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CONCENTRATION OF MILITARY FORCE IN JOINT OPERATIONS:  
APPLYING THEORY TO REALITY(U) ARMY COMMAND AND GENERAL  
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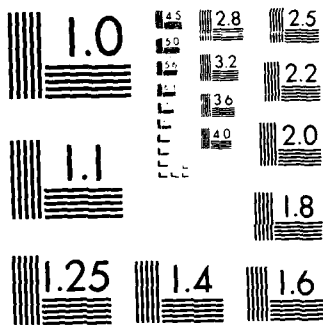
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Concentration of Military Force in Joint Operations:  
Applying Theory to Reality

by

Major Benjamin R. Mixon  
Infantry

School of Advanced Military Studies  
U.S. Army Command and General Staff College  
Fort Leavenworth, Kansas

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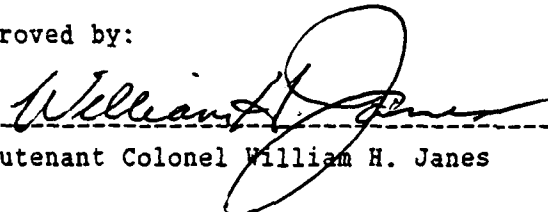
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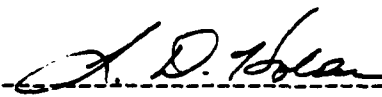
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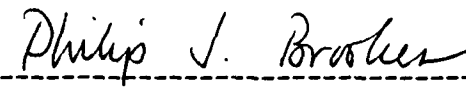
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### ABSTRACT

Concentration of Military Force in Joint Operations: Applying Theory to Reality by Benjamin R. Mixon, USA, 40 pages.

This monograph discusses the theoretical principles of concentration of force of Carl Von Clausewitz, Baron De Jomini and Sun Tzu and their application to concentration in joint operations. The writings of these theorists are concerned with land forces. This monograph compares these land based theories of war fighting with two World War II campaigns fought in the Pacific Theater. The conclusions emphasize which of these theories apply to concentration of force in joint operations.

The theories of Carl Von Clausewitz, Baron De Jomini and Sun Tzu are discussed first. This discussion focuses on their individual theories of concentration of force and how each compares with the other. Next, World War II Pacific Theater of War strategy and two campaigns; CARTWHEEL and Leyte, are examined to determine how forces were concentrated. The discussion focuses on the plans for concentration. The monograph concludes with a discussion of which theories of concentration were important in these two campaigns and other factors which are important to concentration but were not encompassed in theory.

The fundamental conclusion is that these land based theories are indeed applicable to concentration in joint operations. The nature of joint operations involving air and sea power requires special consideration of time and space and synchronizing the concentration to achieve overwhelming combat power at the decisive point in time. The complexity and diversity of the forces add to the difficulty of achieving concentration. Command and control is critical to successful concentration but is often not clearly defined in joint operations. The monograph discusses these issues and the other theories that appear to impact on concentration of force in joint operations.

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## I. INTRODUCTION

A cursory review of military history reveals that many decisive victories on the battlefield began with concentrations of great force. "Germany's attack through France in 1940, the Soviet attack into Manchuria in 1945, MacArthur's counteroffensive in Korea in 1950, and Israel's seizure of the Sinai in 1967 all illustrate the rapid concentration of combat power to penetrate or envelop, then shatter the enemy's defenses."<sup>1</sup> These examples illustrate the importance of concentration to successful offensive operations; however, the defender must also concentrate to succeed.<sup>2</sup> The complex nature of the modern battlefield involving land, sea and air forces and the importance of concentrating these multi-dimensional forces to achieve overwhelming combat power deserve detailed study.

The purpose of this paper is to determine the important considerations in achieving concentration during joint military operations. The research question is how the theoretical elements of concentration of force contained in the writings of Carl von Clausewitz, Baron De Jomini, and Sun Tzu apply to the conduct of joint operations. The land based theories of these authors compared with two joint military campaigns sets the stage for an analysis of concentration of force.

The methodology used is to compare theory with historical example. The theoretical ideas of the Clausewitz, Jomini and Sun Tzu which pertain to concentration of force are discussed. Two military campaigns which occurred during World War II in the Pacific Theater are presented and analyzed to determine the important factors in

concentrating force. The two campaigns are operation CARTWHEEL and the Leyte campaign. These campaigns were selected due to their extensive use of joint forces. The discussion focuses on the theater of war and theater of operations plans and the movement and assembly of forces prior to operations and concentrations which occurred as a result of changes to the plans. The paper concludes with an analysis of the similarities and differences in concentration present in theory and the campaigns and a discussion of the considerations which are essential to successful concentration.

The methodology forces the interchangeable use of the words "operational" and "strategic". Operational is currently synonymous with strategy as it was used prior to 1940. Operational art, as defined in FM 100-5, is "the employment of military forces to attain strategic goals in a theater of war."<sup>3</sup> This definition is important to remember as the discussion of concentration of force is developed from theory and historical example.

Prior to proceeding with the discussion, it is imperative to define concentration of force. That is, the marshalling/assembly of superior combat power at the decisive place and time in order to achieve decisive results.<sup>4</sup> "This is accomplished through the movement and assembly of men, equipment, and supplies into an area from which it is intended that further action should begin."<sup>5</sup> Concentration begins with movement of forces and ends when the concentrated mass begins combat operations.<sup>6</sup> This definition provides the parameters that guide this study.

## II. THEORETICAL CONCEPTS OF CONCENTRATION OF FORCE

### CARL VON CLAUSEWITZ

Carl von Clausewitz was a nineteenth century German military theorist whose classic work On War attempted to answer the questions-- What is war and how is it analyzed? Clausewitz experienced combat at the early age of twelve and progressed through his military career achieving notoriety following his appointment as the adjutant to Prince August of Prussia. He continued to develop his expertise in military matters through study and combat during the early nineteenth century. He died in 1831 leaving the publishing of his book, which was not completed to his satisfaction, to his wife.<sup>7</sup>

Clausewitz did not believe that theory could provide "a positive doctrine, a sort of manual for action."<sup>8</sup> According to Clausewitz, his theory provides a guide which is used with military history to enable a man to avoid potential pitfalls or from having to start over each time. It serves to educate the mind and direct the self education of the future commander.<sup>9</sup> Keeping this concept of military theory in mind, let us now focus on Clausewitz's thoughts on concentration of force and the underlying precepts that support it.

"In tactics, as in strategy, superiority of numbers is the most common element in victory."<sup>10</sup> Clausewitz establishes superiority in numbers as achieved through concentration as the basic element of strategy. He points out that this superiority does not assure victory and there are many other factors that affect victory or defeat. The first step is to put the largest army in the field; however, the

fundamental is to concentrate the force available and not divide it. In so doing, the first step toward victory is made.<sup>11</sup>

There are many theoretical ideas of Clausewitz which impact directly and indirectly on concentration of force. Those that appear to impact most directly on concentration are the following: space and time, strategic reserve, economy of force, center of gravity, decisive point, means and ends, theaters of operation and lines of operation. Those that have an indirect effect are culminating point, friction and will of the commander. By considering these ideas separately, but keeping in mind their interrelationship, we can understand their importance in achieving concentration.

The idea of time and space appears central to the successful concentration of force. Space was viewed by Clausewitz as the terrain or ground where the forces fight and move. All plans must consider the effects of this space on the combatant forces. Within this space there is a decisive point or points where the combat power should concentrate. It is within that space that the forces must remain concentrated. The relationship between time and space lies within the realm of the application of the force. "All forces intended and available for a strategic purpose should be applied simultaneously; their employment will be the more effective the more everything can be concentrated in a single action at a single moment."<sup>12</sup> In short, application of force at the decisive point, at the proper time is an essential element of concentration.

Clausewitz envisioned a reserve as having two purposes. It is to prolong and renew the action and to counter unforeseen threats.<sup>13</sup> These central ideas are applied differently at the tactical and

strategic levels of operations. This discussion focuses on strategic reserves. Countering of unforeseen threats lies within the realm of strategy but is not the principle purpose of this reserve. By withholding a strategic reserve, the commander has a force that can be concentrated at the decisive time of the battle and achieve a decision. However, it is essential that the withholding and use of the strategic reserve be intended for a specific purpose and not for general use. This principle idea forces the concentration of the reserve in time and space; concepts which have been established as central to successful concentration.

It is commonly understood that it is impossible to be strong in many places either in offensive or defensive operations. As discussed, the withholding of a reserve can aid in concentration of force but it is the use of economy of force that offers the commander another chance to concentrate. Clausewitz describes this as making sure that all forces are involved and that no force is idle.<sup>14</sup> The commander must apply his forces at the location they are most needed and minimize force at other locations thus taking risk. Economy of force, along with time and space, is a key element which buttresses Clausewitz's thoughts on concentration.

It was discussed earlier that force is concentrated at or against the decisive point. It is inherent in identifying this decisive point whether it be in time or space or both to direct the force against what Clausewitz calls the center of gravity. The center of gravity is the hub of all power and movement and generally is the mass of the armed force.<sup>15</sup> This is the place where the decision should be reached.<sup>16</sup> It is the place that the concentration of force should be

directed to either directly or indirectly render the center of gravity of the enemy ineffective and defeat it.

Clausewitz applies the use of lines of operation to the concentration of force in a very succinct manner. Simply put, it is a fact that forces operating on lines interior to the enemy can concentrate more quickly at the point of decision. In strategy, this advantage of time is crucial to achieving victory. Similarly, Clausewitz points out the advantage of forces operating on divergent lines in the attack. The result of this being the focusing of force against a single point. It is enough to say that in trying to achieve concentration, the effects of lines of operation must be considered as an important element due to the time required to concentrate and where concentration is achievable.<sup>17</sup>

There is a relationship between the theater of war and means and end which affects concentration of force. Clausewitz points out that a theater of war has a certain independence and is an entity in itself.<sup>18</sup> It is important in this context that the theater of war is clearly defined. Assessing the means available and the end that is desired allows for concentration of force to and within the theater of war.

According to Clausewitz, there is a point in offensive operations beyond which success is not achievable and in defensive operations where it is not advantageous to continue to defend.<sup>19</sup> This culminating point in both defensive and offensive operations must be understood and appreciated in order to apply the concentration of force at the decisive time. This applies more to the use of the reserve but also influences the general plan of battle. The

culminating point will guide the commander in his plan to concentrate force and when to shift from defensive to offensive operations. It is yet another element which keys the commander to the decisive time to apply force.

Another indirect theoretical element contained in Clausewitz's theory that impacts on concentration is the will of the commander. Throughout our discussion on the underpinnings of concentration the commander has had to make decisions, plan operations and apply force. If the commander does not have the will to economize or maintain a reserve then it is doubtful that he will achieve successful concentration. He must have the will to stick to the plan through numerous perceived tragedies and only change it when firmly convinced that change is absolutely necessary. However, at the strategic level it is difficult to change the concentration of such large forces.

The will of the commander and concentration often will run head on with the element of friction mentioned by Clausewitz.<sup>20</sup> In war there is the presence of friction which fights against the effort to concentrate. This friction is in the form of terrain or space, weather, misunderstood plans, and a thousand things that fight against concentration of force. The commander considers this friction, plans for it, but most importantly, must have the will to overcome its effects. Friction will fight against all efforts to concentrate successfully.

These are the main elements of theory which support or effect concentration of force in the mind of Clausewitz. As Clausewitz points out and was discussed, there are no absolutes. However, the previously mentioned elements appear to have a direct relationship on

concentration of force. Let us now move on to another theorist to determine his thoughts on the subject.

### BARON DE JOMINI

Clausewitz was a romanticist. Jomini is considered a rationalist.<sup>21</sup> Jomini's prescription for warfare is an attempt to outline principles of war that can guide the employment of military force. He has often been criticized for taking a geometric approach to strategy and the movement of forces. However, this was a criticism which was countered in his Summary when he explained that his diagrams were not intended to "reduce war to geometry" and if this were attempted it would be to "impose fetters on the genius of the greatest captains."<sup>22</sup> "Jomini's systematic attempt to get at the principles of warfare entitles him to share with Clausewitz the position of co-founder of modern military thought."<sup>23</sup>

Jomini had a variety of military experiences to shape his theories of warfare. He served under Napoleon, Marshal Ney and after transferring to the Russian Army served as a general officer for 56 years.<sup>24</sup> Jomini wrote extensively about the Napoleonic campaigns but it is his Summary of the Art of War that most clearly expresses his theories of warfare.

Jomini was a firm advocate of the importance of concentration of force on the battlefield. He states very clearly in the Art of War that "there is one great principle underlying all the operations of war-to throw by strategic movements the mass of an army, successively, upon the decisive points of a theater of war."<sup>25</sup> The underlying

principles that Jomini points to as critical in achieving this concentration or mass are the use of interior and exterior lines of operation, the identification of decisive points, and time. He also acknowledges the role that the base of operations has on concentration. These are the theoretical ideas as envisioned by Jomini that will guide the following discussion.

Jomini defines interior lines as "those 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 the enemy to oppose him with greater force." He saw exterior lines as having "the opposite result, and are those formed by an army which operates at the same time on both flanks of the enemy, against several of his masses."<sup>26</sup>

In his discussion of these concepts, Jomini is a strong advocate of interior lines as the best technique for achieving concentration. He stresses that this provides the smaller force an opportunity to attack portions of a larger force and defeat them. He is not totally against using exterior lines; however, he points out that history proves the success of the use of interior lines. In Jomini's theory of interior lines it is important that the force be highly mobile and employ a forward security element or delaying force to check the enemy force. By using interior lines and the other key elements of his theory, especially decisive point, the chances for success in battle are enhanced.<sup>27</sup>

Jomini discusses decisive points in great detail. He states that these points may be within the lines of operation of the force, rest within the alliance, be the capital of the enemy, or the arrangement

of the forces on the battlefield. His lengthy discussion of tactical and strategic decisive points does not specifically outline the relationship between these points and concentration. However, it is important in the following context. At each level of war there are decisive points which when attacked with the greatest amount of force will lead to the defeat of the enemy. This is the important aspect of Jomini's theory of decisive points to remember. Several decisive points may exist within a theater and seizing them may offer advantage through physical destruction of the enemy, cutting his lines of communication, or destroying his morale. The commander must decide what and where the decisive points are and how to concentrate to attack them.

The element of time is fundamental to Jomini's theory concerning concentration of force. It is the very essence which drives him to place so much importance of the use of interior lines. It is specifically mentioned in his maxims as pointed out earlier. Additionally, he follows a similar idea of Clausewitz that there is a time when a defending force must concentrate and take the offensive.<sup>28</sup> Although not as detailed in his discussions of time as Clausewitz, Jomini realizes its significance in successful concentration of force.

Jomini saw bases of operations as either supply depotss or locations for reinforcements. His ideas on establishing a base directly affect the concentration of force. He points out that it is important to maintain a good base that is protected and that the lines between the base and the fighting force not be overextended.<sup>29</sup> This is the important point in the discussion.

If the lines are long then they require more force for protection and thus detract away from concentration of force. Likewise, successful concentration to achieve maximum combat power rests as much with good resupply as with anything. These factors must be kept in mind when establishing the base in order to reduce the strain on concentration of force.

Jomini's theories on achieving concentration of force are succinct but important. He saw lines of operation as particularly critical to concentrating force. There is no question that in each theater there are points which must be attacked to win and Jomini stresses this idea. He and Clausewitz are rather prescriptive in their thoughts on concentration of force. The last theorist that is discussed, Sun Tzu, is not as detailed but will add to the theoretical ideas which have been presented thus far.

#### SUN TZU

Sun Tzu is classified as a Confucian and there is reason to believe that "Sun Tzu" may have been several persons.<sup>30</sup> Sun Tzu's book, The Art of War, was written about 500 B.C. but still is an important source of military theory. Sun Tzu saw war as very important to the state. He believed that it took more than just numbers to win and that the moral, intellectual, and circumstantial aspects of war were as important as the physical. His theory includes the idea that an enemy army is prepared for defeat through the use of spies, rumors, deception and other clandestine activities.<sup>31</sup> Even

with this emphasis on other elements of warfare, concentration of force and techniques that support it are found in Sun Tzu's theory.

Sun Tzu's thoughts on concentration are not as directly stated as those of Clausewitz and Jomini. However, careful study reveals many of the same elements found in the previously discussed theorist's writings. On concentration itself, Sun Tzu states that the first job of the general is to concentrate his forces and harmonize them.<sup>32</sup> From this idea springs the theories that affect concentration in Sun Tzu's writings. The major ideas are those of time, space, vital or decisive points and a heavy emphasis on deception. All of these support the concentrated force.

Time and space are important in Sun Tzu's theory. "Knowing the place and time of the coming battle we may concentrate from great distances in order to fight."<sup>33</sup> Sun Tzu envisioned the calculation of this time of battle as it is affected by the ground the force moves over. He is detailed in his descriptions of ground and their effects on movement and fighting dispositions.<sup>34</sup> The ground is the space of Sun Tzu's theory. Time involves movement of forces as well as the appropriate time to strike the enemy.

The striking of the enemy at the proper point is a key element of concentration in Sun Tzu's theory. The art of his theory is developing these points of weakness by causing the enemy to divide his force. This effort is supported through subtlety and secrecy. In Sun Tzu's theory, the point of attack must not be known so the enemy will try to be strong everywhere. Deception is the underpinning of Sun Tzu's theory of warfare and is important to concentration of force.

Sun Tzu saw the preliminary element of battle as the mind of the enemy.<sup>35</sup> This idea incorporates the use of spies and other elements of the fifth column to weaken the enemy. These actions weaken the enemy for attack. The role this deception plays in his theory of concentration can be indirectly interpreted as concealing and protecting the concentrated force from the enemy as well as protecting the plan of attack.

Sun Tzu offers a different perspective on warfare and the aspect of concentration of force. As stated previously, his theory does not overly emphasize concentration but recognizes its value. He sees the time and ground (space), deception, and vital or decisive points as important factors supporting successful concentration. It appears that Sun Tzu's theory has many of the same elements as Clausewitz and Jomini. It is these similarities and differences which are discussed in the next section.

#### THEORETICAL ELEMENTS OF CONCENTRATION OF FORCE

Concentration of force is recognized by the three theorists as an element of military action and theory. They emphasize its importance to warfare in their writings. It appears that Clausewitz sees it as essential, Jomini stresses its importance and Sun Tzu places less emphasis on it. However, it is interesting to note that they have similar ideas concerning elements that support concentration of force.

In each theory there were common elements which support concentration. These were time and space and decisive points of attack. Ground is important in each theory when considering the ideas of time and space.

Clausewitz has many more theoretical ideas which affect concentration. These are strategic reserves, economy of force, center of gravity, theaters of operations, lines of operations, friction, culminating point, economy of force, means and ends and will of the commander.

Jomini emphasized the importance of lines of operation in his theory. The effect of establishing a base of operations to concentrate is also a part of his theory. He also was a strong advocate of the importance of decisive points and their impact on the focus of concentration.

Sun Tzu adds an additional theory to support concentration. That is the idea of deception. Even though he believes deception supports all warfare it is easy to see its role in the concentration of force. It is the deception that allows the concentration to succeed by protecting the force and concealing the intent of the commander. He also mentions harmonizing the forces which is synonymous with the current US Army term of "synchronization".

These are the theories of Clausewitz, Jomini and Sun Tzu which support concentration of force. We will focus on the common elements of space and time, decisive points and lines of operation as we discuss the historical examples while keeping in mind the individual ideas of each theorist. Its presence or the lack thereof will provide fuel for our discussion of history and theory.

### III. PACIFIC STRATEGY, CARTWHEEL AND LETYE

#### STRATEGY

American strategic war planning following World War I was theoretical in nature due to isolationism, economic shortfalls and a general disillusion with war.<sup>36</sup> War planning evolved into a series of plans known as the color plans because each color represented a different plan. The plan governing war with Japan, Orange Plan, envisioned an offensive war fought by the Navy. This plan hinged on establishing a base in the Philippines defended by the Army. This was a task that the Army realized it could not realistically accomplish.<sup>37</sup>

Plan Orange was studied and reevaluated in light of changing situations in Europe and the Pacific prior to 1939. Following a detailed review of Orange by the Joint Planning Board, they determined that the United States had four strategic options available in the event of war: "(1) defense in both oceans; (2) defense in the Pacific; (3) defense in the Atlantic, offense in the Pacific; and (4) offense in both oceans."<sup>38</sup>

Further refinement led the committee to develop five plans known as the Rainbow Plans. The war in Europe with the rapid advances of the Germans, brought the British and American planners together to develop a strategy which resembled America's Rainbow Five Plan. These agreements were known as ABC-1. They established objectives to defeat Germany early, maintain British and Allied positions in the

Mediterranean and a strategic defensive in the Far East, with the U.S. Fleet employed offensively.<sup>39</sup> Thus, by 1941 American military strategy put the main effort in Europe and established the Pacific as a secondary effort. This effectively established two theaters of war.

At the outset of war with Japan the allied forces found themselves seemingly unable to stop the Japanese advance. Initially the orientation of the Joint Chiefs was to protect Hawaii, Midway, New Zealand and Australia by holding lines of communication.<sup>40</sup> The Japanese were unable to continue their offensive after June of 1942. It was at this point that the allies took the initiative.<sup>41</sup>

The Pacific theater was divided into two areas of operation (Map 1). These areas were designated the South West Pacific Area under General MacArthur and Pacific Ocean Area under Admiral Nimitz. The Pacific Ocean Area was further divided into three areas, North, Central and South Pacific Areas. Thus, the theater of war was further divided into theaters of operation and areas of operation.

The Joint Chiefs issued orders on 2 July 1942 which gave the Pacific theater three tasks as an orientation for operations. These were: (1) The seizure of Tulagi, Guadalcanal, and Santa Cruz Islands. (2) Capture of the remainder of the Solomons, Lae, Salamaua and the islands northeast of New Guinea and (3) Seizure and occupation of Rabaul. Tasks two and three were the responsibility of the forces of the South and Southwest Pacific Area under the command of General MacArthur.<sup>42</sup>

General MacArthur's plans for accomplishing tasks two and three envisioned "two supporting advances along two axes, culminating in a converging attack against Rabaul."<sup>43</sup> His refined plans became known

as the Elkton Plan which divided the operation to accomplish tasks two and three into five phases. These phases focused on seizing a series of airdromes, often by-passing enemy strongpoints, that would support future operations ultimately leading to the capture of Rabaul.<sup>44</sup>

#### CARTWHEEL

The forces required to conduct these operations far exceeded those available. Even with more forces allocated, shipping was not available to get them into the theater in time for the operation. It was recognized that Elkton would be limited by the available means.<sup>45</sup> Based on new estimates, objective times were adjusted and Elkton was modified to meet the new requirements. The new plan known as Elkton III was issued under the code name CARTWHEEL.<sup>46</sup>

Elkton III established specific objectives and timing for the conduct of operations by South and Southwest Pacific forces, (chart 1). The key ingredient for these operations was fighter and bomber support. The seizure of key locations supported this requirement. This along with balanced forces, and solid command and control enhanced the chances for success.<sup>47</sup>

Initial operations to start CARTWHEEL were postponed from June 1 until June 30, 1943 while forces were assembled from within and outside the areas. The mutual drive by South and Southwest Pacific forces proceeded almost as planned (Map 2). The Japanese resistance was particularly tough during the seizure of Munda in Admiral Halsey's area. Learning from this experience, MacArthur and Halsey adjusted plans to bypass enemy strong points when possible and made good use of

deception to deceive the enemy as to their intent. Throughout the drive toward Rabaul they moved on exterior lines and hit the Japanese at weak spots. Air superiority was gained to support all operations. Naval forces, particularly cargo and troop ships, were shifted from area to area to support planned and current operations.<sup>48</sup>

Operations proceeded so well that the mission to capture Rabaul was changed to simply neutralization.<sup>49</sup> Rabaul was subjected to persistent air attack. These attacks came from land based fighters and also from a hastily organized strike by carriers ordered by Admiral Halsey to counter a Japanese move on Rabaul. This operation saw excellent cooperation between each air arm of the three services. In particular, the air coverage provided by Air Command Solomons (AirSols) which comprised planes from all services and allied forces showed the capability to focus support on certain operations and the theater in general.<sup>50</sup>

Operation CARTWHEEL ended approximately a year after it started. The Allies had learned a great deal about joint and combined operations. The pattern they set in the CARTWHEEL operation would serve them well in future operations. Even during CARTWHEEL, MacArthur planned for his return to the Philippines which would begin with the Leyte Campaign. His forces were now set to move against the Philippines.

## LEYTE

The Philippine Archipelago is located in a strategic position. During World War II it was very important to the Japanese war effort in that it was astride the sea lanes leading to the islands which supplied Japan with its natural resources. From the Allied standpoint, severing these lines of communication was critical and establishing a base from which to attack Japan directly was essential to winning the war in the Pacific. After a great deal of discussion concerning the necessity to attack and to occupy the Philippines to achieve victory, and General MacArthur's insistence that American prestige and honor demanded a return to the Philippines, the decision was made to go ahead with the Leyte Campaign.<sup>51</sup>

The plans to invade Leyte evolved from five versions of a plan known as the Reno Plan. The last version of this plan envisioned an advance on the southern Philippines followed by a landing on Leyte and then an invasion of Luzon. From the Reno Plan, Musketeer Plan I was developed which outlined the details for the campaign in the Philippines.<sup>52</sup>

Musketeer I divided the campaign into four phases known as King, Love, Mike, and Victor. These operations were planned for execution sequentially. The King phase would lead to the capture of Leyte, the Love operations would provide positions to support the seizure of Luzon and the main effort was embodied in the Mike phase to seize Luzon (Map 3). These operations were planned to use a combination of air, naval, amphibious, ground and airborne operations involving all three services.<sup>53</sup>

"In his planning, General MacArthur recognized that the Leyte operation, his most ambitious to date, would require massed carrier-based air support and all of the combined amphibious and naval forces available at the time." It was toward this end that requests for additional shipping were forwarded to the Joint Chiefs of Staff and the operations were timed to allow for turn-around loading of the supporting ships. This factor had an impact on the planning; however, other developments created greater changes to the plans.<sup>54</sup>

The Joint Chiefs had a desire to speed up operations in the Pacific Theater. They envisioned accomplishing this by moving up target dates, bypassing objectives or selecting new objectives. These ideas were debated with no great changes to the plan but a development in the theater caused the timetable and objectives to change. Air operations had begun against Mindinao on 12 and 14 September 1944. The result was the destruction of Japanese aircraft, supplies and shipping, and it appeared that Japanese resistance was faltering. This latest development pushed the invasion of Leyte to 20 October and canceled the Mindanao (King I and III) operations. The invasion for Luzon was moved to 20 December 1944, a full two months ahead of previous plans.<sup>55</sup>

For the first time, the Leyte operation joined ground forces from Central Pacific and Southwest Pacific under a common commander, General MacArthur. These ground forces were supported by allied air and naval forces consisting primarily of the Seventh fleet. The operations plan outlined the specific responsibilities of each headquarters during all phases of the operation. The naval forces provided transport and support for the

assault forces including the majority of the air support during initial operations. The air forces were to conduct reconnaissance, cover movement of naval forces, and after establishment of bases on Leyte, provide air support for the seizure of Luzon. All tasks assigned considered the capabilities and limitations of each force and relied on the complimentary nature of the forces to accomplish the mission.<sup>56</sup>

The Leyte Operation proceeded as planned with the main assault by four divisions supported by naval and air bombardment gaining its initial objectives. The operation was threatened when the San Bernardino Strait was left unguarded due to confusion in task organization caused by the naval fleet pursuing the Japanese fleet. This was a result of the naval commander, Admiral Halsey, pursuing his priority mission, as defined by Admiral Nimitz, to destroy the enemy fleet. This action detracted from support and protection of the ground force invasion. This could have been avoided if a single commander had held command authority over ground and all naval forces during the operation. Fortunately for the Allies, chance and the actions of smaller naval elements averted what could have been a major disaster.<sup>57</sup>

The Leyte Operation was more difficult than General MacArthur had anticipated. The Japanese decided to make the battle for Leyte their main effort and threw as much land, air and sea power as possible against the Allies. This, coupled with the difficulty in establishing land based air support on Leyte, placed a heavy reliance on sea based air power provided by Admiral Halsey and Admiral Kincaid of the Pacific Area Command. In short, it was the use of air and naval forces concentrated from outside MacArthur's theater that assisted in

the Leyte Operation and would prove important to the seizure of Luzon.<sup>58</sup>

From Leyte, the operations to complete the campaign included the Luzon operation and the clearance of other minor islands in the archipelago. The seizure of Mindoro for air bases to support operations on Luzon preceded the Luzon invasion. The amphibious operations onto Luzon were hampered by constant Japanese air attack on the troop transports. They were eventually successful and the land phase of the operation commenced (Map 3). After some tough fighting, particularly in the battle for Manila, the main objective of Luzon was secured.<sup>59</sup>

The entire Leyte campaign was an extraordinary effort in the use of the capabilities of all the forces involved. Each service of the allied force was used to its maximum capability at the appropriate time in the campaign. This also characterized the CARTWHEEL campaign. There are ways of employment and planning which enable forces to concentrate combat power in joint operations. It is these ways of concentrating combat power which we will focus on in the remainder of this section.

#### CONCENTRATION OF FORCE IN CARTWHEEL AND LEYTE

The CARTWHEEL and Leyte campaigns provide excellent examples of factors that are important in the concentration of force in joint operations. It is important to keep in mind that the Pacific theater was primarily a naval theater of operations. Also, the nature of the theater which consisted of huge areas of water and numerous islands

had an impact on the concentration of forces. These facts are considered important in an evaluation of the ways force is concentrated.

The design of the theater of operations enabled the Joint Chiefs and the planners to plan campaigns and to allocate forces as appropriate. The Southwest Pacific Area included the largest amount of land mass; therefore, it was generally allocated the largest amount of ground forces. Likewise, the Pacific Ocean Area had the largest water area and generally had the largest amount of naval forces. However, this factor only served as a general guide in the concentration of force. It was the conduct of the major operations in each theater that determined when and where to concentrate force.

The Leyte and the CARTWHEEL campaign were conducted in conjunction with activities in the other theaters of operation, particularly the Central Pacific Area. The timing of these two operations was determined by the amount of force available for the operation. If additional forces were needed from the other theaters, shifts were made and the time tables were adjusted to accommodate this requirement. Simply speaking, economy of force was important to the successful concentration of force. Additionally, time and space for movement and assembly of forces was incorporated into all planning.

In the design of the specific operations, the elements of time and space were critical. These played an important role in assembling the forces in the area of operations whether they were shifted prior to the operations from outside the theater or shifted within the theater during the operation. Time and space in the conduct of these campaigns was complicated by the diverse capabilities of the three

types of forces involved. The campaign plans and execution of the plans considered time and space and concentrated the forces within their capabilities. It is important to note that these operations point out the ability of joint forces, particularly the air elements, to concentrate rapidly.

Closely linked to time and space was the synchronization of combat power. This involved the synchronization of combat, combat support and combat service support elements to support the operations. Plans allowed for the synchronization of combat power to support the main effort and, when necessary, shifts were made rapidly to ensure success. A specific example was the synchronization between ground based air and naval air in the protection of naval and ground forces during the advance on Leyte. It is synchronization that comes to the forefront in these operations as one the mainstays of concentration of force.

Decisive points played a key role in the design of these operations. The two campaign plans identified as objectives the decisive points along the axis of advance. These points were generally decisive because they interdicted the enemy lines of communication or were important as a base for air and land forces. Rabaul and Leyte/Luzon were decisive points in the Japanese lines of communication. The islands seized in the advance to these points were decisive in that the ground based air needed a base from which to support future and current operations. Location of the decisive points was an important consideration in the concentration of force. It is important to note that the decisive point was not always an enemy location. Often the decisive points supported one or more of

the joint forces moves against the enemy or the point unhinged the enemy defensive plans. The criteria for a decisive point does not always mean destroying the enemy directly.

Closely related to decisive points is the base of operations. In these two campaigns, bases were critical to concentration of force. Forces were assembled, organized and resupplied from the established bases. The location of these bases considered time and space and its effect on the operation, particularly when establishing bases for ground based air support. The base had to meet the requirements necessary to support the force and the campaign plan. Without the bases of support, successful concentration of force during these campaigns was not possible.

The concept of center of gravity was important in the theater of war and the theater of operations for the concentration of force. It was considered that the center of gravity initially for the enemy was his naval forces. Therefore, in the theater of war and the theater of operations, the naval forces were the primary focus. Friendly forces were concentrated against these naval forces and their bases to defeat the center of gravity, the enemy's navy. Once this center of gravity was defeated the allied forces concentrated against the points necessary to support their offensive operations. The Allies recognized their center of gravity as air power and designed the campaigns to concentrate this power.

Protection of the forces was another factor which supported successful concentration. The bases and movement of concentrated forces to their objectives required great efforts to protect them so as not to degrade combat power through losses. The advance on Luzon

and the threat poised by the enemy air against the concentrated force illustrates the importance of protection in the concentration of force. Had the enemy not been subdued, losses to friendly forces may have adversely affected the move against Luzon. Protection of the force once it is concentrated was achieved in both campaigns and enhanced the chance for success.

The CARTWHEEL and Leyte campaigns provided some important examples of the factors which support successful concentration. These were protection, synchronization, center of gravity, decisive point, base of operations, design of the theater, and time and space. Although lines of operation could easily be identified in each campaign, they did not appear to be significant in the effort to concentrate of force. These campaigns have provided two historical examples of how forces were concentrated. They are a good point of comparison from which to discuss the theoretical components of concentration of force as they apply to joint operations.

#### IV. CONCENTRATION OF FORCE IN THEORY, CARTWHEEL AND LEYTE

Historical examples are not intended to validate military theory and that is certainly not the case in this paper. The circumstances of the historical example place limitations on the degree of certainty which one can say that a theory is valid. It has been pointed out that the Pacific Theater was a naval theater. The fact that the theater consisted of islands and great expanses of water caused the campaigns to be planned and executed with primary consideration given to naval and air power. Additionally, it was possible to bypass the

enemy and isolate him as a part of the campaign plan. These and other factors bear consideration in any discussion of theory and historical fact. These campaigns provide some excellent examples of how some of the theoretical propositions discussed at the beginning of this paper are important in the concentration of force for joint operations.

Clausewitz's military propositions have a direct and indirect effect on concentration of force. The designation and design of theaters of operation were important to concentration of force in these campaigns. The Orange Plan and the Rainbow V Plan established theaters of war and priorities which provided direction for concentration of force. Priorities for numbers and type of forces were based on the requirements of the theater. This had an impact on strategic and operational concentration. It established a framework from which concentration of force decisions were made in a logical manner.

Means and ends were an important factor in concentration of force. Strategic and operational planners establish ends for the theaters and to meet these ends provided means to the theater commanders. The theater commanders took these means and the end established for the theater and designed each campaign. They decided upon when, where and how they must concentrate. Their plans focused combat power at eliminating the center of gravity of the enemy. To get at this center of gravity, decisive points were identified (generally points which would support ground based air) and attacked or reduced to ineffectiveness. These campaigns used economy of force to concentrate naval, air and land forces within each theater of operations and between theaters. All of these theoretical ideas were

present in the campaigns and were interrelated in achieving concentration.

Time and space appears to be the most important theory found in Clausewitz, Jomini, and Sun Tzu in concentration of force in joint operations. The movement of forces in time and space to concentrate maximum combat power at the decisive point is essential to any combat force but in joint operations it is particularly important and difficult to achieve. CARTWHEEL and Leyte campaign planners considered time and space through phasing of operations, designing time tables (Chart 1), and establishing bases. They made time and space work for them instead against them.

The three services each have varying capabilities in movement and combat power. The forces must complement each other in combat power but also in movement potential. Closely related to this is the establishment of a base. Whether the base is for direct support of combat or for logistics support, time and space are considered in the location of the base. The requirements of all three forces must be included in the decision to establish a base. Ideally one base supports all but it is often necessary to establish bases for one or two of the services.

The strategic reserve which Clausewitz and to a lesser degree Jomini emphasized as important in achieving concentration was not a predominate factor in these campaigns. There were land force reserves designated for the ground phases of the campaigns. However, air and naval reserves were not designated. This appears to be a characteristic of these joint operations. The rapid shifting of land and carrier based air power seems to negate the necessity for an air

reserve in achieving concentration. Speed replaces the need for an air reserve. Time and space obviously are important to this rapid shifting of air power to concentrate combat power for planned or emergency requirements.

Clausewitz's theory of culminating point, his emphasis on the will of the commander and Sun Tzu's theory of deception have a complimentary effect on concentration of force. The Allies knew when the Japanese attacks had culminated and when to concentrate for offensive action. The will of the commander always has an impact on concentration of force and the campaign. It was MacArthur's will to retake the Philippines that guided campaign design and subsequent decisions about concentration.

Deception can enhance the success of concentration and also aide in protecting the force. The Allies moved quickly, concentrated and hit the Japanese often where they least expected it. They gathered information from numerous sources and conducted feints to deceive the enemy. Sun Tzu's propositions on deception did aid the allies in achieving concentration.

Friction, and lines of operations affect time, space and economy of force. Friction affects all actions in war. The failure of the Naval forces to guard the San Bernardino Strait during the Leyte campaign is a good example of friction working against concentration. Time and space are critical in concentration of force and lines of operations (exterior and interior) affect time and space differently. However, in joint operations the air dimension seems to negate the importance of lines of operation to concentration. This is not completely true. The air dimension of the campaigns is not directly affected by lines of operation. However, the bases are captured by

land forces. These forces operate on lines either interior or exterior to the enemy. Furthermore, the base has a position in relation to the enemy that effects the time it takes to concentrate air power. This location is either interior or exterior to the enemy. This obviously affects their ability to concentrate. Once again it becomes an issue of time and space.

#### V. Conclusion

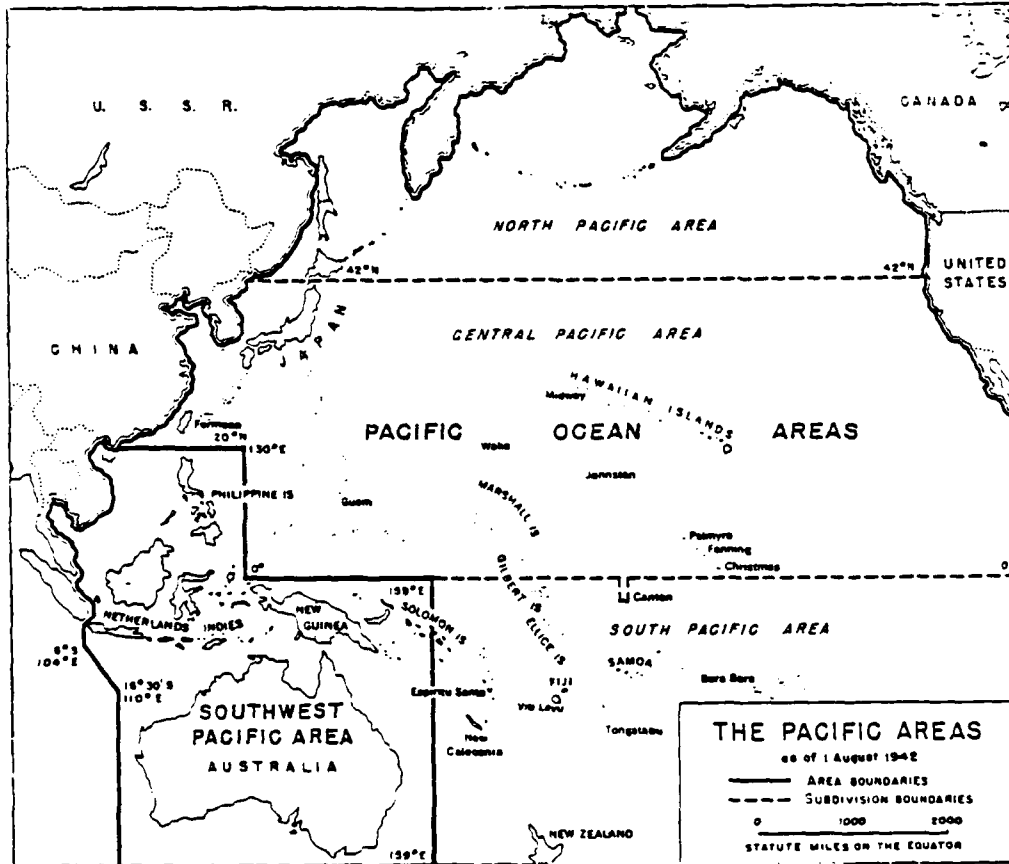
Theory and history often appear at odds with each other when the theory was developed during less technical or sophisticated period of history. However, in the case of war fighting in the joint environment, the theories of another time period appear valid. At least this is the case with the theories of Clausewitz, Jomini, and Sun Tzu on the subject of concentration of force.

Time and space, center of gravity, decisive points, theaters of operations, economy of force and means and end were present in one or more of the theorists writings and were present in the two campaigns which were discussed. Time and space determine if concentration is possible. Center of gravity, decisive points, and the desired end state provide direction for the concentration. Theater of operations assist strategic and operational planners in establishing a framework for concentration. Means are what is to be concentrated while economy of force is a technique to make the most out of limited means. The conduct of joint operations requires concentration of force for success. The theories of Clausewitz, Jomini and Sun Tzu described

above are fundamental to concentration of joint forces.

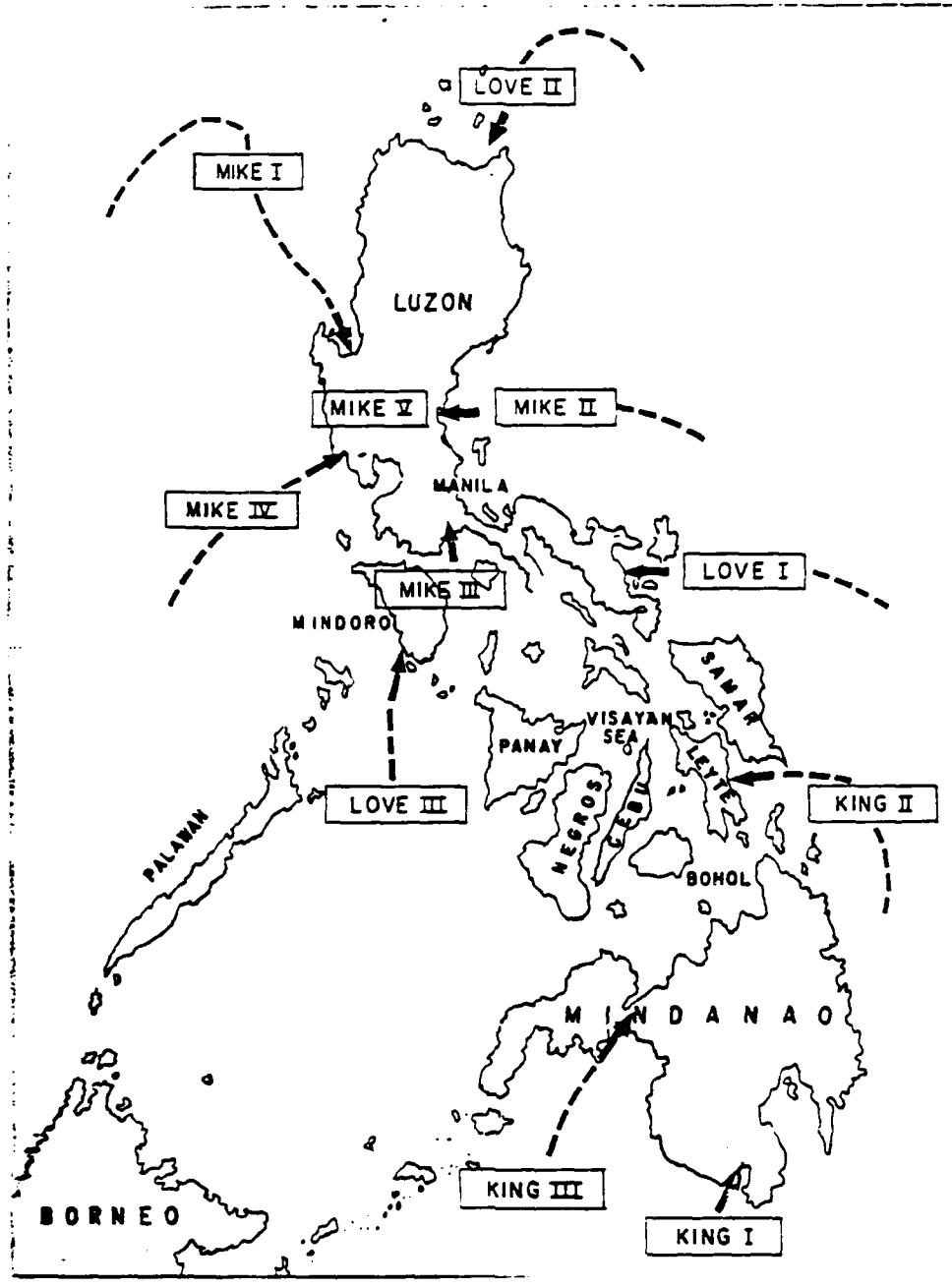
Our theorists did not use the term synchronization even though Sun Tzu spoke of harmonizing force. It is apparent that this is what they intended to achieve through many of their theories. Proper application of the theoretical ideas should assist in achieving synchronization. Adding proper command and control and sound planning is the glue that makes synchronization happen. Time and space must be at the forefront of all plans to concentrate. The theories are good guide posts to follow in the conduct of joint operations and trying to concentrate force. Adding our present day idea of synchronization to the theories will make concentration achieve its intended purpose. To gain the advantage over the enemy in combat power at the decisive point in time and defeat him.

Joint doctrine of warfighting must consider many of the land based theories as a starting point for development. This discussion on one aspect of theory compared to history demonstrates a certain amount of validity of applying land based theory to joint and even modern warfighting. This is critical to developing doctrine in the future. The importance of air power to concentration can not be over emphasized. Military professionals must revisit the past before venturing into the future. The increased complexity of the modern battlefield may change the importance of certain aspects of theory such as time and space increased in importance to concentration. However, the theory will always provide a starting point. Plans for concentration of force in future war must consider the theoretical ideas discussed in this paper to achieve success on the battlefield.



MAP 1 (Reproduced from CARTWHEEL: The Reduction of Rabaul by John Miller, Jr., pp. 3.)





MAP 3 (Reproduced from The Second World War: Asia and the Pacific by Thomas E. Griess, Series Editor, pp. 186.)

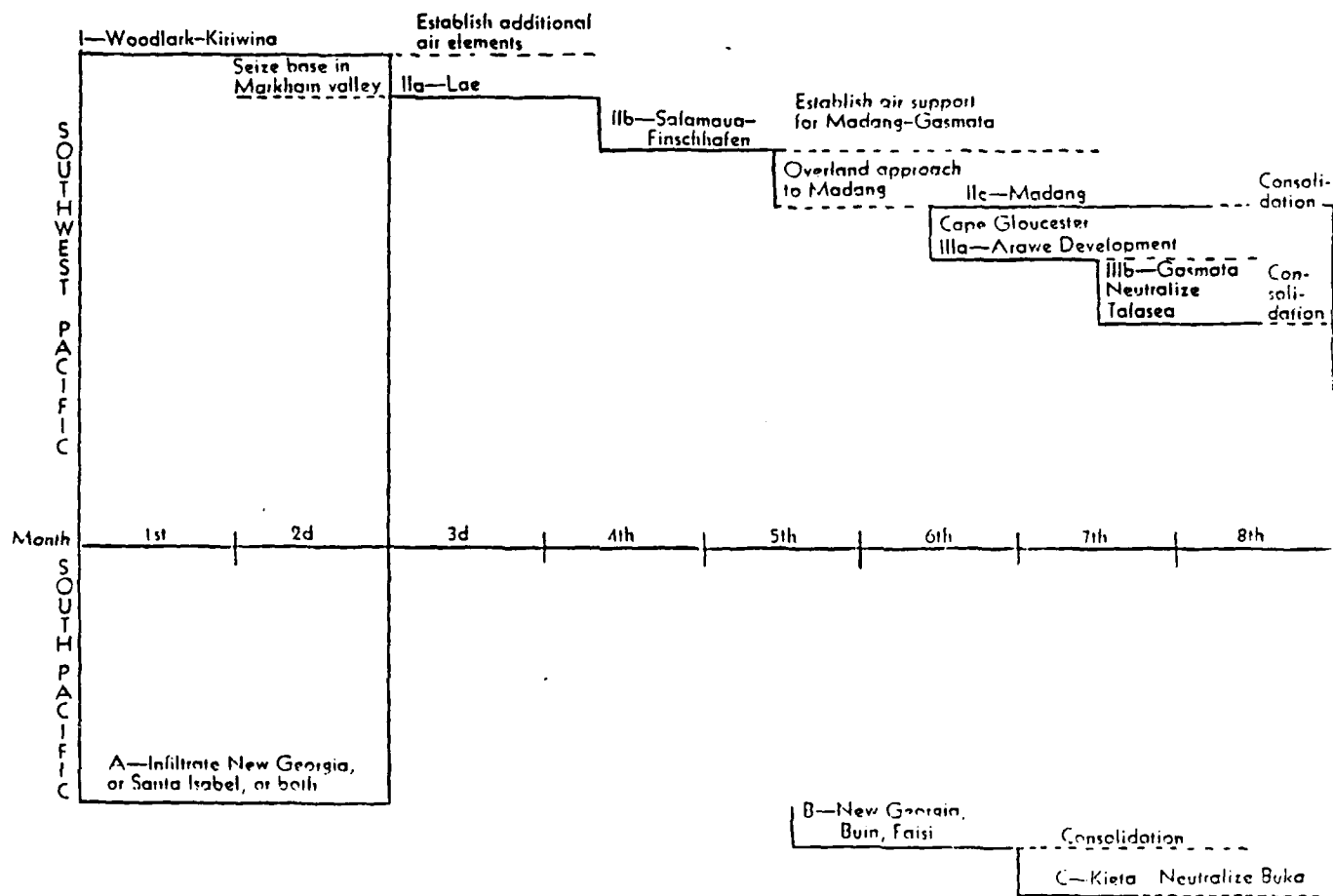


Chart 1 (Reproduced from CARTWHEEL: The Reduction of Rabaul by John Miller, Jr. pp. 28.)

#### ENDNOTES

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42. Ibid., p. 5.
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