

The Operator-Logistician Disconnect

(The Logistician's Lament)

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You will not find it difficult to prove that battles, campaigns, and even wars have been won or lost primarily because of logistics.

- Gen Dwight D. Eisenhower

OPERATORS and logisticians often do not understand each other. Logistics may be the least understood element in war planning. This article is an effort to foster mutual understanding through education.

The Issue

A communications disconnect or gap exists between our operations commanders and our logisticians. Often our "operators" do not understand the play of logistics in warfare, and our "loggies" do not understand the operations planners' and commanders' estimates of the situation or concepts of operations. When each function operates narrowly to the exclusion of the other, we are courting disaster. "If a commander understands the play of logistics, then he or she can factor some logistics realism into plans and concepts without actually working on or solving particular logistics barriers (a fouled-up pipeline, depot, or what-have-you)."¹

However, the commander often simply does not know and does not appreciate the logistician's concerns. The "ops" types are usually able to practice their wartime skills in the execution of realistic exercises in peacetime, as is done in Red Flag training. But does the loggie have a chance to practice realistic scenarios? Usually the only opportunity is a shortened, simulation-laden, command post exercise using a simple status board and paper shuffling. We have our combat aircrews, but where are our combat logisticians?

Air Force logisticians often have the reputation of being the people who always tell the operational commander why his or her plan will not work. In fact, the logistician is seldom perceived as a positive go-getter. Why is the logistician held in such low esteem? One very important reason is that he or she is often not aware of (or educated in) a methodology for effectively approaching the problem presented by the operational commander. Logisticians (and some operators) are frequently not prepared to handle fluid operational-level situations because their education and experience have not prepared them to compare the scenario they face to a principle or historical precedent. The result is

the quick "no" answer rather than the more optimistic "Sure, let's try to figure a way to do it."

In an article in the *Air Force Journal of Logistics*, Lt Col William T. McDaniel, Jr., addressed this same concern:

Realistic logistics training is marginal at best. Most joint and Service exercises begin after deployment and end well before sustainment becomes an operational constraint. The magnitude and complexity of a major force deployment or sustainment have not been rigorously tested in either a field training exercise (FTX) or command post exercise (CPX)... The real danger of these training inadequacies is that commanders do not fully appreciate the impact of logistics on operations. And, logisticians will be unable to assist the commander because they have not been educated to handle the enormous detail of a major operation at the theater and global level.²

The Air Force is currently teaching logistics management, not wartime planning. This orientation may be appropriate for peacetime administrative tasks, but it is inappropriate for combat units and fighting commands. Rear Adm William S. Sims noted in an address to the Naval War College in 1919 that "an officer may be highly successful and even brilliant, in all grades up to the responsible positions of high command, and then find his mind almost wholly unprepared to perform its vitally important functions in time of war."³

The official Air Force approach could be equated with MBA-style management. Officers and NCOs often do not take advantage of the full range of military educational opportunities open to them. Unfortunately, the Air Force community has forgotten about the historical perspective of wartime logistics planning.

Why a Disconnect?

Frequently, the missing link--both in the mutual understanding between operator and logistician and in education--is the knowledge of what historically has and has not worked and why. Missing is the conceptual framework required to think through the potential pitfalls in developing a line of communications to support wartime operations. Also missing is the essential understanding between operators and logisticians.

This missing link is very often reflected in the boilerplate or cookbook approach taken by our operators and logisticians in writing war plans. There is neither in-depth thought of the principles of logistics nor the conceptual understanding of the relationship of logistics to strategy and tactics. Development of this thought process must be taught to logisticians and operators in an environment designed to elicit innovation, conceptual thought, and adaptability. They must learn to make a distinction between how to think (education) and what to think (training) in support of our combat logistics requirements.

This critical thought process can perhaps best be learned through trial and error during an actual war, obviously not a practical solution. Attempts are made in operational

commands to activate this thought process during major command post exercises. However, failure to learn in this environment is normal because participants train in accepted and preplanned scenarios.

The Final Report of Army Service Forces, July 1947 stated that "for the most part, Army schools and the War Department General Staff in peacetime planned, trained for, and studied combat operations. To a great extent the Army neglected the logistics problems of operation. This was a deficiency that proved to be costly."⁴ The study of logistics has often been neglected by operators and logisticians alike. Who was the world's greatest logistician and why? What was the critical error of the D-day invasion of Normandy? Can the average Air Force operator or logistician discuss the logistics problems faced by General Lee in the 1863 Gettysburg campaign or by Napoleon in his 1812 invasion of Russia?⁵

Would the average operator or logistician agree that the world's greatest logistician was Albert Speer, Hitler's armaments minister in Germany during World War II?⁶ Speer continued to produce and distribute military supplies and equipment in increasingly greater quantities during each year of a long war ("tripling armament production by July 1944 while reducing the number of workers per unit produced by nearly 60 percent . . . [and increasing] synthetic fuel production . . . by 90 percent")⁷ despite laboring under the most intense strategic bombing campaign ever inflicted upon any nation up to that point in history.

"Know the enemy and know yourself." That statement by the great military sage Sun Tzu illustrates the long-recognized need to study military art and, particularly, that of the enemy.⁸ What does the average logistician or, for that matter, the average operator know about Soviet logistics principles and combat systems? Perhaps the operations and logistics war-planning communities have yet to study the issue adequately.

Soviet logistics is based on a tightly controlled supply-push model, with ammunition and fuel claiming first and second priorities, respectively. For example, Soviet fuel pipeline regiments can "lay field pipe in 10-meter quick-connect sections at a rate of 2 to 3 kilometers per hour. Once installed, a single pipeline can deliver 75 cubic meters of POL [petroleum, oil, and lubricants] per hour to virtually any distance, as long as sufficient booster pump stations and pipe sections are available."⁹ Does the United States have a similar pipeline-laying capability? Do we need one? When combat logisticians and operators participate in the logistics requirements process, are they aware of the enemy's capabilities and principles, and have they thought about the full implications? Do we have a formal course of study in Soviet logistics?

Programming and planning logistics for war may be the most complex element in the operational art of war, perhaps even more difficult than strategy and tactics. Ernie Pyle, the World War II war correspondent, wrote in 1944 of logistics: "This is not a war of ammunition, tanks, guns, and trucks alone. It is as much a war of replenishing spare parts to keep them in combat as it is a war of major equipment."¹⁰ Again, in order for the operator to understand how the logistician works through these problems, it is important for him or her to gain a perspective of the principles and process of logistics.

The Historical Perspective

Unless we understand the events of yesterday, the difficulties of today are distorted, and the successes of tomorrow may be delayed indefinitely. Operators need to understand basic logistics from the historical perspective in order to avoid repeating the errors of the past. Our operators' ignorance of logistics could lead to serious shortfalls in combat sustainability. From a historical perspective, that critical error of World War II mentioned earlier may be the most important logistics lesson available. This story is told by Col Harold L. Mack, US Army, Retired—the logistics planner who personally developed the lines-of-communications plans for Operation Overlord (the Normandy invasion). The following passage, extracted from an Air Force logistics management study, reveals the primary military objective of the operation:

What's not well known about Operation Overlord is that the direct military objective of Overlord was neither strategic nor tactical, but *logistical*. The primary objective of the plan read: "To secure a clear lodgement on the continent from which further offensive operations *can be developed*." Since it was clear the war would be a battle of industries, we had to be able to rapidly deliver our industrial output to the front lines.

The primary need, then, was for *port* facilities. The Normandy location was selected because of physical characteristics and *its location between two major port groups*--Cherbourg and South Brittany. Until ports could be taken, refitted, and opened, the beach had to handle the influx of troops and supplies.¹¹

Colonel Mack relates:

There can be little question that a shortage of gasoline and ammunition, and other supplies, was primarily responsible for our failure to inflict a decisive defeat on the Germans before the close of 1944.¹²

He further states that

After months of planning, it became evident that, based on the original Overlord plan . . . we could not land and move enough tonnage to meet the demands of the various armies on their combat missions. The facilities, particularly the railroads and ports which would be captured . . . had not the capacity to enable us to move the tonnage needed to supply the armies in the field. . .

I was always intrigued by the possibility of utilizing the excellent ports and railroads on the southern coast of Brittany fronting on the Bay of Biscay. Quiberon Peninsula, jutting out into the bay, seemed to offer excellent beaches for the landing of supplies because it could be approached from different directions in any kind of weather. One of the best freight railroads in France ran along the coast and, straight from there, east to Paris and Germany.¹³

A major change in Overlord would thus be required. "It involved the capture of Lorient, either the capture or isolation of Saint-Nazaire, and the reduction of the German installations on the islands facing the coast--a combined military and naval operation of major proportions." After many strategy meetings the plan "then was changed to include the capture of Quiberon Bay. . . The operation was given the code name Chastity and was a very closely guarded secret."¹⁴

The Chastity mission was assigned to Gen Omar N. Bradley's 12th Army Group. For various reasons, General Bradley and his subordinate, General Patton, relegated the logistics plan to a low priority:

As a result, Lorient and Quiberon were not captured; the Chastity plan of supply was never put into operation, and, although St. Malo and Brest finally were captured, they proved to be completely useless from a logistical standpoint. . . .

While General Bradley planned classical campaigns, slow and methodical, General Patton displayed a quality of original thinking, improvising, hitting hard and fast, and anticipating in advance the enemy moves. General Patton later wrongly claimed, however, that the indications were that it was a deliberate withholding of gas from his army by higher authorities. He was wrong in this respect. There just wasn't enough to go around. . . .

Unfortunately for all concerned, his genius was curtailed and his victorious advance stopped because of the initial failure to carry out the Chastity plan, needed to keep him supplied. By September 1st, his army was short of everything--gas, rations, blankets, winter clothing.¹⁵

General Bradley "underestimated the logistical need for obtaining the use of Quiberon Bay and the railroads running east from there. These were most costly mistakes."¹⁶

It was the combat operators who failed to give logistics a coequal status with strategy and tactics. Or, as Rear Adm Henry E. Eccles pointed out, "Strategy and tactics provide the scheme for the conduct of military operations; logistics provides the means therefor."¹⁷

Logistics thus became a critical factor in one of the most important military campaigns of the World War II European Theater. There are many historical lessons to be learned in logistics; we must learn and never forget them.

A Framework for Understanding

The classic logistician's lament is that operators don't listen. The different experiences of operators and logisticians constitute one important reason for this situation. The "disconnect" is not a new one, as is shown in the following passage from the *Army Logistician*:

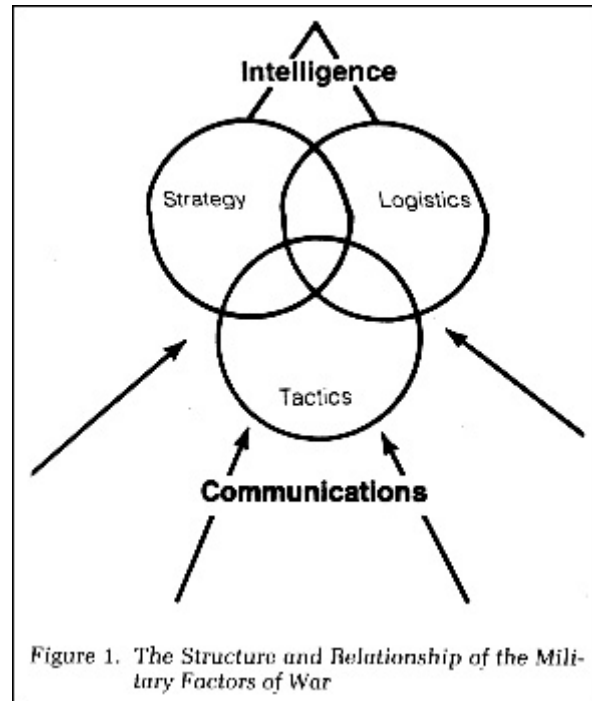
Logisticians are a sad embittered race of men, very much in demand in war, who sink resentfully into obscurity in peace. They deal only with facts, but must work for men who traffic in theories. They emerge during war because war is very much fact. They disappear in peace because, in peace, war is mostly theory.¹⁸

The solution to the operator-logistician disconnect is through increasing mutual understanding. Although the two are faced with different tasks on a daily basis and thus find the need to develop different solution methodologies, each has the same mission. Without that mutual understanding, they are unlikely to succeed.

Admiral Eccles, a noted author on modern combat logistics, writes the following about the operational-logistical relationship:

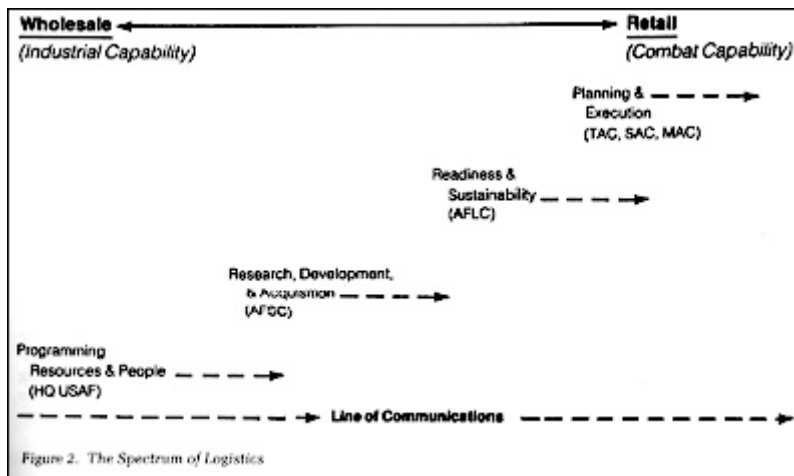
*[The operational commander] should retain cognizance and authority throughout the entire range of his responsibilities. He should avoid the common tendency of some commanders to concern themselves almost entirely with the so-called "operational" matters (either strategic or tactical) at the expense of concern over those logistical matters which form the very basis for "operations." In other words, once a commander thinks of the strategic, logistical, and tactical elements as individual or isolated matters he has lost his perspective.*¹⁹

He has put this relationship in the form of a chart that considers the critical elements of war planning and execution, strategy, tactics, and logistics coupled with the communications and intelligence interface (fig. 1). According to Admiral Eccles, "In the field of military planning, for instance, it has been found that at the highest level of military thinking it is not always possible nor desirable to distinguish between what is strategic and what is logistic."²⁰



An important basis of mutual understanding involves the operator's knowledge of how the logistician approaches a problem and thinks through the task. The following discussion provides a macro perspective of modern combat logistics planning for the layman or novice war planner.

Logistics can be thought of as a continuum, as an open-ended support concept from industry to combat. Consider the spectrum of logistics as illustrated by figure 2. Logistics provides the means to create and sustain combat forces and is the bridge between the national economy and the operation of combat forces. In an economic sense, it limits the combat forces that can be created; in an operational sense, it limits the forces that can be employed.



Logistics, strategy, and tactics must be studied in equal depth. It is only after both the operator and logistician become familiar with past military campaigns, including those

seemingly trivial or accidental elements, that they can begin to understand *why* things happened the way they did.

Maj Gen Jonas L. Blank, in his study of logistics and strategy, makes the following observations about the campaign in North Africa during World War II:

The Germans frittered away their early gains after coming to within an eyelash of making the Mediterranean a German lake. Again, brilliant tactical execution [by Gen Erwin Rommel] was undone by inadequate logistics support. Only about 10 percent of Rommel's fuel requirements for his tanks were delivered during the critical days when the fate of North Africa hung in the balance. What he needed could have been delivered. This was proved the next year when German equipment and supplies poured into Tunisia in response to the American landings in Africa, but by then it was too late. Field Marshal [Albert] Kesselring, the German commander in chief in Italy, and Rommel disagreed on many aspects of the North African campaign. They did agree, however, after it was over, that it was primarily a logistics battle and that their promising opportunity for decisive victory evaporated because transportation had been badly planned and clear organizational channels for logistics support had never been established.²¹

Quite frequently, seemingly trivial events were actually very important, even critical, and what seemed to be accidental occurrences were actually the natural result of the campaign. An ongoing historical analysis should become the basis for the development of logistics theory, doctrine, and the associated principles of logistics. As Admiral Eccles has stated, "The search for comprehensive theories is the best way of shedding light on these [logistics] problems and of developing the understanding of principles and of cause and effect relations which may guide the responsible men who must choose among conflicting ideas."²²

James A. Huston, in his book *The Sinews of War: Army Logistics, 1775-1953*, wrote about the principles of logistics. A few of them are summarized below:

- First with the most: And be there with the best if possible.
- Dispersion: Storage and other logistical activities should be dispersed and multiple lines of communications used when possible.
- Feasibility: Strategic and tactical plans depend on logistical feasibility; logistical plans depend on the national economy, availability of resources, and limitations of secondary logistical requirements.
- Timing: This principle is relative to the objective and is the key to all logistics, whether high-level procurement or tactical supply.
- Unity of command: Control of logistics is essential to control of strategy and tactics. A single authority, identical with command authority, should be responsible for logistics.

- Forward impetus: The impetus of supply is from the rear forward. An automatic supply system should exist that frees forward commanders of details without impairing their control of their own logistics.
- Information: Accurate, current information is essential to effective logistical planning and to supply distribution.
- Relativity: All logistics is relative to time, place, and circumstances; logistical factors are relative since there are always "opportunity costs" in every decision made.²³

These principles are interrelated and in some cases are scenario dependent. For example, if all communications are open in the battle area and information is flowing freely, the principle of forward impetus would not be applicable, in that only specifically required materiel should be pushed to the operational base.

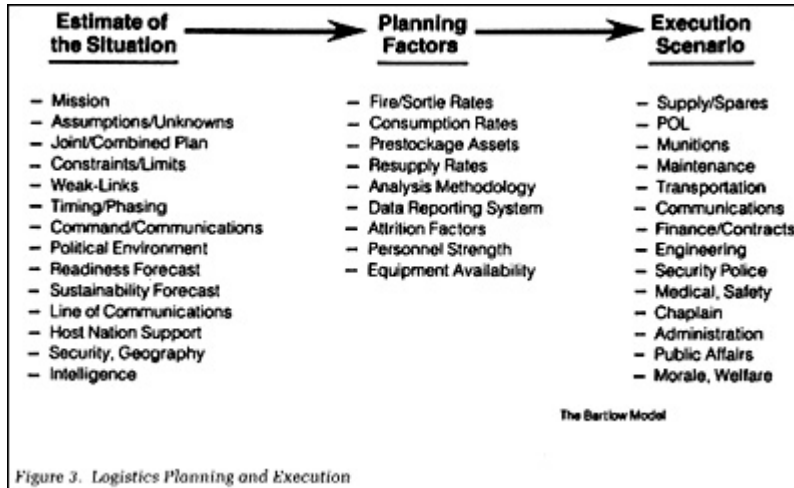
The experience of the past must be conveyed to developing professionals through the theory of the present. The Air Force has only recently addressed the concept of logistics principles, called combat support principles in chapter 3 of the 1987 edition of *Air Force Manual (AFM) 1-10, Combat Support Doctrine*.²⁴ These new principles are a "proven basis for deciding on a reasoned course of action."²⁵ The following eight principles cited in AFM 1-10 are somewhat different from Huston's. The debate over principles has only just begun:

- Objective: Know what you want to do before you do it and keep reminding everyone until it's done.
- Leadership: You are the single most important factor in achieving military victory.
- Effectiveness: Do only those things that improve combat capability.
- Trauma/friction: Understand: War is hell! (What Clausewitz referred to as "friction in war" describes why things naturally go wrong in war. . . Friction is bad weather during the Battle of the Bulge, contagious panic in France in 1940, an empty prison at Son Tay, or a dominant characteristic of the Iranian rescue mission. Clausewitz considered friction to be the central factor that distinguished real war from theoretical analyses.)
- Balance: Get the right thing in the right amount to the right place at the right time.
- Control: Never lose contact with your resources.
- Flexibility: Create aerospace forces that can operate in any combat environment.
- Synchronization: Combat power equals the combination of combat operations and combat support.²⁶

These principles are actually a litany of the lessons distilled from the experience of warriors. The debate should continue over which lessons from past conflicts should constitute basic principles and thus contribute to Air Force doctrine. The list is incomplete. This debate can best continue through a dialogue among experienced warriors and new members of the war-planning community.

A logistician must be concerned about virtually everything bearing on operations. The chart on logistics planning and execution (fig. 3) is a decision matrix used in combat

logistics problem solving. It provides structure and can assist in the development of concepts for applying principles and theory in judging logistics feasibility and effectively executing a plan. This chart can be the vehicle by which the logistician derives the logistics objectives from the overall operational mission objective.



Lt Col G. T. Reach, US Army, writes of a concern for logistics structure:

For many years, the notion has been perpetuated [by the layman (non-logistician)] that logistics estimates are little more than moderately complicated exercises in basic mathematics. Several generations of logisticians have calculated short tons of dry cargo, gallons of fuel, stockage objectives, order-ship times [mobility flight times] and transportation time-distance factors. This data is of value in the preparations of the [logistics] estimate [of the situation], but it is not the estimate itself.²⁷

The data merely provide background to give the logistics planner some idea of the requirements of the force and the support capability. The information does not tell the planners how best to employ the available logistics assets. The logistics planner must determine this by examining the figures and then asking, "So what?" The answer to that restively straightforward question is all too often elusive because the logistics estimate lacks a guiding structure.²⁸ Colonel Reach explains:

The structure used in the operations estimate is composed of a number of doctrinal factors. The logistics estimate structure should be similar in form, with factors extracted from logistics doctrine [or principles, as applicable] as the components. These tenets, lifted from the essential axioms of logistics, provide a framework within which to evaluate either tactical courses of action from a logistics standpoint . . . or concepts of support.²⁹

How would a logistician use this planning and decision making chart (fig. 3)? First, he or she should use the left column's list of issues to analyze the mission and circumstances and then develop the logistics concept of operations, particularly keeping in mind the

principles of logistics. Moreover, the logistician and operator must coordinate their actions by means of an estimate of the situation, considering possible options and courses of action. They must also determine the development of the best solutions for each of the elements listed in the left column of figure 3.

Most operational commanders have been taught the classical use of the estimate of the situation as a methodology for analyzing the options to mission accomplishment. Not well understood is the complementary need of the logistician to structurally develop a logistics estimate of the situation and apply those findings to the mission. This need can perhaps be better understood by way of a historical example.

During the planning of the Japanese invasion of Midway in 1942, Vice Admiral Nagumo estimated the situation as follows:

1. The enemy fleet will probably sortie to engage once the Midway landing operations are begun.
2. The enemy is not yet aware of our plan, and he has not yet detected our task force.
3. There is no evidence of an enemy task force in our vicinity.
4. It is therefore possible for us to attack Midway, destroy land-based planes there, and support the landing operation. We can then turn around, meet an approaching enemy task force, and destroy it.
5. Possible counterattacks by enemy land-based air can surely be repulsed by our interceptors and antiaircraft fire.³⁰

In this situation Admiral Nagumo was wrong about each element of the estimate. His error resulted in what some historians describe as one of the greatest sea battles of the modern age. The US Navy had a general idea of where Nagumo's fleet was, when he planned his attacks, and what his objectives were, and our fleet was closing on his as his estimate was being written. Nagumo's losses were staggering. The Japanese defeat at Midway led to a complete turnaround in the course of the Pacific war and the eventual mastery of the sea by the US Navy. The lesson to be learned is that an accurate estimate of the situation, both operational and logistical, is critical to success.

By using the center column list of planning factors in figure 3, one can analyze the logistical support calculations--a step that is critical to the later judgment of feasibility. Determining how requirements are designed is important in the development of planning factors. Erroneous analysis and faulty methodology for development can become a weak link in the logistics plan.

The right column, listing entries related to scenario execution, reflects an analysis of the ways, means, and requirements. One can use this data to place the procedural and feasibility information into the various logistics annexes of a war plan. Occasionally, the logistics planner will erroneously use only the third column as the source of analysis and attempt to determine requirements and concepts from a micro perspective.

The chart is only a tool for highlighting and guiding the thought process; it is certainly not the sole vehicle for war plan development. It is scenario dependent and must be used

in conjunction with the essential principles of logistics, the applicable strategy and tactics, and the lessons of history. Colonel Reach maintains:

Through this framework, we are able to give additional meaning to the quantitative elements of our data base. . . The factor framework allows us to combine calculations with logistics doctrine in support of maneuver forces. This synthesis ensures that optimum use is made of austere resources to satisfy force requirements. Logistics units are organized, positioned and given missions which maximize efficiency and minimize risk. Concepts of support become more precise. In the final analysis, we have determined not only what must be done but also how best to go about it. . .³¹

The following statement by Admiral Eccles gives us a valuable guide for the study of logistics: "The objective of a logistics effort is the creation and sustained support of combat forces."³² Data on combat sustainability and the credibility of the reporting logistician are critical to the effectiveness of the information given to the operations planner and commander for their analysis of strategy and tactics. Both the operator and the logistician need a highly reliable and efficient way of analyzing combat mission sustainability, as well as a prompt and effective reporting system.

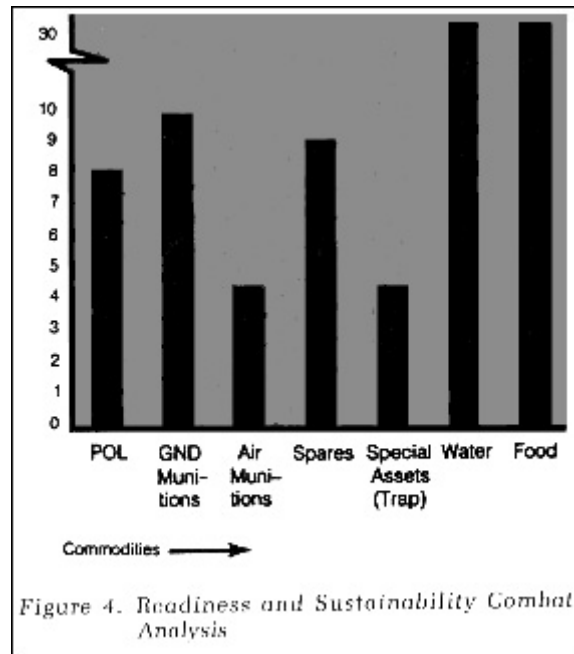
The importance of information to the logistics equation can be illustrated by another historical example:

Within three weeks after the start of the Korean War, the backlog of top-priority shipments had built up to more than could be airlifted in two months. More than half the requisitions received from Korea were listed as top priority and designated for air transportation. Yet our air cargo capability could accommodate only a small fraction of that amount. Flooding the supply system with top-priority requisitions was self-defeating. Cargo jammed aerial ports of embarkation and sat there for months, although it could easily have been delivered in less time by surface transportation.

Two years after the start of the Korean War, an Army general inspected the port of Pusan. He reported that, despite prolonged hard work, one-fourth of the supply tonnage stored there had still not been sorted out. As supply personnel did not know what these supplies were, obviously they could not be issued.³³

There are many reporting and analysis systems available. One that has been used to good effect by the author involves reporting base-level information to the operational commander through charts or graphs (fig. 4). This illustration shows that missions could be flown for only four more days in the tasked configuration, due to the lack of air-to-air munitions. Selection of the critical categories is mission and scenario dependent. This chart is simple and readily understood. It is a means by which both operator and

logistician can gain a mutual understanding. Such a reporting device can become the core of an ongoing logistics estimate of the situation.



An important point to remember is that operations and logistics are truly inseparable. The logistician must develop a special trust and confidence in the operational commander to ensure that logistics concerns are given a fair and equitable hearing when strategy and tactics are discussed.

This special relationship is cultivated by a continuing demonstration of integrity and credibility on the part of the logistician. This attitude leads the commander to believe that the logistician will always provide a clear and honest picture of mission supportability. Trust, integrity, and credibility are best demonstrated to the commander by three simple standards: (a) say what you mean, (b) do what you say, and (c) help when it hurts.

In Summary

Talented people (operators and logisticians) have made gross errors in logistics planning and execution simply because they lack an educated, historical perspective. It is essential to understand that the logistics function is a critical element of the operational art of war for both the commander and the logistician.

There are several improvements the Air Force can implement to alleviate both the operator-logistician communications disconnect and the deficiencies of formal education. An obvious remedy is a greater use of logistics concepts and doctrine in available facilities such as the Air Force Wargaming Center, the Air Force Institute of Technology (AFIT), and the professional military education schools. As noted in the *Air Force Journal of Logistics*, AFIT has recently expanded its course capabilities in teaching combat logistics and war planning through professional continuing education courses.³⁴

Often times, however, these courses are optional. This effort is noteworthy, but more needs to be done.

We must foster mutual understanding and communications between operators and logisticians. The Air Force now faces the challenge of improving its educational resources and elevating the mutual understanding of its people to a higher plane.

End Notes

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Colonel Bartlow is an experienced senior non-profit association executive, business professional, and management consultant. He is currently writing full time in his home office and working as a volunteer consultant with various non-profit organizations and local government entities. For two years, he was the Executive Director & Chief Operating Officer of the Association of Old Crows, a \$2.4M, 11 staff, an electronics trade association. Previously, he was the Executive Vice President of the Painting and Decorating Contractors of America, a national \$2.2M trade association. Earlier, he was the President & CEO, American Wood Preservers Institute, a \$1.2M industrial manufacturing trade association; and in this role, he was a registered congressional lobbyist and Political Action Committee (PAC) Director. For over three years, he was the Deputy Executive Director, International Association for Dental Research, a \$2.5M professional healthcare association. Before that he was Assistant Executive Director & Chief Financial Officer of a large 501(c)(3) \$9.7 M philanthropic organizations.

Colonel Bartlow’s last military assignment before retirement in 1990 was as the Dean of Administration & Resources, Professor of Systems Acquisition Management, and Chief of Staff of the US Air Force Chair with the Industrial College of the Armed Forces, Washington, DC. Prior to his ICAF assignment, he was the Chief, Congressional Activities Division, with the Assistant Secretary of the Air Force for Acquisition in the Pentagon. Colonel Bartlow was qualified as a Systems Acquisition Management Officer, a Senior Logistician, a Deputy Commander for Resource Management, an ICBM Wing Missile Training Officer, and as a Postal Courier Staff Officer.

He is an ex-high school teacher and a professor in four universities. He has a bachelor’s degree (BA Ed.) in Communications and Education, two masters’ degrees, one in Public Administration (MPA) and a second in Computer Resources and Information Systems Management (MS). He has been listed in Strathmore’s Who’s Who Registry, Marquis Who’s Who in America, and America’s Registry of Outstanding Professionals. He has been widely published (with 15 articles published in professional journals) and he is recognized as a Certified Association Executive (CAE) thru the American Society for Association Executives, Washington, DC. He is married with three children, an amateur photographer, is exceptionally well traveled having visited 29 countries, and he is a decorated Vietnam Veteran with 27+ years service (1963-1990) in the USAF retiring as a full Colonel (O-6).

Disclaimer

The conclusions and opinions expressed in this document are those of the author cultivated in the freedom of expression, academic environment of Air University. They do not reflect the official position of the U.S. Government, Department of Defense, the United States Air Force or the Air University.

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<http://www.airpower.au.af.mil/airchronicles/apj/apj88/fal88/bartlow.html>.

Note: This article by Col. Gene S. Bartlow, USAF-Ret., first published in 1988, is now used as a primary resource reference in the new USAF "Air Campaign Planning Handbook", March 2000, 91 pages, and his article is quoted extensively in a shaded sidebar box under the subheading of "Logistics in Campaign Planning", on pages 11-14 (with the Bibliography listed on page 90). The new Workbook is published by the Air War Studies Institute and the College of Aerospace Doctrine, Research, and Education, Air University, 625 Chennault Circle, Maxwell AFB, Alabama 36112 (www.cadre.maxwell.af.mil/warfaresudies/jdacc/Docs/Handbook2000.pdf).

Note: Although Colonel Bartlow retired in 1990 his logistics-management legacy lives on through multiple citations and references to his ground-breaking article, "The Operator Logistician Disconnect (The Logistician's Lament)". He is also quoted extensively (on pages 23, 38, and 41) in the US Air Force Logistics Management Agency's (AFLMA) publication titled: "[Shaping Tomorrow's Logistics, Issues and Analysis](#)" (PDF copy of the AFLMA publication), 169 pages, dated February 2002 (14 years after Col. Bartlow's article was originally published), Gunter Annex, Maxwell AFB, Alabama. This is one of his often quoted statements: "Development of this thought process must be taught to logisticians and operators in an environment designed to elicit innovation, conceptual thought, and adaptability. They must learn to make a distinction between how to think (education) and what to think (training) in support of our combat logistics requirements."

Note: The U.S. Air Force has again used one of the articles published by Colonel Gene S. Bartlow, USAF-Ret. (published while in the USAF) as a source for a quotation/citation in one of their premier publications. This time the USAF has quoted Colonel Bartlow specifically in their "*Basic Aerospace Doctrine, Air Force Manual (AFM) 1-1, 2006, pp 283, 307*". Additionally, the Department of Defense's "Defense Language Institute" located at 1759 Lewis Road, Monterey, California 93944-3229, has also quoted me in their premiere publication "*Applied Language Learning*", 2000, Vol. II, No. 2, pg 357. The quotation reads is as follows: "According to Colonel Gene S. Bartlow, USAF, education teaches us how to think while training tells us what to think (*Air Force Manual [AFM], 1-1, pp. 283, 307*)". This quotation is sourced from his article published in *The Air Power Journal*, "The Operator-Logistician Disconnect (The Logistician's Lament)", (USAF professional journal) Airpower Research Institute, Air University, pp 25-37, Winter, 1988, Maxwell AFB, Alabama.