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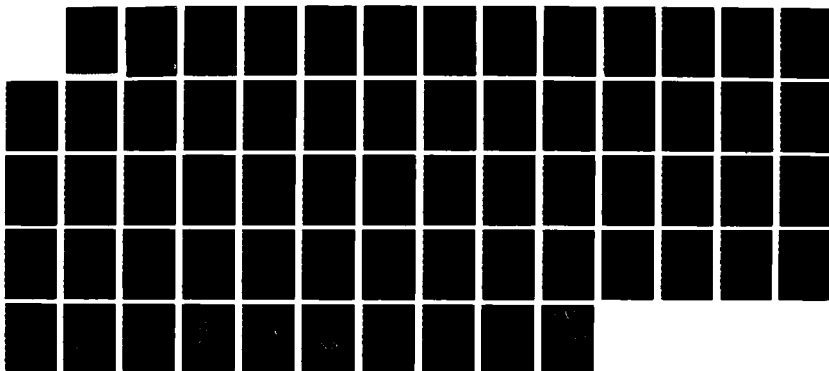
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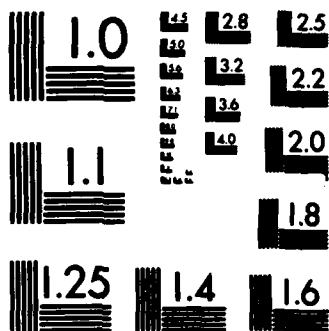
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How To Maximize The Advantages of Interior Lines at The  
Operational Level

by

Major Joseph O. Rodriguez, Jr.  
Infantry

School of Advanced Military Studies  
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Fort Leavenworth, Kansas

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and the use of the delaying force or corps of observation. It also considers the use of interior lines as a way to advance the enemy's culminating point. The paper concludes that the operational planner and commander of today can accrue significant advantages when numerically inferior through the proper understanding and use of interior lines of operations.

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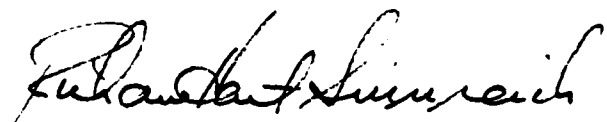
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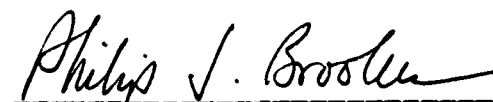
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**ABSTRACT**

**HOW TO MAXIMIZE THE ADVANTAGES OF INTERIOR LINES AT THE OPERATIONAL LEVEL**, by Major Joseph O. Rodriguez, Jr., USA, 47 pages.

This paper examines the concept of interior lines of operations at the operational level of war. Initially, the theoretical concepts are examined from the works of Baron von Jomini, Carl von Clausewitz and Mao Tsetung. From these theorists the concepts of interior lines at the operational level are defined and explained culminating in some contemporary implications for the operational planner.

Following the theoretical concepts is an examination of the historical perspective. The campaign selected for analysis is Napoleon's First Italian Campaign of 1796. This campaign provides an examination of both the offensive and the defensive use of interior lines by one of history's premier practitioners of the operational art - Napoleon Bonaparte. From the study of this campaign it is seen how Napoleon used interior lines when overall numerically inferior to his opponent to sequence battles to achieve relative numerical superiority at the decisive point.

This monograph concludes with an analysis of the theoretical and historical perspectives with applications for the joint or combined operational planner of today. The analysis considers the requirements for the operational planner to have an operational grasp of terrain and a thorough understanding of the theoretical and practical constructs of interior lines of operations. Within these constructs it addresses the requirements for intelligence, operational mobility and use of the delaying force or corps of observation. It also considers the use of interior lines as a way to advance the enemy's offensive culminating point and the requirement for boldness and resolution on the part of the commander. The conclusion is that the operational commander of today can accrue significant advantages when numerically inferior through the proper understanding and usage of interior lines of operations.



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## I. INTRODUCTION

Why should an operational planner have a working knowledge of the advantages and disadvantages of the concept of interior lines at the operational level? How can the use of interior lines of operations be maximized and why is this important to the Army officer today? These questions and others will be answered within the scope of this paper.

This topic is relevant and important for today's Army officer especially in light of the recent renewed interest and emphasis on the operational art of war. It is also relevant because of the renewed congressional emphasis for the assignment of Army officers at the joint and combined headquarters level. It is quite conceivable that U.S. forces may be required to wage a campaign on interior lines of operations in such places as Southwest Asia, the Middle East or even in certain European NATO scenarios. From observations of wargame exercises and from discussions with many students of the U.S. Army Command and General Staff College and the School of Advanced Military Studies, it is apparent to this author that many Army officers lack an appreciation for the advantages to be accrued by operating on interior lines in relation to sequencing battles for the purpose of achieving campaign objectives.

Throughout military history interior lines have been used by numerically inferior armies to defeat larger forces in both offensive and defensive operations. Field Manual (FM) 100-5 states that in the offense, interior lines can be used when the enemy forces are widely separated allowing the attacker to keep his own forces united while giving him the opportunity to isolate and defeat the separated enemy forces before they can unite and form a stronger defense. [1] In essence, interior lines allows the

commander to use economy of force measures to fix or slow one enemy force while using the offensive to mass relatively numerically superior forces at the decisive point in time and space to defeat the enemy forces in succession. At the operational level interior lines allows for the sequencing of battles in a manner which takes advantage of an enemy who may be over-extended and may have difficulty in imparting unity of time and objective within the various elements of his command. [2] By using interior lines to sequence battles in a manner that successively masses superior strength against enemy weaknesses it is possible to hasten the advent of the enemy's culminating point. This theoretical concept will be discussed further in the analysis portion.

Often in this paper the words "operational" and "strategic" (as it was used pre-1940) are used interchangeably. The word "operational" as used today signifies in essence what the word "strategy" meant as used 40 and more years ago. FM 100-5, Operations, defines the operational art as, "...the employment of military forces to attain strategic goals in a theater of war or...operations through the design, organization, and conduct of campaigns and major operations." [3] The operational art is characterized by the sequencing of battles, campaigns and major operations to achieve operational and strategic objectives. It involves the movement of large units over great distances to set the preconditions for and exploitation of tactical success on the battlefield. This paper will examine interior lines as a way in which to sequence battle to employ the available means (combat power) to achieve the desired operational and strategic ends.

There are innumerable cases throughout history where the proper use of interior lines has produced brilliant success by an

outnumbered army. However, in and of itself the use of interior lines in warfare is by no means always favorable for there are many cases where the army operating on interior lines has been defeated. There is no magic formula that will guarantee success just because an army operates on interior lines; however, there may be some conditions, principles or criteria favorable to executing operations on interior lines that allow the operational planner to identify, maximize and implement theoretical advantages offered by interior lines. Therefore, the primary purpose of this paper is to identify those principles, conditions and criteria that the operational planner should consider to maximize the advantages offered by interior lines.

The methodology for this research will consist of an examination of the theoretical concepts of interior lines as espoused and defined by the theorists Carl von Clausewitz, Baron de Jomini and Mao Tsetung. This examination of the theoretical concepts will provide the definitional framework from which to study the use of interior lines of operations. The next section will provide a historical perspective by examining Napoleon's First Italian Campaign in 1796 and his use of interior lines. This campaign will provide an examination of both the offensive and defensive use of interior lines at the operational level. Then, the Clausewitzian critical analysis method will be used as a tool to determine what principles, criteria and conditions were used and applied in using interior lines to achieve operational success. The analysis will focus on those factors that contribute to the successful use of interior lines at the operational level in both offensive and defensive operations.

## II. Theoretical Concepts of Interior Lines

### BARON DE JOMINI

Antoine Henri Jomini is known as one of the most prominent military theorists of all time. He served as a junior officer under Napoleon and was chief of staff to Marshal Ney. Jomini resigned from the Grande Armée and transferred to the Russian Army in 1813 where he served as a general officer for the next 56 years. [1] Jomini spent most of this time studying and writing on the Napoleonic battles. His first book, Treatise on Great Military Operations, led Napoleon to remark, "It teaches my whole system of war to my enemies!". [2] Jomini's seminal work is his Summary of the Art of War in which he defines in detail the concept of operating on interior lines from a central position.

Of all theorists Jomini offers the most prescriptive and detailed account of how to employ lines of operations and he perhaps places the greatest emphasis on these lines. In his Summary he said,

If the art of war consists in bringing into action upon the decisive point of the theater of operations the greatest possible force, the choice of the lines of operations, being the primary means of attaining this end, may be regarded as the fundamental idea of a good plan of campaign. [3]

It can be seen that Jomini saw lines of operations as the means whereby a general can mass the majority of his forces at the decisive point and that this is the key to operational or campaign planning.

Before discussing interior lines it should be stated that Jomini has often been criticized for thinking of war in purely geometrical terms and absolute rules. He addressed this criticism in his Summary and he took great care to point out that his diagrams were:

... not to be understood precisely as the geometric figures indicate them and that a general who would expect to arrange his line of battle as regularly as upon paper ...would be greatly mistaken and would be likely to suffer defeat...They want war too methodical, too measured; I would make it brisk, bold, impetuous, perhaps even audacious...to reduce war to geometry would be to impose fetters on the genius of the greatest captains. [4]

Jomini defined interior lines of operations as, "...those adopted by one or two armies to oppose several hostile bodies, and having such a direction that the general can concentrate the masses and maneuver with his whole force in a shorter period of time than it would require for the enemy to oppose to them a greater force." [5] He proceeds to say that exterior lines lead to the opposite result and are formed by an army which operates at the same time on both flanks of the enemy or against several of his masses. [6] In the sketch (See Figure 1 on page A-1), Army A is operating on interior lines. Armies B and C are operating on exterior lines with respect to Army A. As can be seen from this sketch, Army A is closer to Armies B and C than they are to each other therefore Army A has the opportunity to mass its forces against Army B while delaying the arrival of Army C. Once Army B has been defeated, Army A may then turn all his forces to defeat Army C.

Jomini contends that by examining the results of the most noted campaigns it can be seen that the lines of operations which have led to success have been established in conformity with the principles of interior lines and that these lines enable the general to bring into action, by strategic movements upon the important point, a stronger force than the enemy. [7] He also posits that those generals who failed have usually violated the principles of interior lines by unnecessarily dividing their forces and allowing fractions of their force to be overwhelmed by the

enemy. [8]

Therefore, it can be seen that Jomini advocates the use of interior lines as a method by which a numerically inferior force can defeat in succession a much larger force. He offers several principles to be followed when operating on interior lines. First, if the enemy has divided his force on an extended front then the best direction of maneuver is against his center and in every other case against his flank. Secondly, sometimes a double line of operations is necessary (when several armies are employed) in which case interior lines or central position is preferable as it allows for fractions of the army to be concentrated against those of the enemy. Jomini states that: "By a well conceived ... plan such an army may unite upon and overwhelm successively the fractions of the adversary's forces". [9] To ensure success at the point of mass Jomini suggests that a "corps of observation" or delaying force be positioned in front of the enemy force to be held in check. [10] The delaying force is to avoid serious engagement but to delay the enemy as long as possible by taking advantage of terrain while falling back upon the principal army. [11]

Baron de Jomini offers two pitfalls which should be avoided by an army operating on interior lines. First, if two friendly armies are on interior lines and are sustaining themselves reciprocally, while opposing two larger armies, they should not allow themselves to be crowded into too small a space where the entire force might be overwhelmed at once. Secondly, he cautions that interior lines should not be abused by extending them too far as this would allow the enemy to overcome the delaying force. [12]

Jomini's teaching on the use of interior lines requires a mobile force that can move faster than the enemy forces. In the

Art of War he discusses in detail the science of marches. Jomini says that the science of marches is the great operation of strategy (operational art) by combining the movements of columns to cover the greatest strategic front (operational distance), beyond the reach of the enemy for the three-fold purpose of ; 1) deceiving the enemy as to your objective, 2) moving with ease and rapidity, and 3) procuring supplies with greater ease than the enemy. [13] Jomini says it is the general who must ensure that there is a means of concentrating these columns in order to inflict a decisive blow. [14] By using the science of marches and the principle of interior lines the general is able to mass his force at the decisive point and engage fractions of the enemy army with the bulk of his force.

#### CARL VON CLAUSEWITZ

Clausewitz is not as detailed as Jomini on his treatment of interior lines at the operational level possibly because of his disdain for the geometrical factors and scientific theory of war. [15] However Clausewitz does shed some light on the subject which can assist the operational planner. He discusses the advantages of interior lines within the theoretical construct of the "convergence of attack and the divergence of defense". He states that each form has its own advantages which counterbalance each other.

Clausewitz states that the army operating on converging or exterior lines has the advantage of directing its effectiveness toward a common destination whereas the army operating on diverging or interior lines does not. [16] He cites the operational advantages of the attacker operating on converging lines as : 1) massing of the converging forces upon a single force, 2) encircling or cutting off the lines of retreat, and 3) creating alarm and



panic by operating in the enemy's rear. [17]

Clausewitz then defines the off-setting advantages of the divergent lines of defense. First, the defending forces are generally closer together and operating on interior lines which allows the defender to multiply his strength at the desired location requiring the attacker to be greatly superior before exposing himself. [18] Secondly, he submits that,

Once the defender has embraced the principle of movement...the benefit of greater concentration and interior lines becomes a decisive one which is more likely to lead to victory than a convergent pattern of attack. [19]

According to Clausewitz the relationship between interior and exterior lines is similar to the relationship between the attack and defense. He states that, "The convergent form pays dazzling dividends, but the yield of the divergent form is more dependable. The former is the weaker form with the active purpose; the latter is the stronger form with the passive purpose." [20] Therefore, if the attacker is greatly superior in numbers he can use converging or exterior lines to achieve a brilliant and decisive victory by either converging on the enemy force or cutting off his line of retreat. However, the defender operating on diverging or interior lines if he chooses to use the principle of movement is able sequentially to concentrate the mass of his force on portions of the converging force and defeat it in detail. Therefore, Clausewitz concludes that the use of interior lines is more sure and dependable but does not produce the climactic and decisive victories that the convergent form yields.

Clausewitz also points out that the advantages of interior lines are greater at the operational level than at the tactical level because of the greater distances involved. He

states that,

The advantage of interior lines increases with the distances to which they relate. Where distances measure a few miles, less time will obviously be saved than over a march of several days or a distance of several hundred miles. [21]

With greater distances at the operational level he states that the defender on interior lines has the advantage of being better able to conceal the movement of his forces from the enemy. [24]

#### MAO TSETUNG

Mao used interior lines of operations to his advantage against both the Nationalist Chinese Army and the Imperial Japanese Army. In numerous campaigns, when numerically inferior, he used a strategic (operational) defense to gain central position so he could then maximize the advantages of interior lines at the operational level.

When numerically inferior Mao would resort to the strategic defensive acting on the principle of conserving his strength while wearing down the enemy to a point where he could launch a counteroffensive. [23] He advocated, "...retreating to the base area and luring him in deep...to create or find conditions favorable for the counteroffensive." [24] By using the strategic defensive Mao was shaping the battlefield so he could concentrate his army, wear down the enemy, choose favorable terrain, make the enemy fight on his terms, and lastly so he could operate operationally on interior lines. [25] Once the enemy began his full-scale offensive Mao would retreat to concentrate his army in a central position in the Red base area. (See Figure 1-1 on page A-2)

As Mao withdrew and concentrated in the base area he would seek out the weak spots of the attacking army so he could exploit them during the counteroffensive phase. In this phase (See Figure

1-2 on pg. A-2) Mao had lured the enemy deep into his base area which was not only favorable terrain but also had a friendly populace to assist him in concentrating his forces. [27] With the enemy advancing in several columns (A,B,and C in Fig. 1-2) Mao would use the pockets of guerillas to strike the advancing columns in the flanks and rear to demoralize, weaken, tire, and isolate the columns one from another.

Having concentrated the Red Army he would then use interior lines to isolate and destroy the column of his choice (Column B) on the terrain of his choosing. By massing overwhelming combat power against Column B he could quickly defeat it and then, "...cut into two widely separated groups." [28] He could then mass to defeat each remaining column in turn. Mao's theory was to gain central position so he could use interior lines at the operational level so as to be able to employ exterior lines of operations at the tactical level to win battles. In sum he said:

The counteroffensive is transitional between the strategic defensive and the strategic offensive...it is for this purpose that troops are concentrated...We can change the converging attacks directed by the enemy against us on the plane of strategy into converging attacks by us against the enemy on the plane of campaigns and battles. We can change the enemy's strategic superiority over us into our superiority over him in campaigns and battles. This is what we call exterior-line operations within interior-line operations...the offensive within the defensive...initiative within passivity... [29]

Mao understood the disadvantages of the operational use of interior lines as well. When the enemy pressed hard from several directions Mao was unable to concentrate his army to take advantage of interior lines. [30] Success on interior lines depended upon lack of coordination among enemy armies, favorable terrain, and decisive success in the first battle. [31]

## CONTEMPORARY IMPLICATIONS

From this review of theory there are several prominent characteristics that can be associated with the successful use of interior lines at the operational level. First, central position and concentration of force is necessary to operate on interior lines. Secondly, interior lines are generally used by a numerically weaker army as a way to use both offensive and defensive measures to gain strength over the enemy in the desired battle. It also allows for the isolation of enemy forces on the battlefield and the sequential destruction of each one in turn. It was seen that it is desirable to have terrain favorable for the concentration of friendly forces while restricting the enemy's mobility. Lastly, a delaying force must be used to hold potentially reinforcing enemy units away from the main battle.

In modern warfare the time, distance and space issues are significantly changed by current technology. With the advent of airpower (Army and Air Force) and naval power, commanders now have the capability to concentrate and project combat power rapidly over great distances and sequence that power from one battle to another. With modern communications and highly mobile mechanized formations the operational commander can mass his ground forces in a fraction of the time it took Napoleon. However, mobility is relative to the mobility of the potential adversary. Mobility is governed by the flexibility and operational agility to employ these modern systems. To maximize the theoretical advantages offered by central position and interior lines an army must have greater mobility and agility than the enemy. The army that can concentrate, gain central position and project force the fastest, and do it over and over, will be able to take operational advantage of interior lines.

III. Historical Perspective  
Napoleon's First Italian Campaign, 1796

OFFENSIVE

Napoleon's first Italian Campaign of 1796 is an excellent example of the operational use of interior lines. In this campaign he initiated the offensive using interior lines to split and then defeat the Austro-Sardinian Alliance; executed a masterful deception plan to outmaneuver the Austrian Army forcing it to fall back to Mantua; besieged the primary Austrian fortress and supply depot at Mantua; and then went on the operational defensive using interior lines to his advantage to defeat four major Austrian offensives to lift the siege at Mantua. The emphasis of this historical study will be on Napoleon's skillful and advantageous use of interior lines in both the offense and defense at the operational level.

Background

On March 2, 1796, General Napoleon Bonaparte at the age of 26 was appointed commander-in-chief of the Army of Italy. On the 9th of March he was married to Josephine and on 11 March he departed for his headquarters at Nice. On the 27th, he took command of the ragged Pench army and issued this proclamation to the entire Army:

Soldiers! You are naked and ill fed; the government owes you much but can give you nothing. Your patience, your valor among these rocks have been admirable, but they bring you no glory; not a ray falls upon you. I will lead you into the most fertile plains on earth. You will conquer rich provinces and large towns, there you will find honour and glory and wealth. Soldiers of Italy, will you be found wanting in courage or endurance? [1]

The 106,000 man Army of Italy that had been raised in 1792 was in shambles and now numbered a mere 38,000 effective soldiers.

[2] Basically, the Army was a wreck - badly fed, clothed,

equipped, and not paid at all. [3] Napoleon recognized that unless he went on the offensive quickly and moved his Army into the fertile enemy occupied terrain they would starve. [4]

### Terrain

The Army of Italy was spread along the narrow coastland from Nice almost to Genoa (See Map 1 on page A-5). Napoleon's line of communication (LOC) was exposed to attacks from British frigates from the sea, from local guerilla bands from the mountains and from the numerically superior Sardinian and Austrian forces on the interior. [5] To his immediate front lay the Maritime Alps and the Appennines with only five passable gaps through them at Tenda, Ormea, Savona and Borchetta. [6] The gap leading to Savona was split, one crossing from Savona to Cairo, and the other from Savona to Montenotte being separated by Monte Legino.

The mountain ranges were both an advantage and an obstacle. Of the five passes, only the Savona pass was adequate for moving the Army's artillery and wagon trains. [7] An attack through any pass would expose the column to converging fires from the defenders on the north side. All of the passes except the Borchetta pass were held by the French. The coast road, although vulnerable as a lateral LOC, was valuable in that Napoleon could feint in one direction and then rapidly concentrate in another behind the screen of the mountains. [8] Once on the north side of the ranges, the terrain would work to Napoleon's advantage because of the numerous north-south spurs extending from the main range. These spurs made for poor lateral communications between the widely separated Allied Armies thus making observation and mutual support difficult. [9]

### Logistical Preparations

Napoleon spent his first two weeks in command busily

organizing his commissariat and establishing his LOCs. He understood the importance of logistics and this was his top priority before going on the offensive even though the trains of the French Army were light and austere by the standards of the times. [10] "He always kept his eye on it (commissariat) but did not allow it to interfere with the course and directions of his operations". [11] His guiding principle of logistical support was, "In the conduct of our armies...war must support war." [12] In early April he wrote to Carnot, the Minister of Defense, that: "Our commissariat is secure for one month; our communications are assured." [13] With his logistics and LOCs in order he was now prepared to advance on his intended lines of operations.

#### Disposition of French Forces

The Army of Italy (38,000) was deployed from west to east as shown in Map 1. On the left wing at Tenda were the two weak divisions of Garnier and Macquart with a combined strength of 7,000. Their mission was to secure the Army's LOC and maintain communications with General Kellerman's Army of the Alps to the north. [14] Just to the west was Serrurier's division of 7,000. Next was Augereau's division of 8,000 at San Giacomo. At Cadibona was Massena's division of 8,000 as the reserve. The right wing was held by LaHarpe's division of 8,000 at Savona with one detached brigade sent to Voltri under Cervoni's command. [15]

#### Disposition of Austro-Sardinian Forces

The Allied Armies were deployed north of the mountain ranges under the command of the Austrian General Beaulieu. The 25,000 man Sardinian Army made up the Allied right wing and was commanded by General Colli. Colli's army extended from Coni to Millesimo and much manpower was diverted to defend the fortresses of Coni,

Mondovi and Ceva which closed the main valleys leading into the Piedmont region. [16] The Sardinian base of operations was the capital city of Turin and their LOCs ran through Alba, Fossano and Cherasco. [17]

The Austrian Army of 35,000 made up the center and left wings of the Allied army. The center wing was commanded by General Argenteau and was centered around Sassello. The left wing at Ovada and Voltaggio was commanded by General Beaulieu himself. The Austrian base of operations was the fortress of Mantua on the Mincio River. [18] The Austrian army was supported by three LOCs: 1) Acqui-Casale-Milan, 2) Acqui-Alessandria-Pavia, and 3) Novi-Tortona-Piacenza. [19]

General Beaulieu's mission was to cover Lombardy by defending well forward to keep the Army of Italy from advancing into Austria. [20] Beaulieu was an elderly man of 72 known for being methodical and his freedom to display initiative was restrained by the tight control of the Aulic Council. [21]

The overall correlation of forces at the start of this campaign was roughly 38,000 effectives for the Army of Italy versus 60,000 for the Allied Army.

#### Strategic Plan

France was waging war on two fronts; the primary theater was in Germany, and the secondary theater was in Northern Italy. [22] The minister of defense, Carnot, planned a pincer movement aimed at Austria. The Army of the Meuse and the Army of the Rhine were to drive through Germany and link up with the Army of Italy in Vienna. [23] General Kellerman commanding the Army of the Alps was to protect Napoleon's left flank. [24]



### Operational Plan

The Directory in Paris had given Napoleon strict directions to make his main effort against the Austrians and go easy on the Sardinians in the hope of breaking them out of the Alliance. [25] However, Napoleon realizing that the Sardinians were weary of war decided quickly to drive them out of the war as this would break up the alliance faster and also secure his LOCs for subsequent operations against the Austrians. Hence, the Sardinian Army was to be his first victim for isolation and destruction. After a careful map study and intelligence effort Napoleon discovered that the town of Carcare was the vulnerable link between the Austrian and Sardinian armies. [26]

Therefore, Napoleon's operational plan was to drive a wedge in between the two Allied Armies at Carcare. Once this was accomplished he would have central position and then be able to use the advantages of interior lines to defeat the Sardinians first and then the Austrians. Napoleon believed that if he could gain central position by driving in this wedge then both Allied armies would be forced to fall back on their bases which were in different directions thus making mutual support even more difficult. [27] After establishing central position he would leave a small detachment to hold off the Austrians near Dego while he massed and defeated the Sardinian Army. He could then turn and mass all his forces against the Austrians knowing that his LOCs were secure. [28] Thus, Napoleon was using interior lines as a way to sequence battles by concentrating superior combat power against one foe at a time and defeating each in detail.

Napoleon's scheme of maneuver was to hold the passes at Tenda and Ormea in order to secure his LOCs and fix the Sardinians in the west. He would then concentrate Augereau's, Massena's and LaHarpe's divisions to attack the vulnerable allied center and push in the wedge between the two allied armies. [29] Beaulieu had recognized the possibility of Napoleon attacking the center. In writing to General Colli on this subject he pointed out that, "...if Napoleon were to push in between them he would find himself in the jaws of a nutcracker and he will not dare!" [30]

#### ALLIED PLAN

Napoleon was assisted by an unexpected shift in Beaulieu's army. When Beaulieu discovered that LaHarpe had dispatched a brigade to Voltri he feared that Napoleon was attempting to turn his flank along the Genoa-Novì road and thereby cut off his LOCs. [31] He therefore moved his left wing toward Voltri to attack in front while the center wing under Argenteau was to advance from Sassello to Savona thus entrapping the French army east of Savona by severing their LOCs and separating them from the French left wing. [32] This move by Beaulieu forced Napoleon to begin his attack four days earlier than planned.

#### THE BATTLE

##### PHASE I : Piercing the Center (See Map 1 and 2)

On 9 April, General Argenteau with 10,000 men advanced from Sassello toward Savona. Beaulieu with 9,000 men moved in two columns toward Voltri where on 10 April, the lead element of his first column attacked Cervoni's brigade. Cervoni held his position for the day and at nightfall he fell back to a position in his rear. Napoleon had lost the element of surprise but Beaulieu's movement was helping his plan. Napoleon immediately concentrated

his divisions around Savona to attack the Allied center.

On 11 April, Argenteau forced back the French outposts at Montenotte but at the Monte Legino pass (See Map 1) he discovered a French force of 1200 behind well-developed earthworks. [33] General Argenteau unsuccessfully attacked these positions all day and then bivouacked at night in front of them leaving a battalion behind to protect his rear. [34] Meanwhile, Beaulieu had again advanced on Cervoni but could not drive him out of his position. During the night Cervoni again fell back before Beaulieu to rejoin LaHarpe's division that was preparing to march to Monte Legino.

At this point Napoleon realized two things. First, he knew that the advancing columns of Beaulieu and Argenteau could not support each other. Secondly, he knew that he was at least equal in strength to one of the columns if he concentrated his forces against it. [35] He therefore decided to mass against Argenteau in the center according to the original plan. Once Argenteau was beaten he would then be on interior lines. The armies of Colli and Beaulieu would be separated by 38 miles of rugged mountainous terrain. [36] Fully aware of both the danger of his situation and the opportunity presented to him he issued the following orders on the afternoon of 11 April:

Augereau will march with 6,000 men to Mallare; on the morning of the 12th at five o'clock he will start thence for Cairo, where he will await for further orders. He will overthrow all opposition. Massena will push forward along the road via Altare with 9,000 men, as soon as he has collected these troops. LaHarpe will march at daybreak on the 12th with 7,000 men to the Monte Legino to reinforce the corps stationed there. Serrurier will be informed of the intended attack and will demonstrate against Colli. [37]

Tactically, this was a concentration of force to attack Argenteau's column advancing via Montenotte. Operationally, this was a piercing of the enemy center to gain central position and

split the allied armies.

Massena's division that had been in reserve was now the main effort. Moving from Cadibona into the Cairo valley he was then to cross the ridge moving into Sassello valley and attack Argenteau in the flank and rear while LaHarpe attacked him from the front. [38] Napoleon moved with Massena's column at one o'clock in the morning and the attack commenced at first light on the 12th. Argenteau's force was completely routed and fell back to Dego having sustained heavy casualties. Thus at the point of main effort Napoleon had massed 17,200 soldiers against Argenteau's attrited force of less than 5,000. To protect Massena's left flank Augereau had moved from San Giacomo to Cairo to push back the Sardinians and prevent Colli from reinforcing the Austrians.

When Beaulieu heard about Argenteau's defeat he immediately turned back his two columns from Voltri and directed that all Austrian troops north of the mountains concentrate at Dego. [39]

With Argenteau's force broken and retiring Napoleon directed LaHarpe to advance on Sassello and drive back any troops there and then to cross the ridge between Cairo and Dego. Massena pushed into the valley occupying it from Cairo to the heights overlooking Millesimo. Having established central position, Napoleon now had his right wing (Gen. LaHarpe) in contact with the Austrians at Dego. On his left was Augereau facing the Sardinians. Farther to the left was Gen. Serrurier advancing from the Tenda Pass. In the center were the reserves - Massena's division. [40]

On 13 April, Augereau's division attacked the left wing of the Sardinian army commanded by General Provera. After heavy fighting Provera withdrew to the fortress ruins at Cossaria. The

next day General Provera surrendered for lack of water and ammunition. [41] With his left flank firmly secured Napoleon now decided to advance on Dego to secure his right flank.

On 14 April, Massena's division with a brigade from Augereau's division joined LaHarpe on the right wing to attack Dego. Again, Napoleon had concentrated his forces using 18,000 men against the 4,000 Austrians in Dego. The attack was successful and all the guns and most of the soldiers were captured. [42] Beaulieu at this time was concentrating his forces at Acqui under the cover of Dego. The Sardinians were concentrating at Ceva.

#### PHASE II: Defeat of the Sardinians (See Maps 1 and 2)

Napoleon, on the principal spurs of the Appennines, was interposed between the widely separated allied armies and had now secured both flanks. Serrurier was advancing on Ceva and had established communications with Augereau and was pressuring General Colli. Beaulieu, having lost 10,000 men thus far, was thoroughly alarmed and convinced that the French were greatly superior in numbers. [43] He therefore decided to concentrate at Acqui in order to cover the approach to Lombardy.

Napoléon was now ready to throw his weight against the Sardinians on his left. He left LaHarpe and part of his division at San Benedetto to watch Beaulieu and prevent him from attacking his rear. If Beaulieu should try to reinforce the Sardinians then LaHarpe was to advance and interdict him at Alba. To cover his LOC to Savona he left a brigade at Cairo. In the meantime, Augereau had driven Colli out of Ceva and back toward Mondovi. Napoleon now massed his three divisions of Serrurier, Augereau, Massena and part of LaHarpe's totalling 30,000 against Colli's 20,000 Sardinians.

On 19 April, Napoleon attacked Colli forward of Mondovi and after a day of fighting Colli retired into Mondovi. Pursued and attacked repeatedly by Napoleon's three divisions, Colli retired again to Fossano. On 23 April, fearing that the French would capture the capitol city Turin, Colli asked for a suspension of arms. Napoleon continued to press forward while negotiating on the details of the armistice meeting. On 24 April, Beaulieu made an attempt to join Colli and save the alliance by moving from Acqui via Nizza to Alba. However on 25 April, Colli retired again to Carignano and Napoleon's three divisions occupied Fossano, Cherasco and Alba. Napoleon now established his LOC through Tenda. The two divisions there were ordered to invest the garrison at Coni. [44]

On 26 April, the French concentrated on Alba thus preventing Beaulieu from linking up with Colli. From Alba Napoleon continued his advance on Turin. With their capitol city being threatened the Sardinians concluded a separate peace with the French. The Armistice of Cherasco conceded three major terms to the French. First, it gave them the fortresses of Tortona, Ceva and Coni which secured the French position north of the Alps. Secondly, the Sardinians were to provide supplies for the French army. Thirdly, Napoleon demanded, in utmost secret, that he be given permission to march his army through the Piedmont (the Sardinian country) to cross the Po River at Valenza. [45] The Sardinians in strictest confidence informed Beaulieu of Napoleon's intent so Beaulieu acting on this reliable information retired to the Po and concentrated a few miles north of Valenza hoping to attack Napoleon as he crossed the river. [46]

Napoleon now took an operational pause in order to prepare

his army for the attack on the Austrians who now stood alone. He used this time to reestablish his LOC through Mt. Cenis which facilitated support of future operations to the east. In just three weeks Napoleon had sequenced battles to pierce the allied center, thrown the Austrian center wing back on its LOC, defeated the Sardinian army and forced an early peace on favorable terms, and secured his own rear for future operations.

During the month of May Napoleon conducted a masterful deception plan and was able to out-maneuver the Austrians forcing them to retreat in haste back to their base at Mantua (See Map 3). By the 15th of May Napoleon was in Milan, the richest city in Italy and once again he conducted an operational pause in order to occupy Milan, quell rebellious guerilla bands in his rear, refit his tired army, request reinforcements from the Army of the Rhine, and establish new LOCs through Switzerland to support his next phase of operations.

#### THE DEFENSIVE - THE MANTUA CAMPAIGN, JUNE 1796 (SEE MAP 4)

This phase of the Italian campaign is important to study because it shows how Napoleon used interior lines while on the operational defense. In early June, Napoleon advanced on Mantua which was now the center of gravity (the hub of power and movement) of the Austrian army and their last foothold in Italy. Napoleon besieged Mantua and to cover the siege he took up a defensive line on the River Adige holding the fortresses of Legnano, Verona and Peschiera. [47] During the following year the Austrians conducted four major offensives to lift the siege on Mantua and drive the French out of Italy. This paper will examine the first Austrian offensive in order to study Napoleon's use of interior lines while on the operational defensive.

At this point in the campaign Napoleon had reached his offensive culminating point - the point at which his Army had to go on the defensive or risk not being strong enough to defend. His army was overextended and he had to leave many of his soldiers behind to secure his LOCs and squelch guerilla activities in his rear. The near bankrupt government of France could not provide him with the supplies and equipment that his army desperately needed. Many of his men had no footgear and all were in tattered and ragged uniforms. For these reasons Napoleon chose to revert to the operational defense until he could take the fortress at Mantua and strengthen his dwindling force.

Operationally, the terrain favored Napoleon. The Austrians were hampered by the difficulties of descending from the mountains into the plain of Italy. Because of the narrow defile roads the movement of large forces was very slow and Napoleon who held the lower ends of the defiles had the advantage of central position and interior lines. The Austrians used three major lines of advance to Mantua: 1) the western line ran through Salo on the west side of Lake Garda, 2) the center line ran down the valley of the River Adige on the east side of the lake, and 3) the eastern line ran through the open ground from Bassano through Vicenza. [48] In all four offensives the Austrians were greatly superior in numbers and now had a bolder new commander - Count Wurmser.

On June 18th, Count Wurmser with 25,000 of his own men took command of Beaulieu's army in the Tyrol Mountains bringing his total force up to 50,000 not including the 13,000 man Austrian garrison besieged within Mantua. [49]



After several days of organization he began moving by three separate columns down each of the three routes with the mission of relieving Mantua and driving Napoleon out of North Italy. Napoleon's army at this time numbered about 42,000 men. Napoleon's plan was to try to take Mantua quickly while holding off the movement of Wurmser's columns well forward and then mass his forces against the center column while holding the western column. [50]

The disposition of Napoleon's army was as follows: 1) Massena with 15,000 and Augereau with 6,000 were holding the line of the River Adige, 2) West of Lake Garda was the corps of observation - Sauret's division of 5,000 also under Massena's command, 3) Despinoy's division of 5,000 was marching from Milan, 4) Serrurier with 8,000 was investing Mantua, and 5) Kilmaine with 3,000 cavalry was at Valese. [51]

On 29 July, the Austrian western column under General Quasdanovitch with 18,000 drove Sauret's division out of Salo and back to Gavardo. He also occupied Brescia with one corps thereby cutting off Napoleon's primary LOC to Milan. The center column under Wurmser with 24,000 men attacked down the Adige valley and pushed Massena's vanguard out of La Corona with heavy losses. The Austrian corps of observation (5000) advanced down the eastern route along the Brenta Valley as a ruse.

On 29 and 30 July, Napoleon was in despair thinking that all was lost - he was being pushed back on all fronts and had lost his major LOC through Brescia. He recognized his advantage of central position but nevertheless he prepared plans for a major retreat. On 30 July, he put this plan into motion. He would concentrate on the western column of Quasdanovitch first so he could reestablish his LOC. He ordered Sauret and Despinoy to advance on Salo on the

morning of 31 July. Massena was to fall back behind the River Mincio at Peschiera and hold the crossing site from Wurmser. Augereau and Kilmaine's forces were sent to cover the approach to Mantua. Serrurier was directed to lift the siege at Mantua and reinforce Augereau. In doing this Napoleon accepted the risk of being attacked from the rear by the 13,000 man garrison of Mantua. Later that evening Napoleon directed Augereau, Kilmaine and part of Serrurier's division to concentrate at Montechiaro. Serrurier and the rest of his division was to fall back to Marcaria and secure a line of retreat. Thus, by the evening of 30 July, all of Napoleon's army was west of the Mincio River and protected from Wurmser's immediate attack and he was preparing to concentrate on Quasdanovitch in the west.

Quasdanovitch after occupying Brescia had advanced to Montechiaro on the 30th and on the 31st he met Napoleon. (See Map 5) It is said that during this entire campaign Napoleon was, "...untiring and omnipresent...rode five horses to death." [52] Sauret's division seized Salo on the 31st threatening the left flank of the Austrian column. He left a detachment at Salo and then fell back to Gavardo. The combined force of Massena and Despinoy repelled an Austrian corps at Lonato. Quasdanovitch recognizing the superiority in numbers and fearing for his LOCs after the capture of Salo began a retreat for Gavardo at ten o'clock in the morning.

On 1 August, Augereau's division arrived at Brescia after a night march and reopened the LOC to Milan and restored the main supply depots there. Sauret was sent to Salo and Despinoy to Lonato.

On 31 July, Wurmser arrived at Valeggio and knowing that

Mantua had been relieved he decided to cross the Mincio and attack Napoleon's main force in the rear. However, on 1 August, he only sent an advance guard across the river at Goito and did not begin his main crossing until 2 August.

On 2 August Napoleon moved Augereau to Montechiaro from Brescia. Sauret and Despinoy were to advance on Salo and Gavardo to push Quasdanovitch further back. Massena was the reserve at Lonato and had detached a corps of observation to delay Wurmser's advance toward Castiglione with orders to hold the town. After slight resistance it fell back from Castiglione whereupon, "Napoleon immediately cashiered its commander before his whole corps." [53]

On 3 August, Napoleon and Massena advanced on Lonato where they met one of Quasdanovitch's corps. The French pierced its center, routed it back to Desenzano, cut off its retreat and forced it to surrender. In the meantime, Sauret and Despinoy were not successful and had to fall back on Salo and Brescia.

On the southeastern front Augereau moved against Wurmser and drove his lead elements back to Solferino where he continued the attack without success. That evening Napoleon joined Augereau to survey the battlefield and then returned to his headquarters to plan the next days operation.

On 4 August, Despinoy and Gieu (now commanding Sauret's division) were again directed to advance on Gavardo. Quasdanovitch attempted a breakthrough in Massena's line near Lonato to effect a linkup with Wurmser but was unsuccessful and lost a corps in the process. Quasdanovitch was now in full retreat with two French divisions threatening his rear. Now Napoleon could turn on Wurmser with all his troops.

On the morning of 5 August, Napoleon was directing Serrurier's

division (now commanded by Fiorella) to advance on Guidizzolo (Wurmser's rear). Despinoy was directed to join the front immediately and Massena was moved up on Augereau's left. On 5 August, Napoleon attacked Wurmser's front to hold him while Fiorella was coming up on the flank. Wurmser not being able to fight the superior numbers began a hasty withdrawal across the Mincio and up the river. With Napoleon pursuing, Wurmser ordered a general retreat up the Adige valley back to Trent in the Tyrol.

At the conclusion of this nine day campaign all the Austrian forces had been defeated (losing 16,000 men) and forced to retreat back to their original positions. Napoleon's army resumed their previous positions and resumed the siege on Mantua. [54] In the following six months Napoleon was to defeat three other Austrian offensives to relieve Mantua by his skillful use of interior lines to sequence battles and defeat the Austrians in detail. It can be seen in this defensive campaign at the operational level that Napoleon used the advance of the enemy to establish central position and shape the battlefield. His sequencing of battles was as follows: 1) Withdraw on all fronts while determining the enemy main effort and weaknesses, 2) Establish central position by allowing the enemy to advance on him using Lake Garda and the Mincio River to separate the Austrian columns, 3) Lift the siege on Mantua thereby accepting risk of attack from the rear, 4) Isolate Gen. Quasdanovich and concentrate to defeat this column while using a relatively small force to hold off Count Wurmser, and 5) Lastly, concentrate against and defeat Count Wurmser's main column in detail with all of his force. This in essence was the operational art of using interior lines to sequence battles to achieve operational and strategic objectives.

#### IV. ANALYSIS

This analysis will focus on the advantageous use of interior lines at the operational level using the theory presented in Chapter 2 and the historical examples presented in Chapter 3 of this paper. Not every aspect of interior lines will be examined but only those which can give an operational commander a significant advantage on today's battlefield.

##### Operational Grasp of Terrain

In order to maximize the advantages of interior lines the operational commander must have a thorough grasp of the terrain and how it affects the movement of large units. He must also be able to visualize the enemy force on this terrain much like an intelligence preparation of the battlefield but not quite the same.

Figure 2 on page A-3 will help to understand this concept. This sketch depicts the structure of the theater of war at the start of operations in a Jominian construct. Napoleon examined this theater from an operational perspective and he was also personally familiar with the lay of the land. First, he recognized that the LOCs of the two Allied armies went in diverging directions. Therefore, he believed that if he could penetrate their center they would be forced to fall back in diverging directions not conducive for mutual support. He also knew that the Sardinians would not uncover their capitol Turin to assist the Austrians.

Next, he saw the Alps and the spurs to the north not as an obstacle but as an operational advantage. Owning four of the five passes, he could choose his crossing site. The Alps provided a screen so he could concentrate his army unseen at the point of main effort. He obstructed the passes that he wanted closed with

fortifications to prevent the enemy from crossing over. Napoleon also realized that the spurs on the north side and the Bornida River would hinder lateral support among the three allied wings thus allowing him to defeat each wing in isolation. Stonewall Jackson, a student of Napoleon and a master practitioner of interior lines, similarly used the Blue Ridge and Massanutten Mountain ranges to his operational advantage. He effectively used these ranges to screen his movement from the Union generals, separate their armies, and then defeat each one in detail.

In the Mantua campaign, Napoleon again had an appreciation for the operational use of terrain while on the defensive. He understood the value of Lake Garda and the River Mincio in keeping Count Wurmser's two columns separated so that he could again defeat each one in detail. Again, he understood the importance of his LOCs and base of operations in relation to the terrain. When Brescia was taken by the Austrians and Napoleon's LOC was severed, he immediately began planning the recapture of Brescia while preparing for a retreat to the southwest.

Lastly, Napoleon understood the operational importance of rapidly seizing crossing sites and establishing bridgeheads for operational purposes. This was seen at Valenza and Lodi to assure continued offensive action. This was also seen at Carcare to secure his army's line of retreat.

#### The Construct of Interior Lines

Before the operational planner can maximize the advantages of central position and interior lines, he must thoroughly understand the theoretical and practical constructs. Once these constructs are mastered then the planner can use them as effective tools for sequencing battles and major operations which is the essence of

operational art. An operational planner who doesn't understand these constructs is like a mechanic who doesn't know how to use his diagnostic and test equipment.

David Chandler probably does the best job of describing the Napoleonic construct of interior lines. [1] Therefore, his construct will be used and amplified on in this analysis. Chandler points out that Napoleon would use the "strategy of central position" when in a position of numerical inferiority. Napoleon's forte when fighting outnumbered was in being able to mass superior numbers against one part of the enemy's force. His philosophy was, "The art of generalship consists in, when actually inferior in numbers to the enemy, being superior to him on the battlefield". [2] By understanding this construct, the planner can then sequence battles and operations to maintain tactical superiority at the desired point of attack.

Napoleon used a three phased campaign plan when operating on interior lines. (See Figure 3 on page A-4) During the first phase he would establish central position if necessary and then isolate one enemy army. This point is important, because central position is a requirement for operating on interior lines. Sometimes the operational commander has actively to seek and gain central position -it is not always a given. In the beginning of the Italian Campaign of 1796, Napoleon took central position by massing his forces to pierce the Allied army seam thus driving a wedge between the two armies. At Mantua, he established central position by "shaping the battlefield" around him and effectively using rivers, lakes and key choke points to separate the two Austrian columns. Mao Tsetung gained central position by withdrawing deep into friendly territory and shaping the battlefield using a

strategic defense. The key point here is that the operational planner, if inferior in numbers, should actively seek out ways in which to gain central position whether he be on the offense or on the defense.

Napoleon's next step was to isolate one enemy army. This was done in two steps; first, he would use a corps of observation to interdict and delay one army while second, he concentrated overwhelming combat power against the isolated army. In this historical study, Napoleon isolated the Sardinians after piercing the Allied center. He left a division (-) to check the Austrian army while he massed against the Sardinians. He calculated that even if the Austrians did advance he would have at least four days in which to defeat the Sardinians before he would have to sequence the battle to fight the Austrian army. At Mantua, he used one of Massena's corps to delay Count Wurmser's army which was coming at his rear. His campaign plan was to use his central position to delay Count Wurmser while he isolated and destroyed General Quasdanovitch. He could then mass his entire force against Wurmser's army. From the incident at Cariglione, it can be seen that Napoleon had no tolerance for a corps of observation that could not perform its mission. Mao used guerilla forces to harass and delay the advancing enemy armies while he concentrated his conventional forces in preparation for the counteroffensive.

Thus, it can be seen that Napoleon used interior lines to sequence battles to achieve operational and strategic objectives. He took advantage of his superior relative mobility and his usually excellent intelligence to seize the initiative and make the enemy "dance to his tune". Within this construct of interior lines, it is worth mentioning three factors that contribute to their



advantageous use. These factors are intelligence, operational mobility and employment of the corps of observation.

### Intelligence

Napoleon used a comprehensive intelligence network to determine where to attack. Jomini stated that if the enemy armies were spread wide then the best point of attack is the center for this will cause the converging armies to fall back on their LOCs. Therefore, Napoleon's intelligence effort was oriented on determining where the army boundaries converged. He effectively obtained information on enemy movement and dispositions from captured newspapers, deserters, refugees and his probing cavalry patrols. [3] Once he determined where the army boundaries converged, he would make this "joint" the point of his main attack. This is how Napoleon decided where to attack the Allied army in order to split the seam between the Sardinians and the Austrians.

### Operational Mobility

Greater operational mobility is a definite advantage when operating on interior lines. How did the French Army maximize rapidity of movement on interior lines? First, Napoleon believed in the lightest logistical tail possible. He abolished tents, tent wagons and limited officers' baggage to a minimum. The troops made use of local billets or camped in the open. For sustenance, the men bought most of their rations out of their pay or lived off the land. All of these factors contributed to an army that could move self-contained divisions and corps rapidly around the battlefield. Often, this movement was accomplished in the cool of the night to arrive on the battlefield at first light. Von Caemmerer said, "The whole material of the Army had become lighter, after rapidity of motion had at last become the leading factor". [4]

Therefore, the entire French army was designed to be more mobile than their adversaries. To get within the enemy's decision cycle requires superior operational mobility in order to maintain the initiative and make the enemy react to the friendly plan. As the operational level of war involves the rapid movement of large units over great distances, both laterally and in depth, then this requirement for operational mobility is not necessarily the same as for tactical mobility. Operational mobility requires corps and larger units that can move relatively quickly around the theater of operations and units that are administratively and logistically flexible. Since most operational fighting today will be done at the joint and combined level, then our theater systems must allow for the rapid movement of air and ground combat power throughout the theater of operations regardless of unit or national boundaries if interior lines are to be maximized at this level of warfighting. Organizational concepts such as the Mobile Operational Corps '96 that propose a highly streamlined maneuver corps with a light logistical tail are being examined within the Army today. These initiatives are a beginning in providing senior commanders the operational mobility to exploit the advantages of interior lines. This is what Von Caemmerer meant when, in 1905, he wrote, "Rapidity in moving [the] central mass to and fro between several adversaries is a 'sine qua non' of success; for if separated enemies are given sufficient time to arrive at an understanding they will finally arrive at united action". [5] Thus, there can be no substitute for superior mobility on the modern battlefield when operating on interior lines.

Jomini said, "...that all depends on throwing the mass of our troops at the proper moment on the decisive point on the

battlefield". [6] This can only be done with superior operational mobility otherwise the enemy will force his will upon us and require us to react to his operational plan.

#### Use of the Corps of Observation

The corps of observation is today called a delaying or interdicting force. Without the proper application of this force the concept of interior lines would fall apart. This is perhaps why Napoleon relieved the corps commander in front of his entire corps at Cariglione. In Napoleon's army, any corps was individually capable of fighting and delaying a much larger force for at least 24 hours. [7] The corps of observation was not a purely defensive force, but was to attack, pin, confuse and do everything possible to isolate the enemy army and provide a protected flank for the main operation.

This delaying force should be used on terrain that has operational consequences. At Mantua, Napoleon placed his delaying force against Wurmser on the Mincio River. By taking advantage of terrain, a delaying force can cause the enemy to deploy into his assault formations at each delay position. Clausewitz stated that there is a trade-off involved. [8] The delaying force must put up enough resistance to force the enemy to deploy and fight, but it must be careful not to get decisively engaged or outflanked. Cervoni's brigade at Voltri delayed General Beaulieu's main effort (10,000 men) for two days providing Napoleon enough time to concentrate his force and attack the seam of the Allied army. In 1815, General Ziethen's corps of 30,000 delayed Napoleon's army of 120,000 for 24 hours over a 10 mile stretch of land. [9]

Since armies generally advance in columns on roads, the

delaying force needs to be of sufficient size to stop the advance guard and cause the column to deploy into assault formation. As the enemy column is not sure of the strength and dispositions of the delaying force his actions are likely to be cautious and methodical in his deployment.

On today's battlefield, airpower and naval firepower can be used to delay and attrit the enemy echelons as they approach. These assets can be used alone or in conjunction with ground forces to retard the enemy's advance. Airpower is an especially valuable asset for the operational commander as it allows him the capability to attack and delay follow-on enemy echelons deep in the enemy rear at an operational depth that a tactical unit cannot reach. Airpower is an asset that can be massed rapidly and used repeatedly in the sequencing of battles and operations. However, a ground force is of utmost importance for as Clausewitz stated,

...an advanced corps derives its operational value more from its presence than from its efforts: from the engagements it might offer rather than those it actually fights. It is never intended to stop the enemy's movement, but rather like the weight of a pendulum, to moderate and regulate them so as to make them calculable. [10]

Therefore, the primary purpose of the delaying force in the use of interior lines is to regulate the enemy advance so that a superior concentration of friendly forces will be ready to fight him sequentially as his armies arrives on the battlefield. His late arrival could be just as disastrous as a premature arrival. The delaying force commander must ensure that his opponent does not arrive on the battlefield until the first army has been defeated and the operational commander is prepared to shift and concentrate his forces on the second army.

## USE OF INTERIOR LINES TO ADVANCE THE OFFENSIVE CULMINATING POINT

From the study of Napoleon's Italian Campaign of 1796 and the theoretical propositions from Section II, it appears that the operational use of interior lines can accelerate the enemy's arrival at the culminating point. FM 100-5 describes the culminating point as "...a point where the strength of the attacker no longer significantly exceeds that of the defender, and beyond which continued offensive operations therefore risk overextension, counterattack, and defeat". [11]

The enemy's culminating point is based on available combat power which diminishes in time and space due to both active and passive measures. Passive measures are those such as leaving combat power behind to secure LOCs, the rear areas, flanks and key operational terrain. Other passive measures are the factors of exhaustion, the breakdown of equipment that an army experiences as it advances over extended distances, and the lack of adequate logistical support as LOCs are overextended in the advance.

Active measures are those things that a defending army does to wear down and diminish the strength of the attacker. The proper use of interior lines at the operational level can be used to accelerate the enemy's arrival at his offensive culminating point using both active and passive measures. At Mantua, Napoleon used the defense, the stronger form of war, to isolate and wear down the attacking Austrian army. In this campaign, time worked to Napoleon's advantage and allowed him to grow stronger while the Austrians grew weaker. He did not stay on the defensive for long. As soon as he was able to get a clear picture of the enemy's intent and identify his weakness, Napoleon began concentrating his force to isolate, attack and defeat the western column under General Quasdanovich while holding off the main effort with one corps.

Napoleon hastened the Austrian offensive culminating point by fragmenting the Austrian forces and preventing them from uniting through the use of terrain and skillful maneuver.

The Austrians potentially had more than 60,000 troops that could have been massed against Napoleon's Army of 42,000. Napoleon used interior lines to fragment the sum of the total potential combat power of the Austrian Army. He first massed against the 18,000 man column of Quasdanovich and then turned and massed against the 24,000 man column of Count Wurmser. He then returned to the operational defensive and resumed the siege of Mantua. Thus, he caused each separate force to expend its combat power individually without the synergistic benefit applied by the combined totals of all forces at once. Therefore, by sequencing battles using both the offensive and defensive and concentrating against one force at a time, Napoleon was able to accelerate the Austrians' offensive culminating point, forcing them to withdraw and go on the defensive.

#### BOLDNESS AND RESOLUTION OF THE COMMANDER

Boldness, resolution and willingness to take risks are a requirement for the operational commander using interior lines. The use of interior lines is a risky proposition and "Such risks will generally induce a commander, unless he is unusually confident in himself and his army, to seek safer methods of securing victory". [12] The commander must show great determination and resolution to move units rapidly and anticipate enemy movements so as to prevent his concentration of force on the friendly army. [13] At the operational level the greater distances involved require commanders to look farther out and make decisions that will set the conditions for tactical engagements days and weeks later. Consequently, these decisions once made are not as easily reversed

as at the tactical level where time-distance factors are much less.

Clausewitz said that boldness is the most noble quality of a soldier. [14] He proceeds to say that "Whenever boldness encounters timidity, it is likely to be a winner, because timidity ...implies a loss of equilibrium...Timidity is the root of prudence in the majority of men". [15] Napoleon demonstrated boldness, resolution and the willingness to take risk. Many times during the Italian Campaign, Napoleon was in a position to lose it all, but he stuck to his plan and forced the enemy to react to his movements.

The willingness to concentrate overwhelming combat power at the decisive point also implies risk taking in trusting the delaying force to do its job. Both at the Alps and at Mantua, Napoleon relied upon a small delaying force (a brigade and then a corps) to hold off the Austrian main effort until he could defeat his first victim. In each case, the enemy's main effort was threatening his rear, but Napoleon had the boldness to follow his campaign plan knowing that, by sequencing battles to match strength against weakness, he could cause the enemy to panic and exercise caution and timidity.

Where does this boldness and resolution come from? Part of it comes from superior intellect. [16] Also, the commander must know what he wants to do (eg., a campaign plan) as well as know what the enemy will probably do. Napoleon knew the capabilities of his corps and divisions. He generally knew exactly how long it would take to move them to any point on the battlefield, and he was confident that he could move large units faster than the enemy could move his units. Today, do operational commanders know how long it takes to move divisions and corps over great distances? Knowing these operational time-distance factors is a requirement for using interior lines with any degree of boldness.

## SECTION V - CONCLUSION

In Section IV, the factors that govern the advantageous use of interior lines were identified and examined in detail. Without a thorough theoretical and practical understanding, the operational planner will not be able to maximize the many advantages that can be gained by a numerically inferior force operating on interior lines. The intent of this paper is to educate the operational planner, regardless of service, in the intelligent and proper application of employing interior lines to sequence and win battles to achieve the desired objective.

Current U.S. Army doctrine does a marginal job of assisting the operational planner in effectively using interior lines. In FM 100-5 are found but a few brief references to interior lines providing little more than basic definitions and some brief examples such as the Battle of Tannenburg, 1914. [16] Current doctrine is a quantum improvement over past Army doctrine, but there is still no doctrinal source that explains the mechanics of how interior lines can be maximized at the operational level. This paper is a start point for those who desire to know the theoretical underpinning and mechanics of interior lines and central position. The bibliography provides excellent material for a deeper and more comprehensive study.

Interior lines is not the panacea for all problems associated with being a numerically inferior force. There are disadvantages as well as advantages when operating on interior lines. If the enemy has good unity of command and is able to press all his forces in a coordinated manner against the army which is in central position, then he can overwhelm the inferior force. This is what Grant did to Lee in 1864 and what Wellington did to Napoleon at Waterloo. As stated previously, a bold commander



facing a timid commander will usually win, but when a bold commander faces another bold commander, then the one on interior lines may be at a disadvantage. If the road networks and terrain are not favorable to enhancing friendly unit mobility and restricting the enemy's mobility, then interior lines may not be suitable unless the army withdraws to a position that is favorable.

In conclusion, interior lines of operations can be maximized for the advantage of the operational commander only if he understands how to use them. As U.S. forces may very well fight outnumbered against potential adversaries, it is imperative that operational planners at the joint and combined levels understand the principles and criteria for seeking central position and using interior lines of operations. According to Mao Tsetung, the operational use of interior lines is to set the conditions for the tactical use of exterior lines in order to win battles and campaigns. [17] Modern technology has affected the speed and dimensions in which forces can be concentrated on the Airland Battlefield. However, the basic theoretical principles and practical applications thereof still apply in the opinion of this author. The use of interior lines for operational warfighting is just one of many tools or ways in which the planner can use the combat power available to sequence battles to achieve the desired operational or strategic objective. When fighting from a numerically inferior position it offers many advantages for the commander who is willing to be bold and take necessary risks inherent in concentrating overwhelming superiority at the decisive point on the battlefield. Hopefully, this paper will assist the operational planner in using this tool of interior lines to his advantage in future applications whether they be wargaming or actual conflict.

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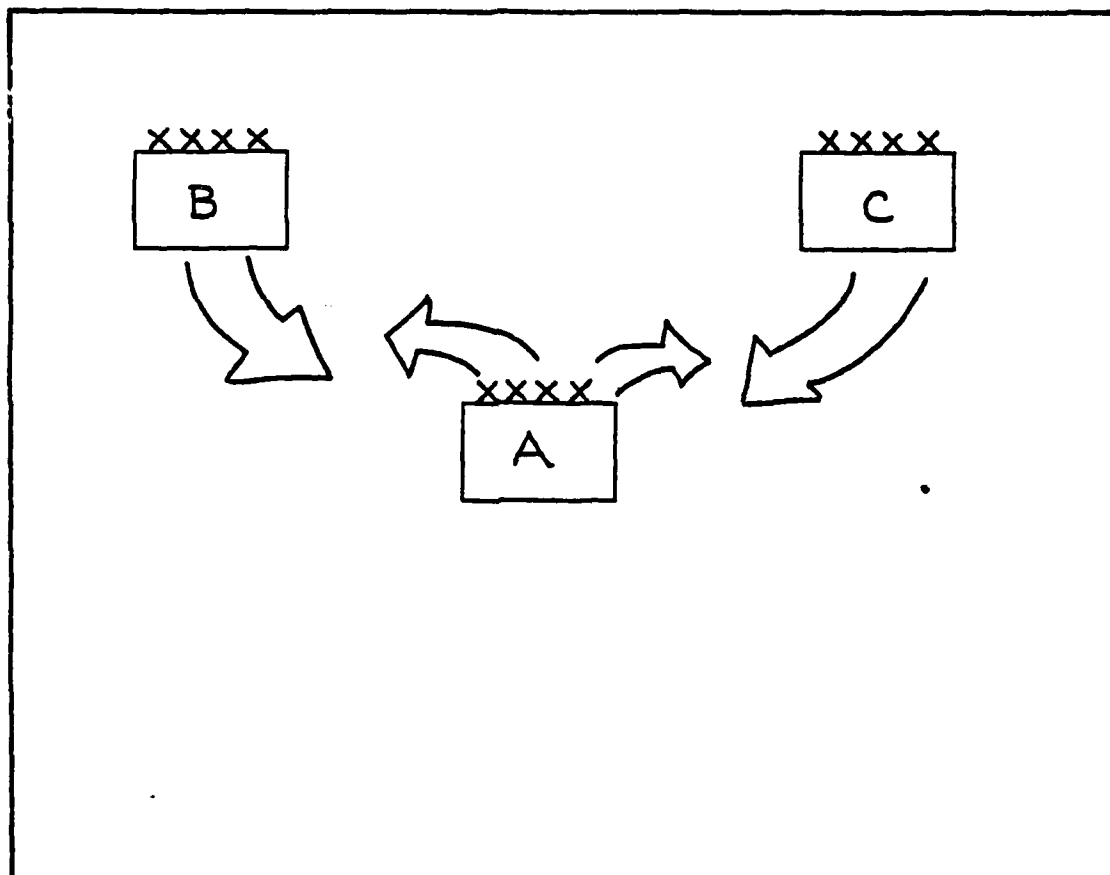


FIGURE 1  
Sketch: Interior and Exterior Lines

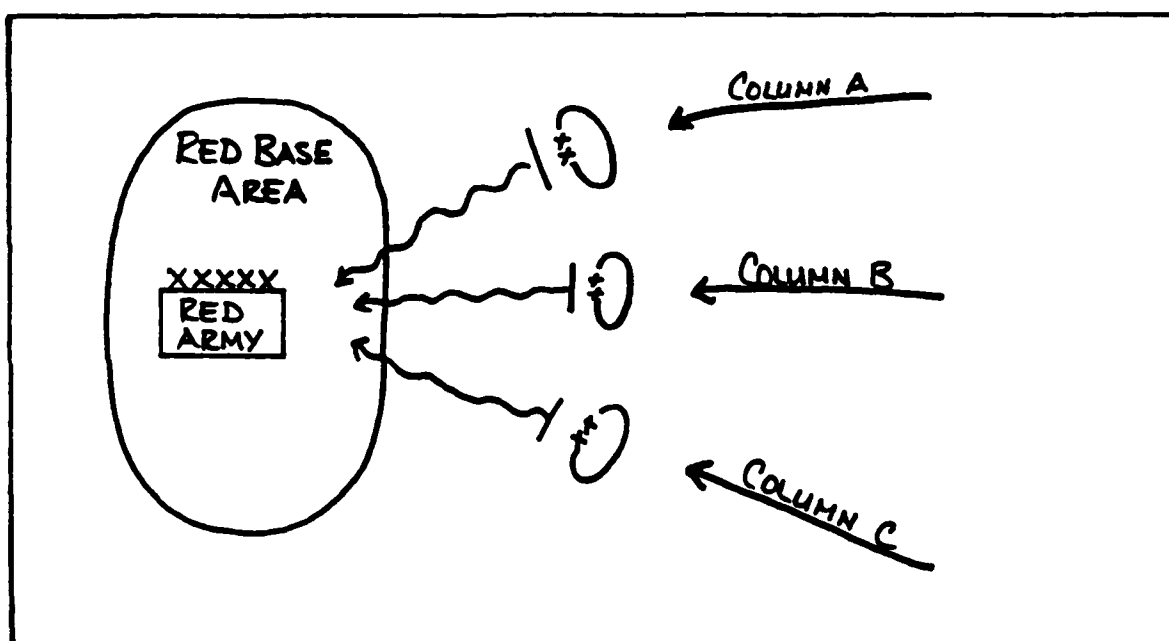


FIGURE 1-1  
SKETCH: RED ARMY CONCENTRATING

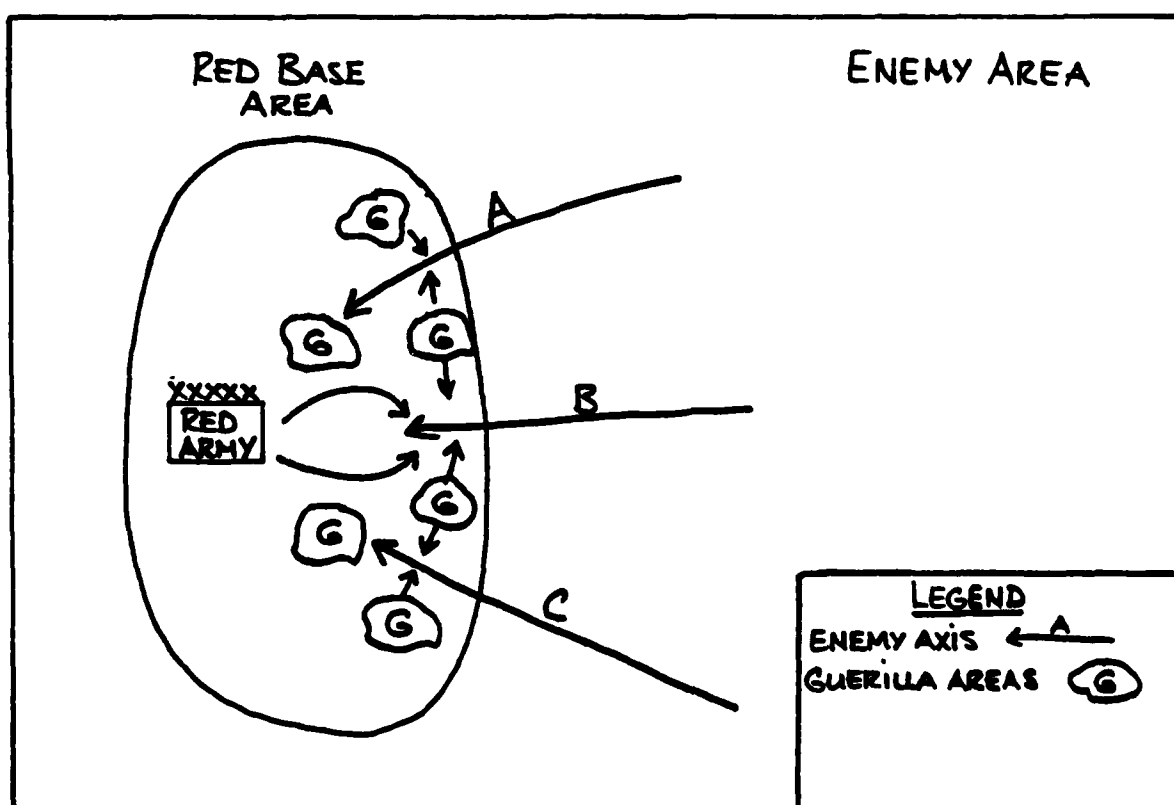


FIGURE 1-2  
SKETCH: MAO'S USE OF INTERIOR LINES

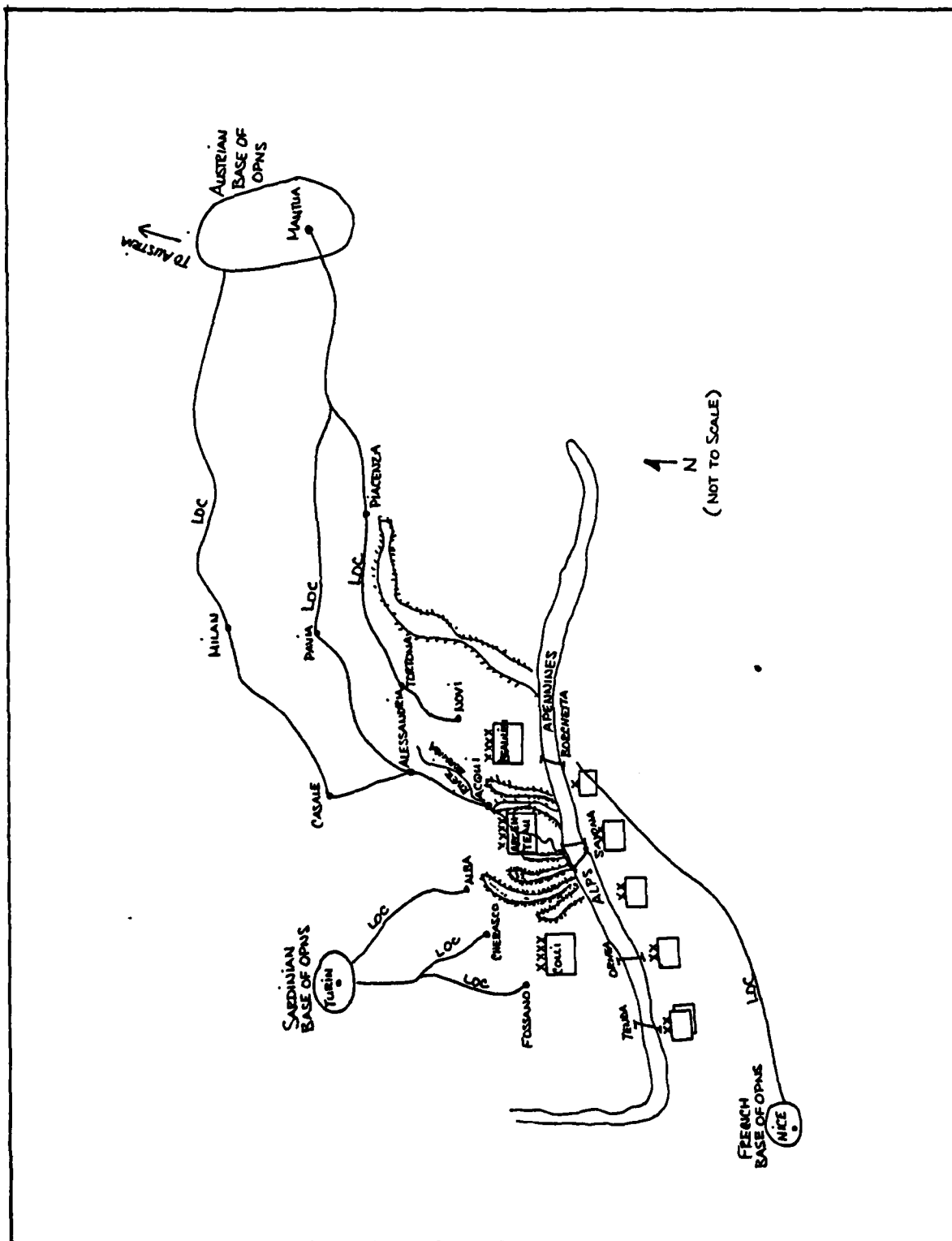
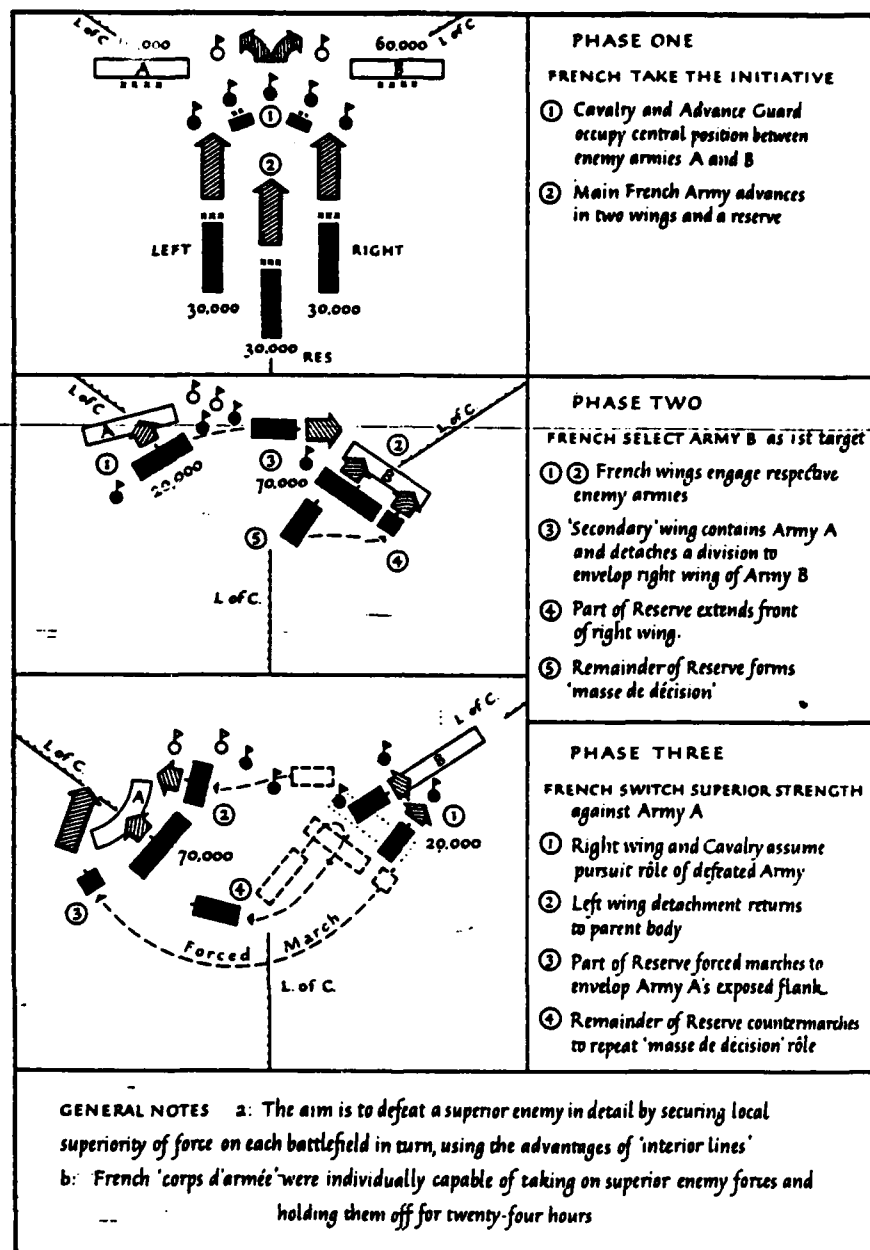
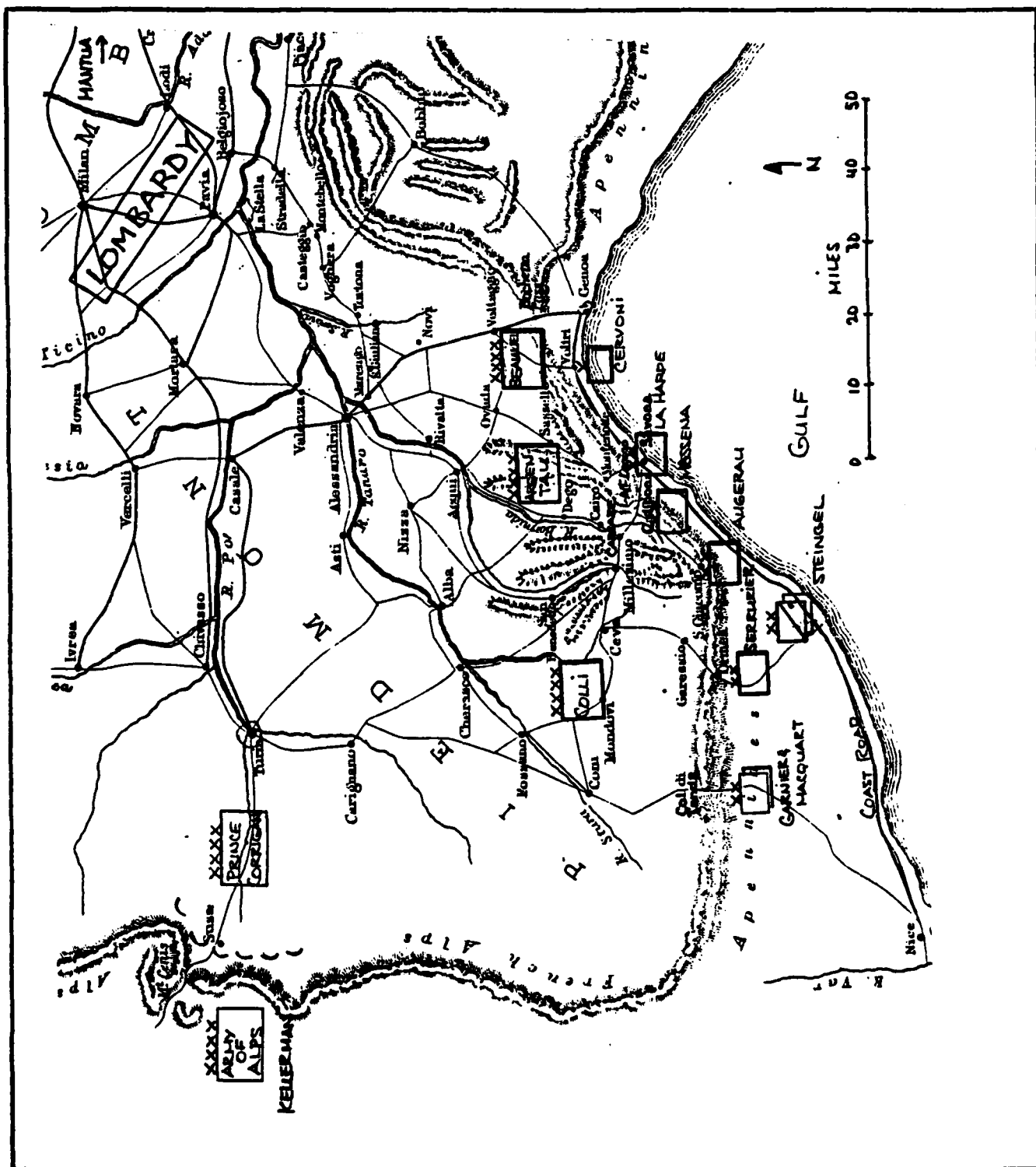


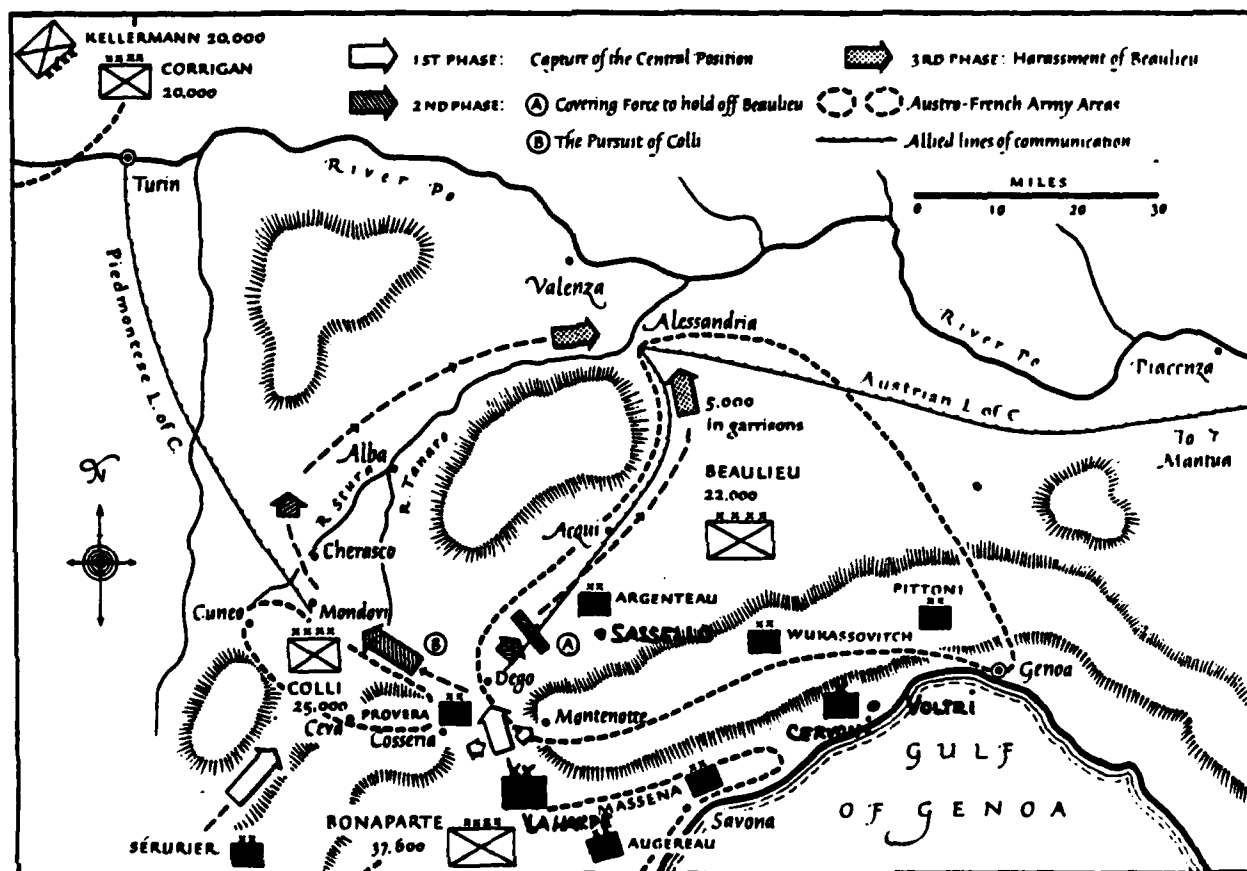
FIGURE 2  
SKETCH: OPERATIONAL GRASP OF TERRAIN



**FIGURE 3 - PHASES OF INTERIOR LINES**

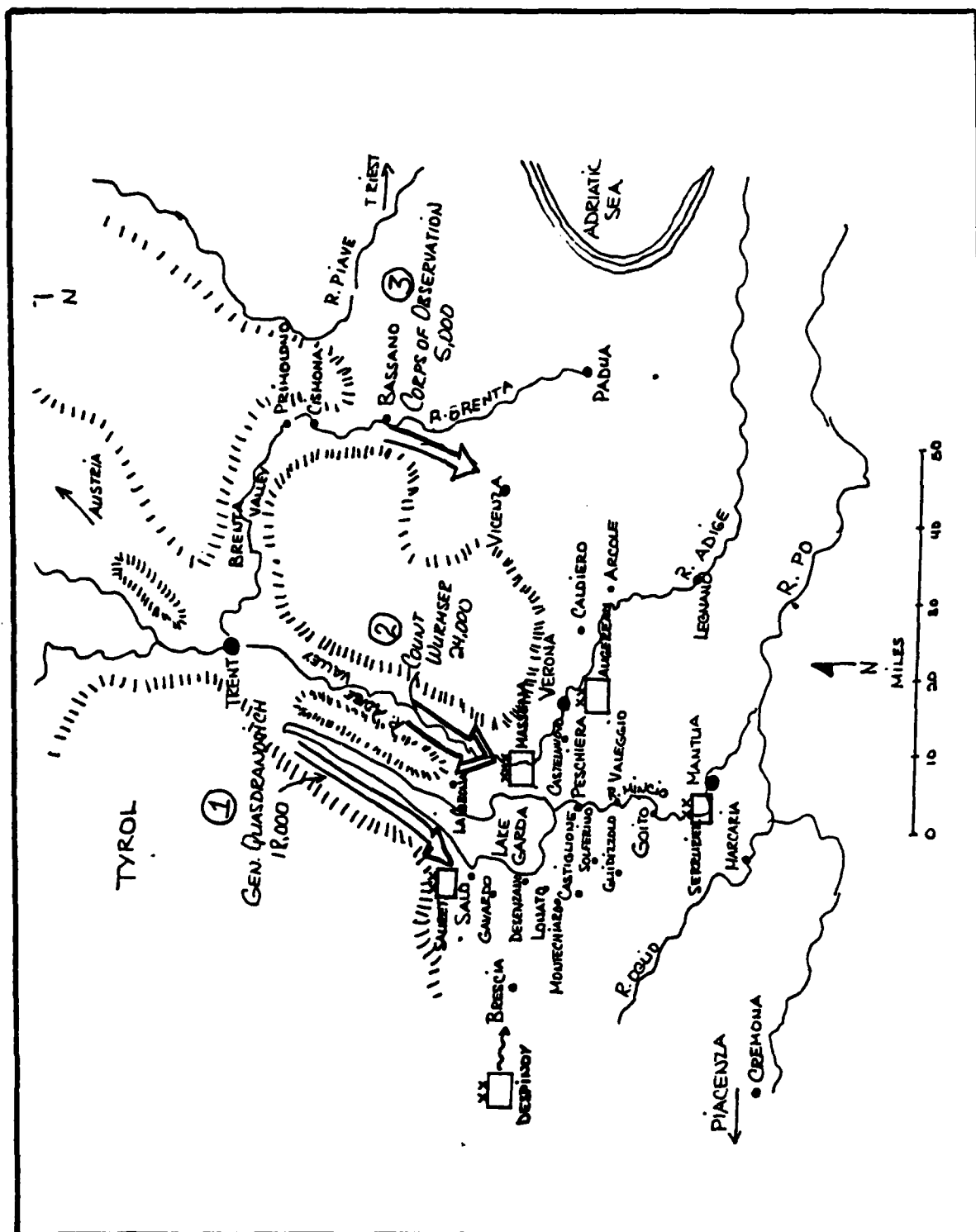


MAP 1 - FIRST ITALIAN CAMPAIGN, 1796



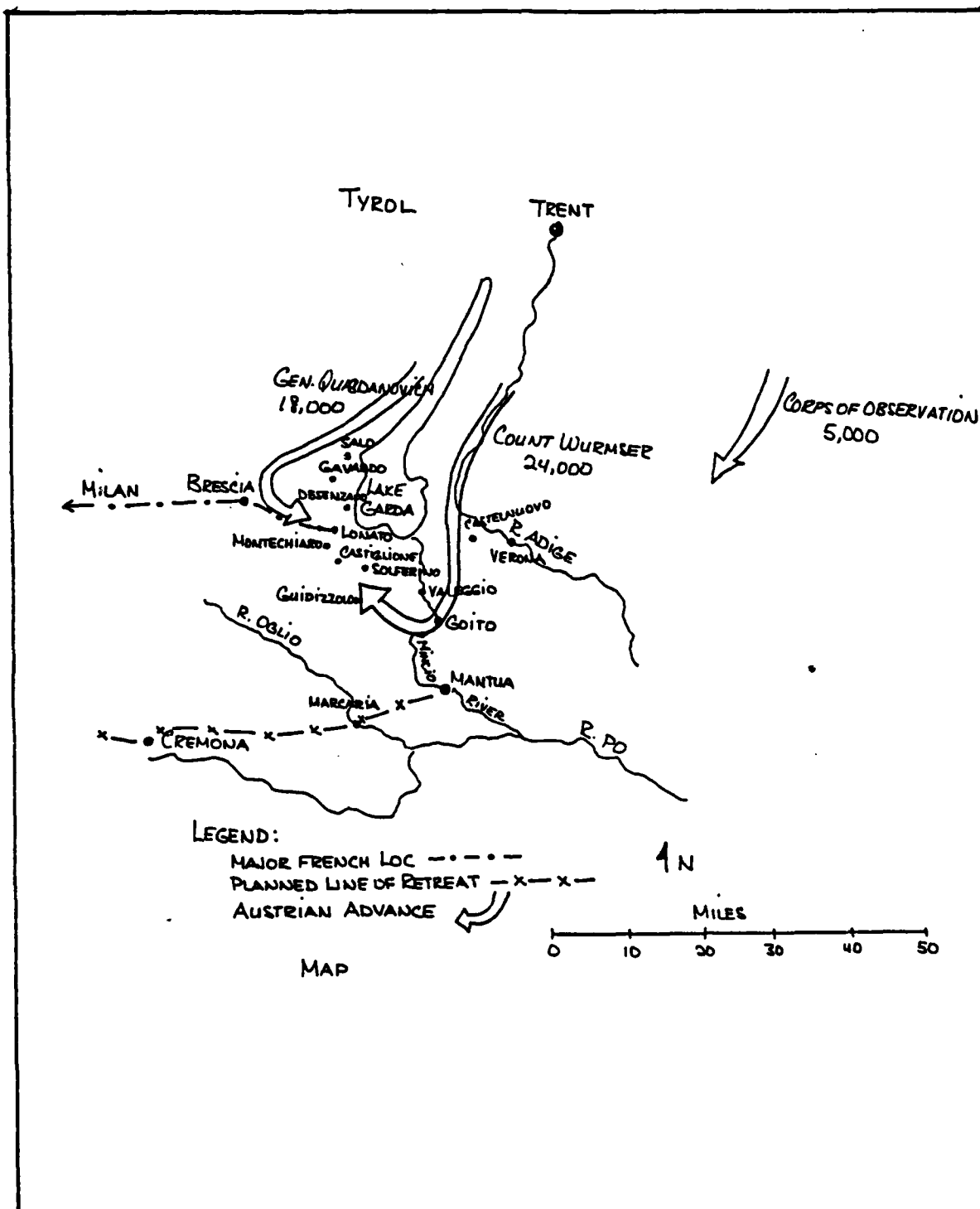
**MAP 2 - FIRST ITALIAN CAMPAIGN, PHASE I & II**





MAP 4 - FIRST ITALIAN CAMPAIGN, MANTUA DEFENSE, JUNE 1796





MAP 5 - USE OF INTERIOR LINES, MANTUA DEFENSE, JUNE 1796.

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