mack and the Prince of Coburg, proved that they had some conception of strategy.

Every one knows that the Arch-Duke triumphed in 1796, over Jourdan and Moreau, by a single march, which was the application of interior lines.

Until then the French armies had embraced great fronts, either more easily to obtain provisions, or that their generals imagined they were doing well in putting all their divisions in line, leaving to their chiefs the care of disposing of them for combat as they could, and keeping in reserve but slender detachments incapable of repairing any thing, if the enemy chanced to overthrow a single one of those divisions.

Such was the state of things when Napoleon made his debut in Italy; the rapidity of those marches routed the Austrians and Piedmontese from the commencement of his operations; for, disengaged of all useless material, he surpassed the mobility of all modern armies; he conquered the Peninsula by a series of strategical marches and combats.

His movement upon Vienna in 1797, was a rash operation, but legitimated perhaps by the necessity of conquering the Arch-Duke Charles before the arrival of the reinforcements coming from the Rhine.

The campaign of 1800, more characteristic still, signalised a new era in the projection of plans of war, and in the directions of lines of operations; from thence date those bold objective points, which have in veiw nothing less than the capture or destruction of armies, and of which we have spoken in Article 19. Orders of battle were equally less extended, the organization of armies into corps of two or three divisions, became more rational. The system of modern strategy was from that time carried to its zenith, for the campaigns of 1805 and 1806 were only corollaries of the great problem resolved in 1800.

With regard to tactics, that of columns and of skermishers, which Napoleon found quite established, suited too well the broken country of Italy not to be adopted.

At this day there presents itself a grave and capital question, it is to decide whether the system of Napoleon is suitable to all capacities, to all epochs, and to all armies; or if, on the contrary, it were possible that governments and generals could return to the methodical system of wars of position, after having meditated upon the events of 1800 and 1809. Let us compare, in fact, the marches and encampments of the Seven Years War, with those of the seven weeks war, (an epithet which Napoleon gave to the campaign of 1806,) or with the three months which elapsed from the departure from the camp of Boulogne in 1805, to the arrival upon the plains of Moravia, and let us decide then whether the system of Napoleon is preferable to the ancient one.

This system of the French Emperor was *to make ten leagues a day, to combat, and to canton afterwards in repose.* He has himself told me that he recognized no other kind of war than this.

It will be objected that the adventurous character of this great captain was joined to his personal position, and to the situation of minds in France, to excite him to do what no other chief would have dared to do in his place, whether he were born upon a throne, or whether he were a simple general under the orders of his government. If this is incontestable, it appears to me true also, that between the system of immoderate invasions and that of positions, there is a medium, so that, without imitating his impetuous audacity, it will be possible to follow the routes which he has trodden, and that the system of wars of position will probably be proscribed for a long time, or at least considerably modified and improved.

Doubtless, if the art is found enlarged by the adoption of the system of marches, humanity will lose thereby more than it will gain, for those rapid incursions, and those bivouacs of considerable masses, feeding from day to day upon the same countries which they invade, do not badly recall the devastations of the peoples which overran Europe from the 4th to the 13th century. However, it is little probable that they will be renounced so soon, for a great truth has been at least demonstrated by the wars of Napoleon, it is that distances could no longer secure a country from invasion, and that States which wish to secure themselves from it, ought to have a good system of fortresses and lines of defense, a good system of reserves and military institutions, finally, a good system of policy. Therefore, the populations organize themselves every where into militia, to serve as reserves to the active armies, which will maintain their force upon a footing more and more formidable; now, the greater armies are the more necessary the system of rapid operations and prompt denouements becomes.

If, in the sequel, social order recovers a calmer tone, if nations, instead of combatting for their existence, fight no longer except for relative interests, to round their frontiers, or to maintain the European equilibrium; then a new law of nations may be adopted; and it will perhaps be possible to put armies upon a less exaggerated footing. Then also, in a war of power against power, armies of eighty or a hundred thousand men may be seen to return to a mixed system of war, which would hold the middle ground between the volcanic incursions of Napoleon, and the impossible system of the *Starke Positionen* of the last century. Until then we must admit this system of marches which has produced so great events, for the first who should dare to renounce it in presence of a capable and enterprising enemy, would probably become its victim.

By the science of marches, we do not understand at the present day, simply those minute details of logistics which consist in well combining the order of troops in column, the time of their departure and arrival, the precautions necessary in their journey, the means of communication, either between themselves, or with the point which is assigned them, these are all things which make an essential branch of the functions of the staff. But, besides these very material details, there exists a combination of marches which belong to the grand operations of strategy. For example, the march of Napoleon by the St. Bernard, to fall upon the communications of Melas; those which he made in 1805 by Donauwert, to cut off Mack, and 1806 by Gera, to turn the Prussians; the march of Suwaroff to fly from Turin upon Trebbia to meet Macdonald; that of the Russian army upon Taroutin, then upon Krasnoi, were decisive operations, not from their relations with *la logistique*, but from their relations with strategy.

However, properly considered, those skillful marches are never but means of putting in practice the various applications of the principle which we have indicated, and which we shall yet develope; to make a fine march, is then nothing else than carrying the mass of one's forces upon the decisive point; now, the whole science will consist in determining well that point after the manner we have essayed to demonstrate in Article 19. In fact, what was the march by the St. Bernard, if not a line of operations directed against an extremity of the strategic front of the enemy, and from thence upon his line of retreat? What were the marches to Ulm and Jena but the same manœuvre? What was the march of Blucher to Waterloo, but the application of the interior strategical lines recommended in Article 22?

Hence it may be concluded, that all strategical movements which tend to direct the masses of an army successively upon the different points of the hostile front of operations, will be skillful marches, since they will apply the general principle indicated, page 81, by putting in action the mass of forces upon fractions merely of the hostile army. The operations of the French at the end of 1793, fron Dunkirk to Landau, those of Napoleon in 1796, in 1809 and in 1814, may be cited as models of this kind. It would be useless to enlarge upon those combinations, since they enter by their applications in the series of maxims already presented.

We shall observe, nevertheless, that there exists a species of marches which have been designated under the name of flank marches, and which we could not pass over in silence. In all times they have been presented as hazardous manœuvres, without any thing satisfactory having ever been

written on this subject. If we understand thereby tactical manœuvres made in view of the hostile line of battle, doubtless such a flank movement is a very delicate operation, although it succeeds at times; but if ordinary strategical marches are meant, I can see nothing dangerous in a flank march, unless the most common logistical precautions have been neglected. In a strategical movement, the two hostile main bodies ought always to be separated by an interval of about two marches, (counting the distance which separates the respective advanced guards, from the enemy and from their own columns.) In such a case there could exist no real danger in the strategical journey from one position to another.

There are two cases, nevertheless, where a flank march seems altogether inadmissible: the first is that where the system of the line of operations, of the strategical lines and front of operations, should all present the flank to the enemy in the whole course of an enterprise. Such was the famous project of marching upon Leipzig, without being disquieted about Dresden and the two hundred and fifty thousand men of Napoleon, a project which, resolved upon at Trachenberg in the month of August, 1813, would probably have been fatal to the allied armies, if my soliditations made at Jungferteinitz, had not caused it to be modified. The second case is when we should have a remote or deep line of operations, like that of Napoleon at Borodino; especially if this line of operations offered still but a single suitable line of retreat; then every flank movement which should leave it exposed, would be a grave fault.

In countries where good secondary communications should be numerous, flank movements would be less dangerous, because at need one could have recourse to a change of line of operations if he were repulsed. The physical and moral state of armies, the more or less energetic character of the chiefs and of the troops, could also have an influence upon the opportuneness of such movements.

In fact, the often cited marches of Jena and of Ulm were veritable flank manœuvres, quite like that upon Milan after the passage of the Chiusella, and like that of Marshal Paskiewics for crossing the Vistula at Ossiek; every one knows how they succeeded.

It is otherwise with tactical movements, made by flank in presence of the enemy. Ney was punished for this at Dennewitz; Marmont at Salamanca, and Frederick the Great at Kollin.

Meanwhile, the manœuvre of Frederick the Great at Leuthen, become so celebrated in the annals of the art, was a veritable movement of this kind, (see chapter VI, Treatise on Grand Operations;) but skillfully covered by a mass of cavalry, concealed by the heights, and operated against

an army which remained immovable in its camp, it had an immense success, because, at the moment of the shock, it was really the army of Daun which lent the flank, and not that of the king. Moreover, it must be owned also, that with the old system of moving by lines at platoon distance, in order to form, without deployment, by a right or left into line of battle, the movements parallel to the hostile line are not flank marches, since then the flank of columns is, in reality, nothing else than the line of battle.

The famous march of Prince Eugene in sight of the French camp, for turning the lines of Turin, was much more extraordinary still than that of Leuthen, and was not less successful.

In these different battles, I repeat, they were tactical and not strategical movements; the march of Prince Eugene, from Mantua upon Turin, was one of the greatest strategical operations of the age; but the movement here alluded to was that made on the eve of the battle for turning the French camp. For the rest, the difference of results which those five days present, is an additional proof that in this point also tactics is variable.

With regard to the logistical part of marches, although it forms but one of the secondary branches of the military art, it is so closely connected with great operations, that it may be regarded as the executive part of them; hence I believe it my duty to say a few words of it, uniting it in Article 41, with some ideas upon *la logistique* in general.

ARTICLE XXV.

MAGAZINES AND THEIR RELATIONS TO MARCHES.

The combinations which are most nearly connected with the system of marches, are those of magazines, for, in order to march quickly and for a long time, provisions are necessary; now the art of subsisting a numerous army, in a hostile country especially, is one of the most difficult. The science of a commissary general of subsistence has its special treatises, to

which we shall refer our readers, limiting ourselves to indicating what it has in common with strategy.*

The system of supply of the ancients has never been well known, for, all that Vegetius says of the administration of the Romans, does not suffice to discover to us the machinery of a subject so complicated. A phenomenon which will ever be difficult to conceive, is that Darius and Xerxes were able to subsist immense armies in Thrace, (Romelia,) whilst, in our day, one would have difficulty to subsist there thirty thousand men. In the middle ages, the Greek emperors, the barbarians, and still later, the crusaders fed there also considerable masses of men.

Cæsar has said that war ought to nourish war, and it is hence generally concluded that he always lived at the expense of the country which he passed over.

The middle ages were remarkable for their great migrations of all kinds, it would be very interesting to know exactly the number of Huns, Vandals, Goths and Mongols, which successively traversed Europe, and how they lived on their marches.

In the earlier times of modern history, it is to be believed that the armies of Francis First, crossing the Alps to enter fertile Italy, did not carry great magazines in their trains; for they were only forty or fifty thousand men strong, and such an army is not embarrassed with living in the rich valleys of the Ticino, and of the Pô.

Under Louis XIV and Frederick II, more considerable armies, fighting on their own frontiers, lived regularly by the magazines and bakeries which followed them; which constrained much their operations, by precluding them from moving from their depôts beyond a space proportioned to the means of transportation, to the quantity of rations which they carry, and to the number of days which was necessary for the vehicles to go and return from the camp.

In the Revolution, necessity caused these magazines to be despised; large armies, invading Belgium and Germany without provisions, lived sometimes among the inhabitants, sometimes by forced requisitions upon the country, finally, by marauding and pillage. To march cantoning among the inhabitants is very possible in Belgium, in Italy, in Suabia, upon the rich banks of the Rhine and of the Danube, especially if the army, marching by several columns, does not exceed a hundred or a hundred and twenty thousand men; but it becomes very difficult in other coun-

* The work of Count Cancrin, formerly *Intendant-General* of the Russian armies could not be too highly recommended; there exist few as satisfactory on the art of administering the subsistence department.

tries, and impossible in Russia, Sweden, Poland, and in Turkey. It is conceived with how much more velocity and impetuosity an army acts, when it has no other calculation to make than that of the vigor of the limbs of its soldiers. This system gave great advantages to Napoleon; but he abused it, by extending it upon a large scale, and in countries where it was impracticable.

The general of an army ought to know how to make all the existing resources of the country he invades concur in his enterprises; he must employ the authorities, when they remain therein, to levy uniform and legal requisitions, which he will cause to be paid for when he has the means of so doing; when the authorities do not remain, he should establish provisory ones, composed of the notables, and clad with extraordinary powers. He will cause those provisions required to be collected upon points the most favorable to the movements of the army, according to the principles of lines of operations. To the end of husbanding the supplies, he will cause to be cantoned in the cities and villages the greatest possible numbers of troops, securing an indemnity to the inhabitants for the surcharge which will result therefrom. The army, besides its provisions and forage, will have parks of auxiliary carriages furnished by the country, in order that the provisions may reach it wherever it should remain stationary.

It is as difficult to establish rules as to what it would be prudent to undertake, without forming magazines in advance, as to trace the exact demarcation between the possible and impossible. The countries, the seasons, the force of the armies, the spirit of the population, all vary in these combinations; but we may establish as general maxims:

1. That in fertile and populous countries, the inhabitants of which should be hostile, an army of a hundred or a hundered and twenty thousand men moving towards the enemy, but yet sufficiently distant to embrace without danger, a certain extent of country, may march during the whole time that a given operation may require, drawing its resources from the country. Now, as a first operation never requires more than a month for the bulk of its masses to be in motion, it will suffice to provide, by reserve supplies, for the eventual necessitfes of the army, and especially for those of the forces which should be obliged to remain stationary at the same point. For example, the army of Napoleon, half united around Ulm, to blockade Mack therein, might have need of biscuit until the surrender of the city, and if it were wanting the operation might fail.

2. During this time, it would be necessary to apply one's self to collecting, with all possible activity, the resources which the country offers, in order to form magazines of reserve, and to relieve the wants which the army should experience after the success of the operation, whether for concentrating in positions of repose, or for departing from thence, and marching to new enterprises.

3. The magazines which should have been collected by purchase, or requisitions upon the country, ought to be disposed as much as possible in echelons, on three different rays of communications, which will facilitate on one side the supply of each of the wings of the army, and on the other the greatest possible extension of the sphere of successive requisitions; finally, the means of better covering, if not the whole, at least a good part of the line of depôts. With this last aim it would not be useless that the depôts of the two wings should be established on rays converging towards the principal line of operation, which will ordinarily be found to be that of the centre. By this precaution two real advantages will be obtained, the first, of placing the magazines in greater security from the insults of the enemy, by augmenting the distance which separates them from him; the second would be to facilitate the concentric movements in rear, which the army might execute, in order to unite on a single point of the line of operation, with the object of falling in its turn upon the enemy, and of wresting from him, by seizing again the initiative of attack, the momentary ascendancy which he should have acquired.

4. In countries where the population is too sparse, and the soil little fertile, an army will lack the most essential resources; hence it will be prudent not to remove it too far from its magazines, and to carry along supplies of reserve sufficient to give it time, at need, to fall back upon the base of its grand depôts.

5. In national wars, and in countries where the whole population flies and destroys every thing, as has happened in Spain, Portugal, Russia and Turkey, it is impossible to move without being followed by regular magazines, and without having a sure base of supplies in proximity with the front of operations, which renders a war of invasion much more difficult, not to say impossible.

6. It does not suffice to assemble immense provisions, there is yet necessary the means of causing them to follow the army, and it is in this that consists the greatest difficulty, especially when it is wished to march to brisk and rapid enterprises. In order to facilitate the march of the magazines it is necessary, in the first place, to compose them of the most portable provisions, such as biscuit, rice, &c.; then it will be necessary to have military carriages which unite lightness and solidity, to the end of being able to pass over all kinds of roads. It is important, also, as we

have said, to collect the greatest number possible of the vehicles of the country, taking care that the proprietors or conductors be well treated and protected by the troops; parks of them will be formed in echelons in order not to remove them too far from their homes, and to have successive resources husbanded. Finally, it will be necessary to habituate the soldier to carry for a few days biscuit, rice, or even flour, in default of other provisions.

7. The neighborhood of the sea offers very great facilities for the supplying of an army; that one which is master of the sea, it seems ought never to want for anything. However, this advantage is not without its inconvenience for a great continental army, for with the object of remaining in sure relations with its magazines, it will allow itself to be drawn into carrying its operations upon the shore, which would expose it to cruel disasters, if the enemy acted with the mass of his forces upon the extremity opposite to the sea.* If it remove too far from the shore, it may then be exposed to see its communications menaced or even intercepted, and the material means of every kind must of necessity be augmented in proportion as it shall so remove itself.

8. The continental army, which shall employ the sea to facilitate its arrivals, must not neglect to have its principal base of operations by land, with a reserve of supplies, independent of maritime means, and a line of retreat upon the extremity of its strategical front opposite the sea.

9. The rivers or navigable streams, whose course should be nearly parallel with the routes which should serve as a line of operations to an army, would furnish, as well as canals, great facilities for the transportation of provisions; and although these means are not comparable to those which great navigation procures, they would, notwithstanding, be very valuable. It is concluded thence with reason that lines of operations parallel to a river are the most favorable, especially in that they render arrivals more easy, and permit a great diminution of the embarrassment of carriages; but so far from the river being within itself the true line of operations, as has been pretended, it would be necessary always to have care that the greater part of the troops should be able to keep removed from it, to the end of preventing the enemy, coming to attack them in force on the extremity opposite to the river, from placing them in a position quite as fatal as if they were hemmed in upon the sea.

* It is seen that I mean to speak here only of wars between European nations which know how to manœuvre; one might deviate from these rules against Asiatic and Turkish hordes, little to be feared in the field; they have neither instruction nor troops capable of punishing the faults which should be committed before them

It must be observed, however, that in a hostile country it is very rare to be able to profit by a river for the arrival of provisions, either because of the destruction of its vessels, or because light corps might disturb its navigation. In order to render it sure it would be necessary to direct corps upon the two banks, which is not without danger, as Mortier experienced at Dirnstein. In a friendly or allied country the case is different, and the advantages of rivers are more real.

10. In default of bread or biscuit, flesh upon the foot has often sufficed for the immediate wants of an army; and in populous countries, beasts are always sufficiently abundant to provide it for some time. But these resources are soon exhausted, and they drive troops to maranding; it is important, then, to regulate by all means possible the requisitions for beasts, to pay for them if practicable, and especially to cause the columns to be followed by bullocks bought out of the sphere of the marches of the army.

I could not terminate this article without citing a saying of Napoleon, which will appear strange, but which, however, has its good side. I have heard him say that, in his first campaigns, the hostile army was always so well provided that, when he found himself embarrassed to feed his own, he had only to throw it upon the rear of the enemy, where he was certain to find every thing in abundance. A maxim which it would doubtless be absurd to lay down as a system, but which explains perhaps the success of more than one rash enterprise, and which demonstrates how much veritable war differs from too measured calculations.

ARTICLE XXVI.

FRONTIERS, AND THEIR DEFENSE BY FORTRESSES OR INTRENCHED LINES. WAR OF SIEGES.

Fortresses have two capital destinations to fulfill, the first, is to cover the frontiers; the second, to favor the operations of an army in the field.