Excerpts from *Joint Operational Warfare: Theory and Practice,* by Dr. Milan Vego 20 September 2007, U.S. Naval War College, Newport, RI, pp. IV-49 to IV 78.

THEATER GEOMETRY

War is a business of positions.

Napoleon I

It is power plus position that constitutes an advantage over power without a position, or more instructively equations of force are composed of power and position in varying degrees, surplus in one tending to compensate for deficiency in the other.

Rear Admiral Alfred T. Mahan

Any land or maritime theater contains a large number of seemingly random natural and artificial physical elements that to a greater or lesser degree influence the planning and execution of one's military actions. The principal elements of any theater are positions, distances, base of operations, physical objectives (discussed elsewhere), decisive points, lines of operations, lines of retreat, and lines of communications. Key to evaluating the military importance of these elements are not only their number and characteristics, but also their relative positions and distances from each other—arbitrarily called here the *theater geometry*.

Positions: Any theater contains a number of militarily important geographic positions that are, or could be, used for offensive or defensive employment of one's forces. However, to have a military value, such a position must be complemented by a corresponding effective force. Also, the value of a position is not in the position itself, but in the use that is made of it.

Tactical, operational, and strategic positions are differentiated in terms of their potential military importance.[2] These distinctions are a matter not only of location but also of the factor of force. Obviously, the higher the military value of a position, the more critical it is to defend, control, or neutralize it. For the attacker, it is of utmost importance to seize or neutralize early on a few dominant positions in a part of the theater controlled by the defender. Not only the number of positions but also their distance from the potential physical objectives and directional orientation in the theater are determining factors in evaluating those positions' value for either side.

One's forces can operate from a central or exterior position. Each of them offers some inherent advantages but also disadvantages that needs to be fully understood by the operational commanders and their planners.

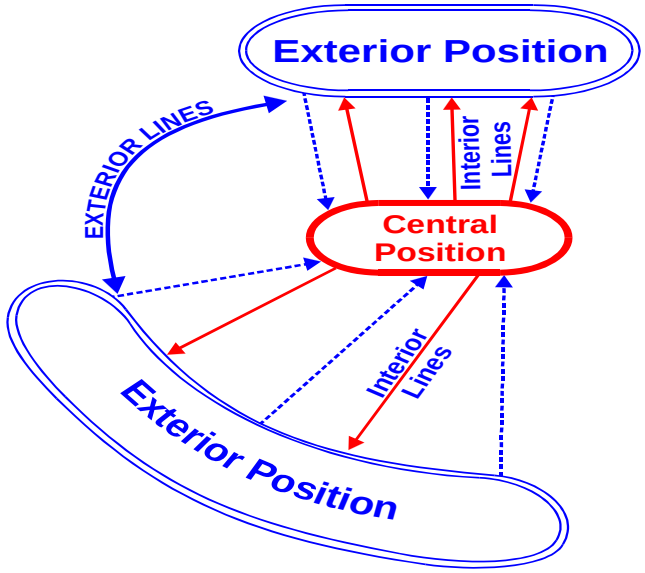
Whether a force operates from a central or exterior position is determined by the position of its assigned objective in regard to its base of operations. . Whenever a force occupies a position interposed between two or more hostile forces, it is said to occupy a central (or interior) position (see Figure 2).

A force operating from a central position moves along the shorter lines of operations. Therefore, it can possibly concentrate more quickly at a selected point within its effective striking range than could a hostile force moving along the periphery. Operating from a central position has the additional advantage that the opponent cannot easily concentrate his forces.[11] In many cases, a force operating from a central position can defeat the enemy forces before other enemy forces can arrive to the area.[12]

Among the disadvantages of operating from a central position is that one's forces on land have great difficulty in forcing a decision, especially when the theater is large, as the German experiences in Russia in both world wars illustrate. In general, the farther one pushes one's enemy back, the more difficult it is to surround and destroy him.[13] If one's forces occupying a central position are attacked simultaneously from several directions, they can be forced to disperse.[14]This, in turn, might lead to their defeat in detail.

A force operating from a central position usually has a difficult task ensuring the security of lines of supply once hostilities start. The problem of ensuring adequate supplies can only be resolved if additional adjacent land or maritime area, gained by conquest, provides sufficient resources to continue the work of the wartime economy. During World War I, the Royal Navy, by concentrating superior forces in home waters, controlled the oceanic supply lines to and from the northern and western coasts of Europe. At the operational level, the British Grand Fleet, by its disposition in the Firth of Forth, occupied a central position with respect to the German High Seas Fleet and its bases.

Operations on Interior and Exterior Lines



Graphic—figure 2

A side is called to occupy an *exterior* (or *flanking*) *position* when it lies along the periphery of the enemy's center. A force operating from such a position can move against one or both of the enemy's flanks. It can conduct single-sided envelopment or wide movement.[16] It can also threaten or carry out surprise attacks from multiple directions against various points on the enemy's periphery. The exterior position allows one's force to draw the opposing force away from its assigned physical objective. However, often one's force must be numerically larger and more mobile than the hostile force operating from the central position.

A country's (or group of countries') strategic position determines whether the armed forces as a whole occupy a central or exterior position in respect to enemy forces deployed in the adjacent land and sea areas and airspace. That relationship can change little or with great difficulty in the course of a war. However, in operational and tactical terms, whether a force operates from the central or exterior position mainly depends on the characteristics of the physical space (land, sea, or airspace) in which it operates…

In some situations, forces on land might operate from a central position while land-based aircraft operate from the exterior position. For example, in the Gulf War of 1990–1991, the coalition land forces and land-based aircraft based in Saudi Arabia operated from a central position, while the land-based aircraft deployed in Turkey and the naval forces deployed in the Arabian Gulf, eastern Mediterranean, and Red Sea operated from the exterior position. However, in the wars in Afghanistan in 2001–2002 (Operation ENDURING FREEDOM) and Iraq in 2003 (Operation IRAQI FREEDOM), the U.S. and coalition forces initially operated from exterior positions.

A force that changes its medium in the course of a major operation also shifts its position with respect to a hostile force. A unique feature of all amphibious and airborne landings is a major shift in the relative position of a landing force, from the initial exterior position to a central position. For example, the Allies prior to landing at Leyte on 20 October 1944 operated from the exterior position on the eastern coast of New Guinea and in the Admiralties. After the landing, they seized an operationally central position within the Visayas archipelago and thereby a central position within the entire Philippine archipelago. In the Falklands/Malvinas Conflict of 1982, the British amphibious task force operated initially from an exterior operational position; after the landing at San Carlos, the troops ashore operated from a central position.

Bases: Optimally, a theater should have a fully developed system of army posts, naval bases, and airfields in peacetime. The operational commander should also plan actions and measures to expand existing bases and establish new ones. Options range from permanent bases and facilities to temporary facilities in times of crisis. Bases in forward areas are usually within operational reach of the potential opponents. Hence, such areas should have an infrastructure in place that can support the operational and sustaining requirements of deployed forces. The infrastructure should also provide some degree of protection from enemy attack.

Among other things, the value of a base depends greatly on the adequacy of its resources and surrounding territory; the more abundant the resources, the greater the base's military value. The possession of a large number of bases offers significant advantages for the deployment, maneuver, and redeployment of one's forces and for the use of the most suitable bases for deployment and redeployment. Relying on a single major base in wartime is usually a bad thing, because one's forces must use the same line of operation for both attack and retreat. In general, this would greatly facilitate the enemy's problem of monitoring one's forces' movements. A base should not be too far from its basic sources of supply. It should have good communications with the interior of the country or territory. It should be protected from attack from the land, the sea, and especially the air. Optimally, the most important bases should be beyond the effective range of enemy aircraft.

Base of Operations: The term base of operations was widely used in European military literature by the turn of the nineteenth century. For example, the Austrian archduke Charles (1771–1847) described base of operations (*Operationsbasis*) as a series of several closely located and connected points where all supplies can be built up and an operating army can be replenished.[18] Jomini defined base of operation as the portion of the country from which the army obtains its reinforcements and resources when it takes the offensive, to which it retreats

when necessary, and by which it is supported when it takes position to cover the country defensively. The base of operations is most generally, though not necessarily, that of supply.[19]

A country's entire territory, with all its resources, could be considered a base of operations, in the broadest understanding of the term. In a maritime theater, a sufficient degree of sea control allows the stronger side to expand the width of the base of operations for its army, stretching from the home base to the enemy-controlled coastline.

A campaign or major operation, regardless of its purpose, needs a certain physical space from which one's forces start to move toward their respective physical objectives, or in which they find a refuge if forced to retreat or withdraw.[22] Therefore, one of the principal tasks of national and military strategy in peacetime is to build and develop or acquire a sufficient number of army posts (garrisons), supply depots and facilities, naval bases and anchorages, and airfields, on the home territory and often overseas. The number, size, and type of bases are directly related to the size and mix of one's forces and assets deployed (or to be deployed) in a given theater of operations.

In peacetime, the entire country and all its resources serve as a base for an army.[26] A base of operations contains all the sources of power from which an army draws supplies, ammunition, personnel, weapons, and equipment. Once an offensive campaign or major operation starts, a base of operations for an army is extended in a part of the theater controlled by friendly forces.

A country that projects power far from its shores is faced with the more difficult problem of establishing a base of operations on foreign soil. It is generally much more difficult to create a base of operations in an offensive campaign or major operation than in a defensive operation. Not only is it time-consuming, but it also requires the establishment of intermediate bases; the original base in one's territory would serve as the main base of operations.[27]

In general, the wider the army's base of operations, the more freedom of movement it has. However, the more distant the army is from its base, the more difficult it is to retain its striking power and the more vulnerable are its extended lines of communications to enemy attack. Hence, increasing the size of one's forces is necessary for protecting the army's lines of communications with its base of operations.

A good base of operations should provide a favorable position for both offense and defense. It should be located within effective striking range of one's forces; hence, the distances between one's base of operations and prospective targets play a critical role in the military effectiveness of those forces. The defense and protection of maritime trade is accomplished more easily and surely at defiles and focal points where the concentration of merchant ships is greatest…

A base of operations should provide multiple short lines of operations, thereby allowing greater freedom of action.[30] It should allow for good, reliable communications with the hinterland and with the army in the field. One of the most important prerequisites for a good base of operations is reliable, secure supply lines, thus allowing sufficient freedom of movement for one's forces. It is often a great advantage on land when a base is connected with, or lies near, several important rail lines and roads.

In general, main and intermediate bases of operations can be differentiated… The *main base of operations* is usually located on one's territory. It is usually used to initiate land operations for accomplishing the principal physical objective in a theater. An *intermediate base of operations* is established or obtained during the course of a campaign or major operation. When an offensive major operation or campaign is extended a great distance, it is often

advantageous to establish an intermediate base of operations to facilitate logistical support and sustainment. Such a base allows the use of shorter lines of operations for the next phase of a major operation or campaign. It also greatly facilitates the protection of one's lines of operations and lines of supply.

Decisive Points: Any theater contains many geographic or human-made features, arbitrarily called "decisive points."[39] This term was widely used by the German military theoreticians at the turn of the nineteenth century. Jomini used the terms "objective point" and "decisive point of the theater of war." He defined a "strategic decisive point" as a point capable of exercising a marked influence upon either the outcome of a campaign or a single military enterprise.[40] Jomini considered the capitals to be such points, because they are seats of power and government. In strategy the object of a campaign determines the objective point.[41] …

The Jominian concept of the decisive point is still viable today. However, because of technological advances and corresponding changes in methods of combat force employment, this concept should be adapted to current circumstances. Hence, in generic terms, a decisive point can be understood today as *a geographic location or source of military or nonmilitary power whose destruction or capture, control or defense, or continuous surveillance and monitoring would give an immediate and marked advantage over the opponent in accomplishing one's military objective*. A decisive point is usually located in relative proximity to some physical objective, though sometimes it may be located at a considerable distance from it.

The importance of *a particular* decisive point depends primarily on the scale of the military objective to be accomplished. Therefore, based on the physical objective of one's action, tactical, operational, and strategic decisive points can be differentiated. In practical terms, a decisive point located in the proximity of a specific physical objective is invariably lesser in importance or scale than the objective itself. Another peculiarity of this concept is that what is for the operational planners a decisive point would be a task or objective for the next lower echelon. However, this should not be carried so far that the true meaning of the term is obscured or completely lost. The relationship between an objective and decisive points in its relative proximity is not one between equals; the objective normally has greater importance than any of the decisive points. Also, it is clearly a mistake to consider operational or strategic air superiority or sea control a decisive point.[44]

Decisive points may be *permanent* or *provisional* (or *transitory*). Traditionally, they may be geographically or force oriented, or both. *Geographically oriented* decisive points are of more enduring importance because they are fixed in place. They may be natural or artificial. The military value of geographically oriented decisive points often depends directly on the factor of force. A location means little if no force is defending or controlling it.

Force-oriented decisive points can be fixed or maneuverable. Either way, their military importance in a given situation is usually transitory. Their military value primarily depends on their position relative to the physical objective to be accomplished.

A force-oriented decisive point usually encompasses not just a source of power but also human-made structures, such as naval bases, ports, airfields, marshaling yards, shipyards, ship repair facilities, supply dumps, railroad or road junctions, tunnels, and bridges. Bridges or tunnels sometimes act as choke points for road traffic, especially if they provide the only link to safety for retreating troops.

Line of Operation: A line of operation (LOO) is an imaginary line along which a force moves from its base of operations toward a given physical objective(s).[47] The selection of the line of operation is one of the most important decisions of the commanders at all levels. These lines

can often have a critical role in the outcome of the initial phase of a campaign or major operation. Lines of operations can also serve as lines of retreat or withdrawal.[48]

Jomini is generally credited with introducing the term into military theory...[54] Jomini agreed with Napoleon I that the greatest secret to war is to become master of the enemy's communications. Then it is possible not only to starve the enemy and force him to withdraw but also to bring about his destruction.[56]

Other theoreticians then defined a line of operation as the line followed by an army from its assembly area to the point where it could either capture strategic points on the battlefield or seize control of enemy communications. To capture an "operations object," several lines of operations could be used. Their importance varied. And it was the art of military leadership to select those lines of operations that offered the greatest security and potentially greatest results.[60]

Lines of operations are closely related to and mutually dependent on the position one's force and its base of operations occupy. Their selection can often be decisive for the outcome of a major operation or even an entire campaign. Lines of operations used for initial major operations retain their value for successive major operations, because they are critical for reaching the assigned physical objective and in the event of withdrawal or retreat. They should not be confused with lines of supplies.

A line of operation determines the directional orientation of one's combat force in terms of time and space relative to a hostile force.[64] However, it is simply a mistake to consider lines of operations in purely geometric terms, as lines drawn on the map or chart along which a force moves. These "lines" have a certain width relative to the objective and the required size and mix of forces. Yet this is more true in war on land than at sea or in the air, because many troops and their equipment move along a given line of operations. In land warfare, lines of operations usually pass through selected decisive points.

In planning a military action at any level of war, selecting a line of operation is one of the commander's fundamental tasks. The commander needs to select lines of operations in reference to the base of operations and the movement of forces, so as to seize the enemy's communications without imperiling his own.[65] Once the assigned physical objectives are seized, they can serve as a new base of operations from which new lines of operations are selected. In general, the larger the distance between a base of operations and the physical objective, the longer the lines of operations and the lines of supplies. Therefore, the more vulnerable these lines become, and the more force that would be required for their protection. Lines of operations should be flexible so they can be brought close together spatially for mutual support as soon as the enemy force renders this necessary. It should also be possible to open them out so they meet at a point beyond the originally intended physical objective.[66]

Interior versus Exterior Lines: Depending on the mutual position of one's base of operations and the physical objective, one's force can move either along an interior or exterior line of operations. Jomini wrote that if one army is concentrated between hostile armies, then it operates on interior lines while the hostile armies operate along exterior lines.[77] Mahan observed that interior lines are in fact a central position prolonged in one or more directions. In his view, interior lines favor sustained interposition between separate bodies of an enemy, with the consequent power to concentrate against either, while holding the other in check with a force that is possibly inferior. An interior line conveys the meaning that from a central position one can assemble more quickly on either of two opposite fronts than the enemy can, and therefore can utilize forces more effectively.[78]

Interior lines of operations originate from a central position. Hence, they are inherently shorter than those the enemy force can use when moving on the periphery. They can be used effectively in both offense and defense. They generally enhance one's ability to concentrate forces against one part of the opposing force while a much-inferior force holds the other part in check. They allow simultaneous concentric actions from many directions against the enemy's center.[79]

Interior lines generally facilitate shifting one's forces to meet an external threat while maintaining communications and covering distances to approach the enemy's force. A force operating along interior lines can possibly act before the enemy can act, thus preventing the enemy from concentrating his forces. However, the effective use of interior lines requires precise calculation of the factors of space and time.[80] The prerequisites for the success of operations on interior lines are sufficient space and ability to move one's forces rapidly, and secure lines of supply.[81]

Interior lines should not be extended too far, because doing that might greatly reduce or even nullify the inherent advantages for both offense and defense by an extremely unfavorable relationship of the factors of space and force. To maximize the advantages of interior lines, the operational commander should thoroughly grasp the geography and the terrain and how they affect the movement of large forces.

In defense, the main disadvantage of interior lines is that the attacker operating on exterior lines can force the defender to maintain a defense along the entire periphery. In this situation, virtually the entire theater can be involved in combat. Then a hostile force can threaten one's lines of retreat and lines of supply. In the end, the force operating on interior lines can be confined to a narrow physical space and then overwhelmed by a stronger hostile force.[84] Interior lines do not by themselves confer a marked advantage to one's forces, as the examples of the Polish army and the Yugoslav army in September 1939 and April 1941, respectively, illustrate.

A force is said to operate along *exterior lines* when its lines of movement are separated by those of the enemy. These lines are longer than the shortest line the enemy force can use. The most important prerequisite for the proper use of exterior lines is that each part of one's forces possess sufficient combat strength.[85] For example, in the Leyte operation, the Japanese First and Second Diversionary Attack Force and the Mobile Force (Main Body) started their movement toward the Philippines from exterior positions. Likewise, the U.S. TF-38 carrier force operated from the exterior position in regard to its targets on Luzon and the central Philippines and adjacent sea areas. The Allied amphibious force that landed at Leyte also operated from the exterior position during its transit and approach phase.

The advantages and disadvantages of exterior lines are the reverse of those of interior lines. The inherent advantage of a force moving along exterior lines is that it can threaten the enemy with envelopment. However, such a force moves along longer lines of operations than its opponent does. The longer the distance between the base of operations and the attack objective, the longer the lines of supply. Hence, logistical support and sustainment of the force is more difficult. Also, unless each force element is stronger than the enemy force opposed to it, there is a constant danger that one's force will be defeated in detail. The chief requirements for operating on exterior lines are numerical superiority or greater combat potential; fast, secure, and, above all, reliable communications between the individual parts of the force; and great speed in executing movements. A force moving along exterior lines can select the point of attack along the enemy's periphery.

The primary purpose in conducting operations on exterior lines is to expand the initial superiority and enhance the initiative, force the enemy into a passive posture, conduct a

centripetal operation, and hold and destroy the enemy from the perimeter. Forces operating on exterior lines should not neglect the concentration of combat potential. When combat power is dispersed on exterior lines separated by terrain that prevents cooperation, one must not fall into the bad practice of overlooking tactical opportunities to consolidate combat power.[86]

Lines of Communications: Any theater contains a number of lines of communications—imaginary lines of movement between two points, over which troops and materiel are transported. Land, sea, and air lines of communications differ. They are called *lines of supply* or simply *routes* when they are used for carrying commercial cargo in peacetime and in time of war. A route is designated to provide the optimum way to move traffic from the point of origin to the destination. Jomini describes a line of communications as the designated practicable routes between the different positions of the army throughout the zone of operations.[89]

Land lines of communications (LLOCs) are the link between a base of operations and an army in the field. An army covers its links with the rear as it advances into enemy territory, withdraws, or is forced to retreat. An attack on the enemy's communications requires movement around the enemy's flank and away from one's true line of advance. During this process, the tendency is to uncover one's communications. In defense, movements in force against the attacker's lines of supply often lead to his retreat, because an army cannot operate if its links with its base are seriously disrupted or even cut off.

Air lines of communications (ALOCs) are today extensively used for fast transport of troops and specialized cargo. The established routes are called *airways* and are defined by a particular width and flight altitude. Air transport provides not only speed, but also flexibility. It is generally easier to shift air lines of communications than other modes of military transportation…

The term *sea lines of communications* (SLOCs) refers to routes used for both commercial trade and the transport of troops and materiel. The most important oceanic routes and some routes in enclosed and semi enclosed seas are identical for all belligerents and neutrals, and they may be near each other.[91] Geography determines the direction of the shipping routes and affects the methods of control. For example, in World War II, the Luftwaffe threat forced the British to move all their trade in the North Sea to their northern and western ports, where it was more protected. This change in the trade pattern created an excess load on rail and road transportation. It also created a new focal point of trade, the northwest approaches to the British Isles.

In general, longer sea lines of communications require the use of more ships. The enemy has more opportunity to attack; hence, more escorts are needed. This is especially true if the routes pass through restricted waters. The steady extension of lines of communications also requires additional bases, and they must be equipped for defense, repair, and supply.

In general, short lines of communications are preferred to long ones; multiple lines to single ones; and interior lines to those in the rear or the flanks of one's forces. The longer the lines of communications, the more difficult they are to protect and hence the more vulnerable they become. An entire campaign or major operation has often failed because of the excessive length and/or inadequate security of lines of communications—such was the case, for example, for France in Russia in 1812 and Nazi Germany in Soviet Russia in 1941–1945. Therefore, the aim, especially in a war on land, should be to operate along short lines of operations, which in turn result in short lines of supply. Short lines of communications allow faster turnaround time in transporting troops and materiel. They also require fewer forces for protection. Multiple lines of communications are preferable to single ones because they are inherently more flexible. At the same time, these routes require larger forces for their protection. The larger the army, the more intense the traffic to its rear, and the more numerous the lines of communications are.

Notes

1. Carl von Clausewitz, *Vom Kriege*, edited with comments by Dr. Werner Hahlweg (Bonn: Ferdinand Duemmlers Verlag, 16th ed., 1952), pp. 301–02.
2. Jomini differentiated between what he called "strategic" and tactical positions. The first were those taken for some time and intended to cover a much greater portion of the front of operation than tactical positions used for the actual battle; Antoine-Henri de Jomini, *The Art of War*, translated by G. H. Mendel and W. P. Craighill (Westport, CT: Greenwood Press, 1971; originally published in 1862 by J. P. Lippincott, Philadelphia, PA), p. 97.
3. Admiral Norwegen, "Die militaerische Lage Norwegen. Aufgaben und Sclussfolgerungen fuer die Kriegsmarine," 8 January 1942, I Skl-Teil CIIa: Nordsee-Norwegen. Januar 1942–Dezember 1942, RM 7-127, Bundesarchiv-Militaerarchiv (BA-MA), Freiburg, i.Br., p. 4.
4. Ritter von Niedermayer, "Nord- und Ostsee. Eine wehrpolitische und strategische Betrachtung," in Th. Arps, R. Gadow, H. Hesse, and D. Ritter von Niedermayer, *Kleine Wehrgeographie des Weltmeeres* (Berlin: E. S. Mittler & Sohn, 1938), pp. 95–96.
5. John Creswell, *Sea Warfare 1941–1945* (Berkeley, CA: University of California Press, rev. ed., 1967), p. 50.
6. Donald Macintyre, *Sea Power in the Pacific: History from the Sixteenth Century to the Present Day* (London: Military Book Society, 1972), pp. 130–31.
7. Wolfgang Wegener, *The Naval Strategy of the World War*, translated by Holger Herwig (Annapolis, MD: Naval Institute Press, 1989), pp. 16–18.
8. Vicente Blay Biosca, "Defending the Strait of Gibraltar: Spain's Role Is Vital," *International Defense Review* (September 1985), p. 1401.
9. Deutsche Kriegfuehrung im Mittelmeer Februar 1941–Dezember 1941, Betrachtung ueber die Bedeutung Gibraltar, 2.12.1941, SKL Teil C, XIV, RM 7-234, BA-MA, p. 310.
10. Ibid., Betrachtung ueber die strategische Lage im oestlichen Mittelmeer nach Balkanfeldzug und Kretabesetzung und die weitere Kampffuehrung 1.6.41, SKL Teil C, XIV, RM 7-234, BA-MA, p. 19.
11. Rudolf Heinstein, *Zur Strategie des Mehrfrontenkrieges. Das Problem der 'inneren und ausseren Linien' dargestellt am Beispiel des Ersten Weltkrieges* (Hamburg: Fuehrungsakademie der Bundeswehr, 10 November 1975), p. 6; Antoine-Henri de Jomini, *The Art of War* (London: Greenhill Books, reprinted 1992), p. 331.
12. Heinstein, *Zur Strategie des Mehrfrontenkrieges. Das Problem der "inneren und ausseren Linien" dargestellt am Beispiel des Ersten Weltkrieges*, p. 6.
13. Alfred H. Burne, "Global Strategy in the Pacific," *Marine Corps Gazette* 4 (April 1948), p. 21.
14. Heinstein, *Zur Strategie des Mehrfrontenkrieges. Das Problem der "inneren und ausseren Linien" dargestellt am Beispiel des Ersten Weltkrieges*, p. 5.
15. Ibid., p. 5; Rudolf Boehmer, *Die Massnahmen des Deutschen Reiches vor und waehrend des zweiten Weltkrieges fuer Schuetz und Kontrolle der Deutschen Handelsschiffahrt* (Hamburg: Fuehrungsakademie der Bundeswehr, September 1973), pp. 14–15, 21.
16. Heinstein, *Zur Strategie des Mehrfrontenkrieges. Das Problem der ""inneren und ausseren Linien" dargestellt am Beispiel des Ersten Weltkrieges*, p. 5.
17. John E. Marr, *War in the Falklands: Perspectives British Strategy and Use of Air Power* (Maxwell AFB, AL: Air War College Research Report, Air University, 1988), p. 31.
18. Freiherr von Waldstaetten, ed., *Erzherzog Karl. Ausgewaehlte militaerische Schriften* (Berlin: Richard Wilhelmi, 1882), p. 64.
19. Jomini, *The Art of War* (1971), p. 77.
20. J. F. C. Fuller, *The Generalship of Alexander the Great* (Cambridge, MA: Da Capo Press, paperback reprint of 1960 ed.), p. 289.
21. In the nineteenth century, the term "operations-subject" was used when referring to a base of supplies. They collectively constituted what today is called base of operations in the narrow definition of the term; J. Neumann, *Grundzuege der Strategie. Ein Leitfaden fuer das Studium der Kriegsgeschichte* (Vienna, 1870), p. 9.
22. Wilhelm Stanger, *Grundzuege der Lehre von der Strategie. Studienbehelf fuer did K.K. Kriegschule*, Vol. 1, *Theorie mit Kuerzeren Bespielen* (Vienna: Verlag der K.K. Kriegschule, 1884), p. 65.

23. Colmar von der Goltz, *Kriegfuehrung. Kurze Lehre ihrer wichtigsten Grundsaetze und Formen* (Berlin: R.v. Decker's Verlag, 1895), p. 64.
24. Carl von Egger, *Die Strategie. Mit Berucksichtigung der neuen Kriegsmittel* (Basel: Schweighauserische Verlagsbuchhandlung, 1870), p. 46.
25. Egger, *Die Strategie. Mit Berucksichtigung der neuen Kriegsmittel*, p. 47.
26. Stanger, *Grundzuege der Lehre von der Strategie. Studienbehelf fuer did K.K. Kriegschule*, Vol. 1, p. 65.
27. Ibid., p. 66.
28. Hermann Franke, ed., *Handbuch der neuzeitlichen Wehrwissenschaften*, Vol. 1, *Wehrpolitik und Kriegfuehrung* (Berlin/Leipzig: Walter de Gruyter, 1936), p. 205.
29. Robert W. Duffner, "Conflict in the South Atlantic: The Impact of Air Power," *Air University Review* (March–April 1984), p. 81.
30. Goltz, *Kriegfuehrung. Kurze Lehre ihrer wichtigsten Grundsaetze und Formen*, pp. 70, 64.
31. Ibid., pp. 65, 71.
32. Edward Hagerman, *The American Civil War and the Origins of Modern Warfare: Ideas, Organization, and Field Command* (Bloomington, IN: Indiana University Press, 1992), pp. 276, 279.
33. G. J. Fiebeger, *Elements of Strategy* (West Point, NY: United States Military Academy Press, 1910), pp. 12–14.
34. Besprechungpunkt fuer Vortrags beim Fuehrer, 3 September 1939–27 December 1940, 1. Skl, RM 7/1596, BA-MA, p. 188.
35. Dieter Seebens, *Grundlagen, Auffassungen und Plaene fuer eine Kriegfuehrung in der Ostsee 1935–1939* (Hamburg:

Fuehrungsakademie der Bundeswehr, August 1971), pp. 6, 13.
36. Colmar von der Goltz, *The Conduct of War: A Short Treatise on Its Most Important Branches and Guiding Rules,* translated by G. F. Leverson (London: Kegan, Paul, Trench, Truebner, 1908), p. 106.
37. These airfields were as follows: Avignon, Cognac, Istres, Lesignan, Marseilles, Montpelier, Toulon, and Toulouse; W. H. Tantum IV and E. J. Hoffschmidt, eds., *The Rise and Fall of the German Air Force: History of the Luftwaffe in WW2* (Old Greenwhich, CT: WE, 1969), pp. 146–47.
38. Thomas A. Kenney and Eliot A. Cohen, *Gulf War Air Power Survey Summary Report* (Washington, DC: U.S. Government Printing Office, 1993), pp. 3–4.
39. Clausewitz used the same term "decisive point" [*entscheidende Punkt*] in the section "Superiority of Numbers," in Book 3 of his *On War*, but in a different context; Clausewitz, *Vom Kriege* (1952), p. 272.
40. Jomini, *The Art of War* (1992), p. 86; the Austrian archduke Charles defined "strategic point" as the one whose control provides a decisive advantage for an operation; "decisive factor" is the control of a point that secures one's communications; Waldstaetten, *Erzherzog Karl. Ausgewaehlte militaerische Schriften*, p. 59.
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