

in themselves, had for result the invasion Suabia and Bavaria, on account of the good direction of the line of operations. The consequences of the march which carried the army of reserve by the St. Bernard and Milan upon the extreme right, and afterwards upon the rear of Melas, were much more brilliant still; they are sufficiently well known to dispense with our recalling them here.

This manœuvre, entirely similar to that which we have traced upon the map of the Alps, is found, it is true, in flagrant opposition to certain rather too exclusive systems, which require bases parallel to those of the enemy, and double lines of operations forming a right angle, the summit of which should be directed upon the centre of the strategic front of the adversary. But we have already said enough of those systems to demonstrate that our's is preferable. However, when it shall be the question to operate upon the centre of the enemy, nothing would oppose the adoption of the right-angled system of Bulow, provided that no account is held of the exaggerated conditions with which its commentators have loaded it, and that the double lines which it renders necessary should be interior, as will be seen hereafter.

3. It must not be believed, nevertheless, that it is sufficient to gain the extremity of a hostile front of operations, in order to be able to throw one's self with impunity upon the rear; for there are cases where, in acting thus, he will find himself cut off from his own communications.

In order to avoid this danger, it is important to give to your line of operations a geographical and strategic direction, such, that the army preserve behind it a sure line of retreat, or that, at need, it may find one on another side where it could throw itself, in order to regain its base by one of those changes of lines of operations of which we shall speak hereafter. (See 12th maxim.)

The choice of such a direction is so important, that it characterizes of itself alone one of the greatest qualities of a general-in-chief, and I shall be permitted to cite two examples of it, to make myself better understood.

For example, if Napoleon, in 1800, after having passed the St. Bernard, had marched direct by Turin upon Asti or Alexandria, and had received battle at Marengo, without being assured previously of Lombardy and the left bank of the Po, he would have been cut off from his line of retreat more completely than Melas was from his, whilst that having at need the two secondary points of Casal and Pavia on the side of the St. Bernard, and those of Savona and Zendi on the side of the Appenines, he had, in case of reverse, all the means of regaining the Var or the Valais.

In the same manner in the campaign of 1806, if he had marched from Gera straight to Leipzig, and had there awaited the Prussian army returning from Weimar, he would have been cut off from his base of the Rhine, as well as the Duke of Brunswick from that of the Elbe; whereas by moving from Gera to the west in the direction of Weimar, he placed his front of operations in advance of the three routes of Saalfeld, Schleiz and Hof, which served him as lines of communication, and which he covered thus perfectly. And even if the Prussians had imagined they could cut him off from his lines of retreat by throwing themselves between Gera and Bareith, then they would have opened to him his most natural line, the fine highway from Leipzig to Frankfort, besides the ten roads which lead from Saxony through Cassel to Coblenz, Cologne, and even Wesel. Here is enough to prove the importance of those kinds of combinations; let us return to the series of maxims announced.

4. To manœuvre wisely, it is necessary to avoid forming two independent armies upon the same frontier; such a system could scarcely be suitable except in cases of great coalitions, or when there should be immense forces which could not be made to act upon the same zone of operations without being exposed to an incumbrance more dangerous than useful. Still, even in this case would it not always be better to subject these two armies to one chief, who would have his head-quarters with the principal army?

5. In consequence of the principle we have just announced, it is certain that with equal forces, a simple line of operations on the same frontier will have the advantage over a double line of operations.

6. It may happen nevertheless, that a double line becomes necessary, 1st, from the configuration of the theatre of war, afterwards, because the enemy will have formed one himself, and it will be necessary to oppose a part of the army to each of the two or three masses which he will have formed.

7. In this case, the interior or central line will be preferable to the exterior line, since the army which shall have the interior line will be able to make each of its fractions co-operate in a plan combined between them, and can thus assemble the mass of its forces before the enemy, for deciding upon the success of the campaign.

An army whose lines of operations should offer such advantages would then be in condition, by a strategical movement, well combined, to overthrow successively the fractions of the adversary which should offer themselves alternately to its blows. To assure the success of this movement,



a corps of observation would be left before the part of the hostile army which it should be desired merely to hold in check, prescribing to it not to accept a serious engagement, but to content itself with suspending the march of the enemy by favor of the accidents of the ground, and in falling back upon the principal army.

8. A double line may be suitable also when you have a numerical superiority so decided, that you can manœuvre in two directions without being liable to see one of your corps overthrown by the enemy. In this hypothesis it would be a fault to accumulate your forces on a single point, and thus to deprive yourself of the advantages of your superiority, by rendering it impracticable for a part of your forces to act. Nevertheless, in forming a double line, it will always be prudent to reinforce suitably the part of the army which, by the nature of the theatre of war and the respective situations of the two parties, would be called upon to play the most important part.

9. The principal events of the late wars prove the correctness of two other maxims. The first is, that two interior lines, sustaining each other reciprocally, and showing front, at a certain distance, to two masses superior in numbers, ought not to allow themselves to be compressed by the enemy in a too contracted space, where they might end by being simultaneously overthrown, as happened to Napoleon in the celebrated battle of Leipzig. The second is that interior lines ought not to go either into the contrary excess, by extending to a too great distance, for fear of allowing the enemy time to gain decisive successes against the secondary corps left in observation. It could be done, nevertheless, when the principal object in view should be so decisive that the whole fate of the war might depend upon it; in this case, one could look with indifference upon what might happen at secondary points.

10. For the same reason, two concentric lines are preferable to two divergent lines; the first, more conformed to the principles of strategy, procure moreover the advantage of covering the lines of communications and of supply; but in order that they be exempt from danger, they should be combined in such a manner that the two armies which pass over them, may not meet separately the united forces of the enemy, before being themselves in condition to operate their junction.

11. Divergent lines may nevertheless be suitable, either after a battle gained, or after a strategic operation by which you will have succeeded in dividing the forces of your adversary by breaking his centre. Then it becomes natural to give your masses excentric directions in order to finish the dispersion of the vanquished; but, although acting upon diver-

gent lines, those masses will nevertheless find themselves on interior lines, that is to say, more approached to each other, and more easy to reunite than those of the enemy.

12. It happens at times that an army sees itself forced to change its line of operations in the midst of a campaign, which we have designated under the name of accidental lines. It is one of the most delicate and important of manœuvres, which may give great results, but may lead also to great reverses, when it is not combined with sagacity, for it is scarcely used but for extricating an army from an embarrassing situation. We have given, in Chapter X. of the Treatise on grand operations, an example of such a change, executed by Frederick in the course of the raising of the siege of Olmutz.

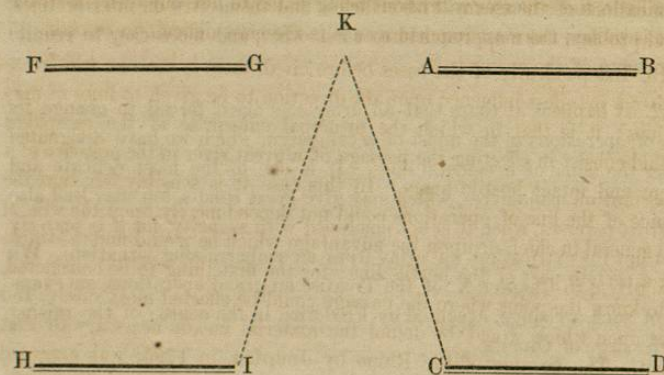
Napoleon projected several of them, for he was accustomed, in his adventurous invasions, to have such a project ready for parrying unexpected events. At the epoch of the battle of Austerlitz, he had resolved, in case of check, to take his line of operations through Bohemia upon Passau or Ratisbon, which offered to him a country, new and full of resources, instead of retaking that by Vienna, which offered nothing but ruins, and on which the Arch-Duke Charles might be able to anticipate him.

In 1814, he commenced the execution of a manœuvre more bold, but favored at least by localities, and which consisted in basing himself upon the belt of fortresses of Alsace and Lorraine, opening to the allies the road to Paris. It is certain that had Mortier and Marmont been able to join him, and he had had fifty thousand men more, this project would have been followed by the most decisive results, and put the seal to his brilliant military career.

13. As we have said above (maxim 2), the configuration of frontiers and the geographical nature of the theatre of operations, may exercise a great influence upon the direction itself to be given to these lines, as well as upon the advantages to be derived from them. Those central positions which form a salient angle towards the enemy, like Bohemia and Switzerland, are the most advantageous, because they naturally lead to the adoption of interior lines and facilitate the means of taking the enemy in reverse. The sides of this salient angle are so important there that it is necessary to join all the resources of the art to those of nature to render them unattackable.

In default of those central positions, they might be supplied by the relative direction of manœuvre lines as the following figure shows.





C D manœuvring upon the right flank of the army A B; and H I directing itself upon the left flank of F G, will form two interior lines, C K and I K, upon an extremity of each of the exterior lines A B, F G, which they will be able to overthrow one after the other by carrying alternately against them the mass of their forces. This combination presents the results of the lines of operations of 1796, of 1800 and 1809.

14. The general configuration of the bases may also have a great influence upon the direction to be given to the lines of operations, which must naturally be subordinate to the situation of their respective bases, as will be obvious by recalling what we have said before upon this article. Indeed, by a simple examination of the figure annexed to said article, page 90, it will be seen that the greatest advantage which would result from the conformation of frontiers and bases, would consist in prolonging the latter perpendicularly to the base of the enemy, that is to say parallelly to his line of communications, which would give the facility of seizing this line, and of separating thus the enemy from his base.

But if, instead of directing your own operations so as to effect this, you choose badly the direction of your line, all the advantage of the perpendicular base will become null. It is evident that the army E, which should possess the double base A C and C D, if it marched by the left towards the point F, instead of prolonging itself by its right towards G H, would lose all the strategical advantages of its base, C D. (See page 90.)

The great art of directing our lines properly consists, then, as we have just seen, in combining their relations with the bases and with the movements of the army, in such a manner as to be able to seize upon the com-

munications of the enemy without being liable to lose our own; a strategical problem the most important as it is the most difficult to resolve.

15. Independently of the cases before cited, there is yet one which exercises a manifest influence upon the direction to be given to lines of operations; it is that in which the principal enterprise of the campaign should consist in effecting the passage of a great river in the presence of a large and intact hostile army. In this case, it is sensibly felt that the choice of the line of operations could not depend merely upon the will of the general-in-chief, or upon the advantage which he would find in attacking a certain part of the hostile line; for the first thing to be considered, is to know the point where the passage could be effected most surely, and that upon which would be found the material means necessary to that effect. The passage of the Rhine by Jourdan, in 1795, was executed near Dusseldorff, for the same reason which decided that of the Vistula by Marshal Paskievitch near Ossick, 1831; that is to say, because the army not having in its train a sufficient bridge equipage, it was necessary to send up large commercial ships bought in Holland by the French army, the same as the Russian army had purchased theirs at Thorn and Dantzic. The neutral territory of Prussia furnished, in these two circumstances, the facility of sending those vessels up the river, without the enemy being able to interpose any obstacle thereto. This facility, of an incalculable advantage in appearance, forced the French nevertheless to the double invasions of 1795 and of 1796, which failed precisely because the double line of operations resulting therefrom gave the means of partially defeating them. Paskievitch, better advised, caused the Upper Vistula to be passed only by a secondary detachment, and after the principal army had already arrived at Lowicz.

When there are military positions in sufficiency, there are less vicissitudes to be undergone in the passage. Meanwhile, it is necessary still to choose the point which offers the most chances of success in consequence of the localities and the position of the hostile forces. The discussion between Napoleon and Moreau about the passage of the Rhine in 1800, which I have reported in the 13th volume of the History of the wars of the Revolution, is one of the most curious examples of the different combinations which this at once strategical and tactical question presents.

The position chosen for the passage exercises the same influence upon the direction suitable to give to the first marches after it is effected, in view of the necessity of covering the bridges against the enemy, at least until after a victory; this choice may nevertheless, in every state of things, present a just application of principles for it will definitively be limited



always to the single alternative of a passage upon the centre or upon one of the extremities.

An army united, which should force the passage upon one of the points of the centre, against a somewhat extended cordon, could divide itself afterwards into two divergent lines to the end of dispersing the parts of the hostile cordon which, being found thus out of condition to unite, will scarcely think of troubling the bridges.

If the line of the river be sufficiently short to allow the hostile army to remain concentrated, and if the means be had of taking after the passage a front of operations perpendicular to the river, then it would be best perhaps to pass it upon one of the extremities, to the end of throwing back all the hostile forces out of the direction of the bridges. For the rest we shall treat of this subject in Article 37; on the passage of rivers.

16. There is still a combination of lines of operations, which ought not to be passed over in silence. It is the notable appearance which exists between the chances of a line of operations established in one's own country and that established in a hostile country. The nature of these hostile countries will have an influence also upon those chances. An army crosses the Alps or the Rhine to carry war into Italy or Germany; it finds at first, States of the second order; supposing even that their chiefs are allied to each other, there will be nevertheless in the real interest of those small States, as well as in their populations, rivalries which would prevent the same unity of impulsion and of force which would be met with in a great State. On the contrary, a German army, which shall pass the Rhine or the Alps to penetrate into France, will have a line of operations much more hazardous and more exposed than those French who should penetrate into Italy, for the first would have to encounter the whole mass of the forces of France united in action and will.\*

An army on the defensive, which has its lines of operations on its own soil, has resources in everything; the inhabitants of the country, the authorities, the productions, the places, the public and even the private magazines, the arsenals, all favor it; it is not the same abroad, at least not ordinarily; one does not always find banners arrayed against the national standard, and even in that case he will still have against him all the advantages which the adversary will find in the elements of the public force.

\* It will be comprehended that I speak here of the ordinary chances of a war between two powers merely, in a calm state within themselves. The chances of wars of party make exceptions.

I have said that the nature of countries influence also the chances of lines of operations; in fact, besides the modifications which we have just explained, it is certain that the establishment of lines of operations in countries rich, fertile and industrial, offer to the assailants many more advantages than those in countries more barren and desert, especially when whole populations are to be contended with. There will be found indeed in those fertile, industrial and populous countries, a thousand things necessary to every army, whereas in the others nothing will be met with but huts and straw, the horses will merely find pasturage there, but as for everything else, it will be necessary to carry it along, so that the embarrassments of the war will thereby be increased without end and brisk and bold operations will be more rare and hazardous. The French armies, so accustomed to the comforts of Suabia and rich Lombardy, came near perishing in 1806 in the mud of Pultusk, and did perish in 1812 in the marshy forests of Lithuania.

17. There is yet a rule relative to lines of operations to which several writers have attached a great importance, that seems very just when reduced to geometrical formula, but which, in its application, might be ranged in the class of Utopias. According to this rule, it would be necessary that the countries lateral to each line of operations should be dis-embarrassed of every enemy, to a distance which would equal the depth of that line, because, otherwise, those enemies could menace the line of retreat; an idea which has been translated geometrically, as follows: "There can be no security for an operation until the enemy is driven out-side of a semi-circle, the centre of which is the most central subject (*Mittelstes Subject*), and the radius of which (*Halbmesser*) is equal to the length of the line of operations."

Then, in order to prove this somewhat obscure axiom, it is demonstrated that the peripheric angles of a circle, which have the diameter for opposite side, form right angles, and that in consequence the angle of ninety degrees required by Bulow for lines of operations, that famous strategical *caput-porci*, is the only rational system: from which it is afterwards charitably concluded, that those who do not choose to make war trigonometrically are ignoramuses.

This maxim sustained with so much warmth and so specious on paper, is found nevertheless belied by the events of war: the nature of the country, the lines of rivers and mountains, the moral state of the two armies, the spirit of the people, the capacity and energy of the chiefs, are not measured by angles, diameters, and peripheries. Doubtless considerable corps could not be tolerated upon the flanks of a line of retreat, in a



manner to seriously disturb it; but to push too far the maxims so much vaunted, would be to deprive one of every means of making a movement into the enemy's country; now, it would be all the more natural to free one's self of it, as there is not a campaign of the last wars and of those of Prince Eugene and of Marlborough that does not test the nullity of these pretended mathematical rules. Did not General Moreau find himself at the gates of Vienna in 1800, whilst Fussen, Sharnitz and all the Tyrol, were yet in the power of the Austrians? Did not Napoleon find himself at Placentia when Turin, Genoa and the Coldi Tendi were occupied by the army of Melas? I shall ask finally what geometrical figure did the army of Prince Eugene of Savoy form when it marched by Stradella and Asti to the succor of Turin, leaving the French on the Mincis at a few leagues only from his base?

Those three events would suffice, in my opinion, to prove that the compass of the geometrician will ever wane, not only before such geniuses as Napoleon and Frederick, but before great characters such as the Suwaroffs, the Massenass, &c.

God forbid, nevertheless, that I should think of depreciating the merit of officers, versed in those sciences which have taught us to calculate even the courses of the stars. I have for them, on the contrary, a kind of veneration; but my own experience authorizes me to think that if their science is necessary for constructing or attacking places and intrenched camps, as well as for drafting plans and projecting maps, if it gives besides real advantages in all calculations of practical application, it is but a feeble succor in the combinations of strategy and grand tactics where the moral impulsions, seconded by the laws of statics, play the principal part.\* Those even of these respectable disciples of Euclid, who might be capable of commanding an army well, must to do it with glory and success, forget a little of their trigonometry; it is at least the course that Napoleon had taken, whose most brilliant operations seem to belong much more to the domain of poetry than to that of the exact sciences; the cause of this is simple, *it is that war is an impassioned drama* and by no means a mathematical operation.

\* It will be objected that strategy especially is combined by means of lines; that is true, but to know whether one of those lines leads to a suitable point or to a gulf, and to calculate the shortest distance, from the point where we are to that which we wish to attain, there is no need of geometry, for a post map would be more useful for that than a compass. I have known a general almost the rival of Laplace, whom I have never been able to make comprehend why such a strategical line would be preferable to such another, nor how that of the Meuse was the key of the low countries, when they are defended especially by a continental army.

? impulses!

I shall be pardoned this digression; I have been attacked by vain formulas, it is natural that I should defend myself, and the only favor which I ask of my critics, is to be as equitable towards me as I am towards them. They want war too methodical, too measured, I would make it brisk, bold and impetuous, perhaps even sometimes audacious. \* \* \* \* *Suum cuique.*

Far from me, however, the thought of repelling all the precautions which may flow from the principle even of those measured rules, for they could never be neglected entirely; but to be reduced to making war geometrically, would be to impose fetters on the genius of the greatest captains, and to submit to the yoke of an exaggerated pedantry. For my part, I shall ever protest against such theories, as well as against the apology of ignorance.

#### OBSERVATIONS ON INTERIOR LINES, AND THE ATTACKS OF WHICH THEY HAVE BEEN THE OBJECT.

I ask pardon of my readers if I divert their attention for a moment, in order to add here a few words upon the controversies of which this article has been the subject. I have hesitated if I should defer these observations to the end of the volume, but as they contain useful elucidations of the doctrines which precede, I have thought I might place them here.

The critics have been very little agreed in their reproaches; some have disputed upon the meaning of certain words and definitions; others have censured certain points of view which they had badly comprehended; the latter finally have taken occasion from a few important events, to deny my fundamental dogmas, without troubling themselves whether the conditions which modify those dogmas, were indeed the same as those which they supposed (which I formally deny,) and without reflecting that in admitting even their applications as exact, a fortuitous exception could not destroy a rule consecrated by the experience of centuries, and founded upon principles.

Several of those military writers, willing to contest my maxims upon interior or central lines of operations, have opposed to them the famous



march of the Allies upon Leipzig, which succeeded by a contrary system.\* This memorable event seems, at first sight, calculated to shake the faith of those who believe in principles; but, besides presenting one of those exceptional cases rare in the history of all ages, it is evident that nothing could be concluded against rules supported by thousands of other examples; and it will be easy for us to demonstrate that, far from being able to draw from these facts the least argument against the dogmas which we have presented, they prove on the contrary, all their solidity. In fact, my critics had forgotten that in case of a considerable numerical superiority, I recommended, for the superior army, double lines of operations as the most advantageous; especially when they were concentric, and directed in a manner to operate a common effort against the enemy so soon as the moment for the decisive shock should have arrived.† Now, in this march of the armies of Schwartzberg, Blücher, the Prince of Sweden and Benningesen, we find again precisely that case of numerical superiority which was to militate in favor of the system adopted. With regard to the inferior army, in order that it should conform to the principles set forth in this chapter, it would be necessary that it should direct its efforts upon an extremity of its adversaries, and not upon their centre, so that the events opposed to me prove doubly in favor of my maxims.

Moreover, if the central position of Napoleon between Dresden and the Oder became fatal to him, it must be attributed to the disasters of Culm, of the Katzbach, of Dennewitz, in a word, to faults of execution wholly foreign in reality to the system. *That which I propose consists in acting offensively upon the most important point with the major part of your forces, remaining at secondary points on the defensive, in strong positions or behind a river, until the decisive blow being struck, and the operation terminated by the total defeat of an essential part of the hostile army, you find yourself at liberty to direct your efforts upon one of the other menaced points.* So soon as secondary armies are exposed to a decisive shock du-

\* It is thirty-three years since I presented these maxims for the first time; the quite recent events which have transpired in Navarre, prove how just they are, and how much the principles so simple upon which they repose are frequently misconceived. The troops of Don Carlos, attacked by three great corps at considerable distances asunder, have gained a complete victory by favor of their central position put to good profit. The ignoramuses cry treason, when immutable principles alone have caused the loss of Evans. If the generals who have succeeded each other for ten years past in Spain, had ever thought of the application of principles, such a rout could never have happened; but to read and to meditate are things too vulgar for men who unceasingly proclaim themselves invincible.

† See chapter 12 of the treatise on grand military operations, vol. 2, page 158.

ring the absence of the bulk of the army, the system is badly comprehended, and this was precisely what happened in 1813.

In fact, if Napoleon, victorious at Dresden, had pursued the army of the Sovereigns into Bohemia, far from sustaining the disaster of Culm, he would have presented himself menacingly before Prague, and would perhaps have dissolved the coalition. He committed the fault of not troubling seriously their retreat; and to this fault was added another not less grave, that of engaging decisive battles upon points where he was not found in person with the weight of his forces. It is true that at the Katzbach his instructions were not followed; for they prescribed the waiting for Blücher, and the falling upon him when he should furnish occasion for it by hazardous movements, whilst Macdonald on the contrary, ran to meet the Allies, crossing, by isolated corps, torrents which the rains were swelling every hour.

Supposing that Macdonald had done what was prescribed to him, and that Napoleon had followed up his victory at Dresden, we shall be forced to own that his plan of operations, based upon interior strategic lines, and upon a line of operations with double concentric rays, would have been crowned with the most brilliant success. It is sufficient to glance at his campaigns in Italy in 1796, and in France in 1814, to be satisfied that he knew how to operate by the application of this system.

To these different considerations must be added a circumstance not less important, in order to demonstrate that it would be unjust to judge of central lines by the fate which those of Napoleon experienced in Saxony: *it is that his front of operations was found outflanked upon the right, and taken in reverse by the geographical position of the frontiers of Bohemia, a case which rarely presents itself.* Now, a central position which has such defects, could not be compared with one which has not. When Napoleon applied this system in Italy, in Poland, in Prussia, and in France, he was not thus exposed to the blows of an enemy established on his flanks and rear; Austria could have menaced him at a distance in 1807; but she was in a state of peace with him, and disarmed.

In order to judge of a system of operations, it is necessary to admit that the reciprocal chances are equal, and this was not the case in 1813, neither in respect to geographical positions, nor in regard to the condition of the respective forces. Independently of this fact, which is evidence of the shallowness of my Aristarchuses, it seems absurd to cite the reverses of the Katzbach and of Dennewitz, sustained by the lieutenants of Napoleon, as proofs capable of destroying a principle, the most simple application of which would have exacted that those lieutenants should not accept



of a serious engagement, instead of seeking a battle as they did. In fact, what advantage could one flatter himself with obtaining from the system of central lines, if the parts of the army which he should have enfeebled in order to carry his efforts upon other points, committed the fault of hurrying themselves, to meet a disastrous struggle, instead of being contented with the part of a corps of observation.\* It would then be the enemy who would be found to have applied the principle, and not he who might have taken the interior line. Moreover, the campaign which followed that of Leipzig, soon came to demonstrate the correctness of the contested maxims; Napoleon's defensive in Champagne, from the battle of Brienne to that of Paris, proved to a demonstration all that I could have said in favor of central masses.

However, the experience of those two celebrated campaigns has given birth to a strategical problem, which it would be difficult to resolve by simple assertions founded on theories; it is to know whether the system of central masses loses of its advantages when the masses which it is the question to put in action are very large. Persuaded, like Montesquieu, that the greatest enterprises perish through the magnitude even of the preparations that are made to assure their success, I should be much inclined to pronounce for the affirmative. It appears to me incontestable that a mass of a hundred thousand men, occupying a central zone against three isolated armies of thirty to thirty-five thousand men each, would be more sure of overwhelming them separately, than it were possible for a mass of four hundred thousand combatants against three armies of a hundred and thirty-five thousand men, and for several important reasons.

1. Because, with an army of a hundred and thirty to a hundred and forty thousand combatants, you can resist easily a more considerable force, in view of the difficulty of finding the ground and the time necessary for putting such great forces in action on the day of battle;
2. Because, even if you are repulsed from the field of battle, you have still at least a hundred thousand men to secure a good system of retreat, without allowing yourself to be too much broken up, whilst awaiting a junction with one of the other two secondary armies;
3. Because a central mass of four hundred thousand men requires such a quantity of provisions, munitions, horses, and *materiel* of every kind, that

\* I well know that one cannot always refuse combat without risking greater dangers than that of a check; Macdonald would also have been able to accept a battle with Blücher, if he had better comprehended the instructions of Napoleon, instead of doing quite the contrary. (See Political and Military Life of Napoleon, vol. 4. in the *pieces justificatives*.)

it will have much less mobility and facility for transporting its efforts from one part of the zone of operations to another; without taking into the account yet the impossibility of obtaining provisions from a country naturally too circumscribed for feeding such masses.

4. Finally, it appears certain that the two fractions of an army which the central mass ought to oppose to the two exterior hostile lines, with the instruction to limit themselves to holding them in check, would always require armies of eighty or ninety thousand men, since it is the object to hold a hundred and thirty-five thousand in check; so that if the armies of observation committed the folly of engaging in serious combats, they might sustain reverses, the consequences of which would be so deplorable that they would surpass much the advantages obtained by the principal army.

Notwithstanding all those doubts and all those mitigating reasons, if ever I had to dispose of an army, I should not hesitate to give it an interior direction in all the cases where I have recommended them as being the most favorable; or else I should assign to it in every other hypothesis, a direction upon the extremity of the front of operations of the enemy, according to the maxims above explained; leaving to my adversaries the pleasure of manœuvring according to the opposite systems. Until this experiment can have place they will permit me to remain firm in my belief, justified by the campaigns of Eugène of Savoy, of Marlborough, of Frederick the Great, and Napoleon.

Since I have undertaken to defend principles which seem incontestable, I will seize this occasion to reply to objections, still less founded, which distinguished, but often passionate and unjust writers, have raised against the above mentioned article.

The first are from the Bavarian Colonel Xilander, who, in his course of strategy, has often misconceived the principles which have served me as a basis. This writer, otherwise full of erudition, has acknowledged in a pamphlet and a more recent periodical journal, that he had been unjust and bitter in his manner of judging my work. He confesses even that he had not awaited the publication of my reply for acknowledging his wrong, although he has repeated it in a second edition.

This avowal, full of *naïveté*, which does him honor, dispenses with my returning to what he has said on the subject, but as his work is of the number of those which seduce through the orthodox forms of the positive sciences, I ought, nevertheless, for the sake of the art, to maintain what I have said relatively to the reproach which he made me of having raised



*with difficulty the scaffolding of an excentric system, in order to return finally to an opposite system.*

I repeat, this contradiction which he so gratuitously imputed to me, and which would be at least an inconsistency, does not exist. I have presented exclusively neither the concentric system, nor the excentric system; my whole work tends to prove the lasting influence of principles, and to demonstrate that operations, to be skillful and happy, must produce the application of those fundamental principles. Now, excentric or divergent operations, as well as the concentric, may be either very good or very bad; all depends upon the respective situation of the forces.

The excentric, for example, are good when they are applied to a mass departing from a given centre, and acting in a divergent direction, to divide and annihilate separately two hostile fractions which should be found to form two exterior lines; such was the manœuvre of Frederick, which produced, at the end of the campaign of 1767, the splendid battles of Rosbach and Leuthen; such were also almost all the operations of Napoleon, whose favorite manœuvre consisted in uniting, by well calculated marches, imposing masses on the centre, to divide them afterwards excentrically in pursuit of the enemy, after having pierced or turned his front of operations; this manœuvre had for object to finish thus the dispersion of the vanquished.\*

On the other hand, concentric operations are good in two hypotheses: 1. When they tend to concentrate a divided army, on a point where it would be sure to arrive before the enemy; 2. When they tend to make act, towards a common end, two armies which could not be anticipated and overthrown separately by any more concentrated enemy.

But let us reverse the question; then we shall have quite the opposite consequence; then we shall be assured how immutable principles are, and how much we should be on our guard against confounding them with systems. In fact, those same concentric operations, so advantageous in the two hypotheses above mentioned, may become the most pernicious when they are found applied to a different position of the respective forces. For example, if two masses start from points removed from each other, to march concentrically upon an enemy whose forces should be on lines interior and more approached to each other, there would result that this

\* M. Xilander will find it less astonishing that one could by turns approve of manœuvres concentric and divergent, when he shall reflect that among the most splendid operations of Napoleon, there are several where the two systems are alternately employed in 24 hours, as for example, the affairs around Ratisbon in 1809.

march would produce the union of the hostile forces before their own, and would expose the latter to inevitable defeat. This is what happened to Moreau and Jourdan before the Arch-Duke Charles, in 1796. Departing even from one point only, or from two points much less removed from each other than Dusseldorf and Strassburg, this risk may be run. What was the fate experienced by the concentric columns of Wurmser and Quasdanovich, wishing to direct themselves upon the Mincio by the two shores of Lake Garda? Will the catastrophe which was the result of the march of Napoleon and Grouchy upon Brussels have been forgotten? Both having started from Sombref, they wished to move concentrically upon that city, the one by Quatre-Bras, and the other by Wavre; Blucher and Wellington, taking an interior strategic line, united before them, and the terrible disaster of Waterloo attested to the world that the immutable principles of war are not violated with impunity.

Such events prove better than all the reasoning in the world, that no system of operations is good but when it offers the application of principles. I have not the pretention to believe that I have created those principles, since they have existed in all time; that Caesar, Scipio and the Consul Nero\* have applied them as well as Marlborough and Eugene, not to say better. But I believe that I am the first to have demonstrated them, with all the chances of their application, in a work in which the precepts emanate from the proofs themselves, and where the application is constantly found in the reach of military readers. The dogmatic form would have suited the professors better, I own; but I doubt whether it would have been as clear and as strongly demonstrative for young officers, as the historical form adopted in my treatise on grand military operations.

Some of my critics have gone so far as to censure the term lines of operations, which I give to surfaces, and to sustain that the true lines of operations were rivers; an assertion which, to say the least of it, is strange. No person would take it into his head to say that the Danube or the Rhine are lines of operations, upon which an army can act. Those rivers would be at the most lines of supply for facilitating arrivals, but not for manœuvring an army, unless its chief had the miraculous power of making an army march in the midst of the waters. My critic will say, perhaps, that he meant to speak of valleys and not of rivers; I would have him observe then, that a valley and a river are meanwhile, very different things, and that a valley is also a surface, and not a line.

\* The splendid strategical movement of this Consul, which gave the death-blow to the power of Hannibal in Italy, is not surpassed by the finest exploits of modern wars.



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.

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## ARTICLE XXII.

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### STRATEGICAL LINES.

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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 strategical 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 *échiquier*, 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