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LOGISTICS AND STRATEGY

A lecture delivered
at the Naval War College
2 January 1962

by

Rear Admiral Henry E. Eccles, U.S. Navy (Ret.)

It is always a pleasure to speak here because the Naval War College represents something of transcendent importance to the Navy and to the nation, and that is, the dedication to the ideals of command and of rigorous military thinking. We must never forget those ideals, even though we may not always be able to reach them.

The basic foundation for the understanding of modern human conflict is found in the understanding of strategy, logistics, and command. If these three abstract terms are understood, the other elements of war—of conflict—will fall naturally into their proper places. If, on the other hand, strategy, logistics, and the art of high command are not understood, no amount of technical or tactical proficiency can bring success in warfare, and this points up the importance of basic concepts and of understanding cause and effect principles.

The electronic-nuclear phase of the industrial revolution has cast doubt upon the classic theories of war. Does that mean that we should reject theory? No. Does that mean that we should re-examine theory? Yes. Clausewitz said, "Theory says to pull up the weeds which error has sown everywhere." Corbett said, "It is little use to approach naval strategy except through the theory of war. Without such theory we can never really understand its scope or meaning, nor can we

hope to grasp the forces which most profoundly affect its conclusions." Mahan said, "The search for and establishment of leading principles, always few, around which considerations of detail group themselves, will tend to reduce confusion of impression to simplicity and directness of thought with consequent facility of comprehension."

I will discuss theory. Theory does not solve problems. It explains problems. It sheds light on problems. Coherent theory provides unity of concept which can be obtained no other way, and unity of concept is one of the essential attributes of the exercise of command.

Now what is a theory of war—a theory of modern conflict? I suggest that a comprehensive theory of war should include a description of the nature and structure of modern conflict, and of the elements which comprise it; the manner in which these elements are related to each other; the manner in which war is related to other parts and actions of human society; and the nature of the various forces which act throughout the whole structure; and the description of the way these forces act and interact. Well, that's very general. Let me be more specific, and put it in somewhat different and more specific terms. A theory of modern war can be expressed as the following group of interrelated theories: the general theory of modern conflict; the theory of strategy; the theory of logistics; the theory of tactics; the theory of command decision; and the theory of military organization.

Now no such theory as I have outlined will ever be complete, final, or definitive. It can be developed only incompletely because we are dealing with the actions of living human beings and with human thought and emotions. One can never complete such a formulation, put it into a catalog or package and say, "This is it; all you have to do is follow this." Human

beings are not that way and we are dealing with human affairs. But the thought that goes into the formulation and study of a group of theories of this sort, will give anyone who works at it a much better understanding of the realities with which he is going to be dealing. It will assist him to think more clearly in dealing with those realities.

In understanding modern human conflict, it is of overriding importance to understand that for the present, and for the foreseeable future, the most important element that we must acquire and maintain is strategic flexibility. Strategic flexibility has its primary sources in the competence, perception, and character of high command. While other factors are also important, sound logistic concepts and a sound logistic system provide the physical base for strategic flexibility. This means that logistics must be studied from the perspective of high command, and it means that commanders must understand logistics.

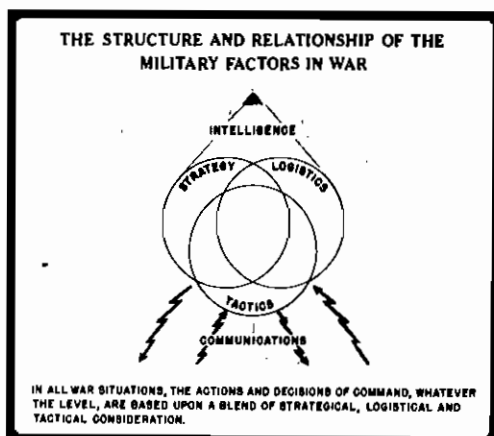
Now what is this perspective of command? Well, I suggest, gentlemen, that the perspective of command is that point of view which knows the nature and relationships of the technical problems of the command, which recognizes how they affect its capabilities, and which understands the amount of time and effort required to solve these problems. Now we hear a great deal about the study of economics and of management science, and some persons believe that these two subjects embrace all that there is in logistics. This is simply not true. The President of the United States is not the general manager of the U.S. Army and Navy. The President of the United States is the Commander in Chief. The terms *economics* and *logistics* are not synonymous. There are important, if subtle differences. Management and command are quite different. The major difference between command and business management and economics, is *that command must exercise the power of life and death over tens of thousands of human beings*. In all the literature and studies of

business management and management science, you will find no discussion of this vital distinction. Economists do not discuss the awesome nature of the personal responsibilities of military commanders in various echelons of command, making life and death decisions. Nor do theorists in decision-making, who base much of their discussion on business decisions, deal with this vital aspect of command.

Economics and business management are very important subjects for commanders to understand. We can consider the study of logistics as involving a combination of many aspects of economics, and of management, as modified by military considerations. The logistics officer must also always have the viewpoint of command. He must always seek to harmonize and reconcile conflicting technical interests in order to further the broad objectives of command. Frequently the interests of a single technical specialty must be sacrificed in the interests of the command objectives. Technical specialists must be broadened to understand the command perspective, for only then can their proper search for technical perfection be directed in the most productive manner. It is equally important for the commander to understand logistics, for if the commander does not understand logistics, *logistic considerations will dominate his decisions*; whereas if he does understand logistics, *logistic considerations will influence his decisions*. There is a tremendous difference.

Let me sum this up by saying that command—high command—has the responsibility *to create, to support, and to employ combat forces*. From the perspective of command all major decisions require a blend of strategic, logistical, and tactical considerations, somewhat as follows: Command thinking is in the center where strategy, logistics, and tactics intersect. Intelligence sheds light on the subject; communications transmit information and the decisions of command. The major factors in the command decision

will be this common area where strategic considerations, logistic considerations, and tactical considerations enter into his decision and action, using intelligence to shed light and communications to transmit information and decisions.



Now what do we mean by these terms *strategy*, *logistics* and *tactics*? I will not define them. They are, in fact, indefinable in any single, precise definition. I will, however, describe them, for there can be many useful descriptions of strategy, logistics, and tactics. I will attempt to give you a group of coherent descriptions in order to apply the command perspective in a useful way.

I suggest, gentlemen, that strategy is the *comprehensive direction of power to control situations and areas in order to attain broad objectives*. Strategy is comprehensive; it is the direction of power; it is aimed at control; and it is always thinking of objectives. *Strategy and destruction are not synonymous*. *Strategy uses destruction only when there is no better way to attain control*.

As for tactics, I would suggest that tactics is the *immediate employment of specific forces and weapons to attain the objectives of strategy.*

Logistics is the *creation and sustained support of weapons and forces to be tactically employed to attain strategic objectives.*

Command has the obligation to create, to support, to employ weapons and forces to attain strategic objectives.

I believe that this group of descriptions which represents both the point of view of command, and the relationship of these vital abstract elements of military thinking, gives us a sound basis for further consideration—intelligence shedding light, and communications transmitting information, and decisions.

Let me repeat, that command has responsibility to create, to support, and to employ combat forces. Therefore, the chief, but not the only, criteria by which to judge our military system becomes that of combat effectiveness, for that is the purpose for which the entire defense system exists.

Let us look more closely at this blending of strategy, logistics, and tactics. Strategy is the comprehensive direction of power to control situations and areas to attain objectives. The essence of strategy lies in control, not destruction. If we look at the course of events of the last forty years we can see how skillfully the great communist leaders such as Lenin, Stalin, Khrushchev, and Mao Tse-tung, have applied this concept of strategy being the art of control.

What then is a strategic concept? A strategic concept is a verbal statement of: What do I wish to control? For what purpose do I wish to exercise control? To what degree must I exercise control to

accomplish that purpose? When do I wish to initiate control? How long do I wish to maintain that control? And in general, how will I exercise that control?

What are the implications of this idea of a strategic concept? It enables us to move from theory into the realm of practice. The practical application of a strategic concept consists of specific tactical operations which must be preceded by logistic action.

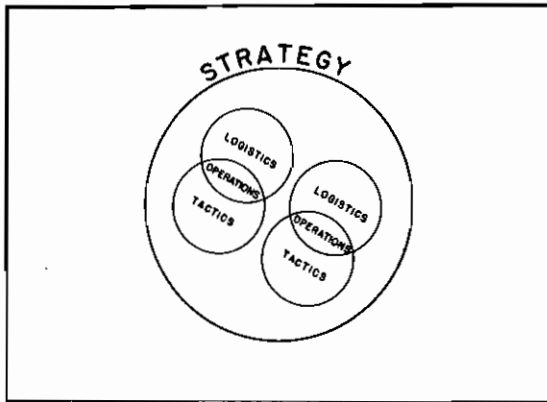
Let me be more specific. Practical operational planning is a statement of: the mission, the character of the theater, the forces involved, the scheme of action, the intensity of action, and the duration of action. If you apply good logistic planning factors to such a group of strategic and tactical considerations you can develop time-phased logistic requirements: What do I need? How much of it do I need? When and where? Command must understand these things because command's responsibility is to create and support and employ combat forces.

Now it is a practical necessity to develop and maintain good logistic planning factors. Naval logistic planning factors are numbers which represent the quantitative relationship that exists between the composition and employment of naval forces on the one hand and the availability, consumption, or utilization of materials, personnel, and facilities on the other hand.

Well, what does all this mean? It means that practical operational planning is an intimate blend of tactical and logistical thinking to carry out strategic concepts. It also means that this unity of concept and coherence are essential for swift decisive military action in any type of human conflict.

Now, let's look at this just a little differently. And here we can think, as some people do, that the great element of war is strategy, and that the

knowledge of strategy must encompass the knowledge of both logistics and of tactics, and that operations is that area within the general field of strategy where logistics and tactics blend. This idea gives us, in my opinion, a correct concept of the relationship between operations, tactics, and logistics. You can look at this and you can think of strategy as being dominant, and I think it is.



Now the vital part logistics plays in the attainment of strategic flexibility, and the need for viewing logistics as a system rather than just as a collection of technical functions, are both clearly brought out by the U.S. Army historian, Ruppenthal. At the end of Volume I of his history of World War II, in discussing the situation in Northern France in September 1944, he wrote: "For the next two months supply limitations were to dominate operational plans, and the allies were now to learn the real meaning of the tyranny of logistics." And in the concluding chapter of Volume II: "The movement of supplies entailed a series of highly synchronized functions, the failure of any one of which could have a resonant effect, reverberating along the entire line of communications. The theatre was occupied at all times with the effort to eliminate some bottleneck and to bring the system into balance."

Now if one views the problems of national defense as that of creating pushbutton nuclear forces, which at some command would loose nuclear devastation on preselected targets from heavily protected missile sites, then a relatively static logistic system, based on the full application of the weapon system concept, is appropriate. However, if one thinks in terms of military forces which have the capability of using varied, flexible combat power in accordance with the unfolding needs of uncertain combat situations, then an entirely different logistic system is required. In this logistic system the weapon system concept has only a very limited useful application. In each case a good logistic system is vital.

Now let us look at logistics itself. Duncan S. Ballantine in his book, *Naval Logistics in World War II*, says among other things: "The logistic process is, at one and the same time, the military element in the nation's economy, and the economic element in its military operations." Let me put this thought into somewhat different words. Logistics is the bridge between the economy of the nation and the tactical operations of the combat forces.

There are three particularly important corollaries to this principle:

First; An effective logistic system must be in harmony on the one hand with the economic system of the nation, and on the other hand with the tactical concepts and environment of the combat forces. This principle of harmony explains why a single logistic system cannot successfully apply identical procedures to the support of ground, sea and air forces. Differences in the tactical concepts and the tactical

environment create different needs for logistic support organizations.

Second; *Economic factors limit the combat forces which can be created; logistic factors limit the combat forces which can be employed.* I can imagine no greater waste in the national defense system than to devote so much attention to the economic factors involved that the logistic factors are neglected. For then these huge forces on which so much has been expended cannot be effectively employed in combat.

Third; *Command transforms war potential into combat power by its control and use of the logistic process.* This principle is one reason why you must always look very skeptically at statistical evidence of war potential. Economic factors limit the creation of combat forces and logistic factors limit the employment of combat forces. Thus, wisdom in high command requires a knowledge of both economic factors and of logistic factors. This problem is poignantly illustrated by the gap between the tactical ideals of the strategic army command, and its actual capability as limited by the lift available.

There is another aspect of this matter. We must remember that an equal waste, and an even greater frustration, can come about when vast sums are spent on forces which cannot be employed, because their employment will not accomplish an appropriate strategic purpose. In other words, the availability of any particular weapon should not determine the strategy to be used. Strategy must have at its disposal a variety of weapons and forces so that that particular combination most suitable to the situation as it actually arises, may be quickly formed, and swiftly and decisively employed in the appropriate manner. And that is the true meaning of strategic flexibility.

These key points raise specific questions as to the nature of the research we should undertake. For

example, do we know what are the criteria by which flexible combat effectiveness can be judged? Do we know what are the sources of flexibility?

In the first place, as I said before, flexibility comes initially from the perception and character of the commander. It comes from sound strategic and tactical concepts, and from a variety of weapons *appropriate to the nature and degree of control that you wish to establish*. That means there must be versatility of forces and personnel. There must be mobility of forces and there must be a flexible organization. No military organization in the history of the world has the flexibility of the traditional naval organization using Numbered Task Forces drawn from Type Commands. The logistic support must be responsive to strategic and tactical command needs, and that means there must be responsive logistic reserves and a transportation system which is responsive to the immediate needs of the operational commander. There should be common doctrine with maximum decentralization of operations.

Further questions arise: What are the factors which strengthen flexibility, and what factors inhibit it? What is the best balance of size between the combat forces and the logistic forces which will bring maximum combat effectiveness within the limitations on resources that are established by our economic system? In many instances a reduction in the number of combat units and an increase in the number of logistic units in a force will increase the combat effectiveness of the force. However, the degree to which this element of optimum balance operates can be determined only when first, logistics is viewed as a system; and second, a special analysis is made of a particular force operating in a particular system and situation. This last matter brings us to the great paradox and dilemma posed by modern technology: the advance of technology is producing more specialization in weapons, whereas the requirement for strategic flexibility

demands more versatility of weapons, of equipment, and of personnel. Furthermore, as technology advances, more and more logistic support is required. However, the center of gravity of this logistic support moves back toward the home base.

I want to go very briefly through some logistic principles of cause and effect: In the first place, we must understand that in all logistic action and operations, the fundamental principle of the logistic snowball operates. Very briefly stated, all logistic activities have a natural tendency to grow to inordinate size. Imagine that on a day with three or four inches of snow, a young boy goes out on the front lawn, makes a small snowball that is the hard essence of combat support, and starts rolling that across the lawn. He will not have gone twenty feet before his hard core of combat support is surrounded by a mass of slush that is unmanageable. Unless command understands the causes of the logistic snowball, and knows how to control it, this will inevitably happen. I don't have to tell you the illustrative examples in this, except to say that one of the most prominent examples in World War II was the overdevelopment of advanced bases in the south, and parts of the central Pacific, particularly the building of the base at Samar.

The principle that underplanning eventually results in overplanning: In other words, if you do not plan your logistic support well to begin with, there will be critical shortages. Everybody and his brother will get into the act and start yelling about it and pretty soon you become snowed under by excess material. For example, the belly tanks that were piled high in Guam at the end of the war, or the excess of the 20-millimeter ammunition in World War II.

The limitation of resources: Logistic resources are always limited. If one commander uses more logistic support than he should have, the tactical operations of other commanders will suffer. Or else logistic

support in relation to combat support will be out of balance. This limitation of resources is clearly illustrated by the row in late 1944 between Bradley and Montgomery as to how best to invade Germany.

What is the most important element in the control of the snowball? It is discipline—not only the traditional military discipline—not only just supply discipline, but a strong sense of logistic discipline. General Palmer's discussion of the extraordinary waste that took place in Korea, entitled *Commanders Must Know Logistics*, is a brilliant discussion of the waste due to lack of discipline. Furthermore, another World War II illustration of the ill effects of poor logistic discipline was the way the Third Army under General Patton highjacked gasoline in their move across France. They finally made it impossible to send the trucks back, for they took the gasoline out of the fuel tanks of the trucks that were bringing the gas to them. Since the truck could not go back for return trips, his supply lines broke down.

How do you handle these things? Logistic reserves—you have got to have logistic reserves and use them in the same way you use tactical reserves. That means there have to be allocations and priorities. No system of priorities has ever worked unless it was associated with allocations. When a system of priorities has worked without allocations, it merely means that priorities were not needed to begin with.

An essential element is to see these relationships; we've got these things—logistic resources are always limited. You need discipline; you've got to have the logistic reserves; you've got to use the system of allocations and priorities, and that means you've got to have control of movement and transportation.

Now all this doesn't necessarily mean that an operational commander has to control every bit of

movement, and every bit of transportation. It does mean that he has got to have an adequate control of movement and transportation, and what is adequate depends on an analysis of the particular situation and the command that is operating.

And all of this requires information. Information is one of the hottest topics there is in logistic discussions today. The new *Command Control Centers* which are being developed are built around the use of electronic data-processing and electronic displays. But remember this, it takes from six to eighteen months to set up the information system of a new large theatre of war.

Flexibility, momentum, and exploitation: The ability to make a strategic exploitation of a tactical success is one of the greatest things in war; it is one of the greatest attributes of a successful high commander.

Let us now look at the combination of discipline, reserves, allocation priorities, control of movement and transportation, information, and flexibility. Where were they illustrated? The fact that after we captured Kwajalein, we were able to advance the capture of Eniwetok by a month because these elements were present in the forces under Nimitz' control in the central Pacific in the Spring of 1944. Why was Halsey able to capture the Philippines ahead of schedule? Because they had those attributes in the forces that were deployed. Why was the German 7th Army successfully knocked out in August 1944? It was because Bradley, Patton, and Eisenhower were able to see the opportunity when it came. If you read Walter Bedell Smith's, *Six Great Decisions of World War II*, you will find the description of the conference that made this decision. The success of the plan rested on their ability to control their logistic support and make the encirclement at the La Falaise pocket.

Now the final principle of logistics: Logistic planning is always a series of approximations, compromises, and refinements. To give you an illustration: the advanced base plans for the invasion of Okinawa went through twelve cycles of approximations, compromises, and refinements, before they were finally approved.

In my book, *Logistics in the National Defense*, I have discussed these principles and given more illustrations.

In conclusion: Nothing so contributes to unity of purpose, to efficiency and to combat effectiveness, as does conceptual unity. One of the major intangible responsibilities of military command is to establish clear unity of concept from the top down through all echelons of command. Logistics will always limit strategy and operations, and since, when one logistic limitation is overcome, another limitation will take its place, a commander must always be sure which logistic factors are exercising their limiting influence in any particular strategic or operational plan he is carrying out or contemplating.

Similarly, in war games, the various commanders and umpires must be concurrently aware of the nature and degree of the logistic limitations which govern the maneuver as it progresses. Now this does not mean that the commander must become obsessed with logistic limitations. Far from it, for such an attitude can destroy his initiative. It does mean that the planning of all operations and all war games should be so conducted that these logistic limitations are clearly identified, and when, and as required, they can be quickly presented to the commander in person. Once such a practice becomes established, a good commander, or operations officer, will acquire an instinctive awareness of these matters without being burdened or obsessed with them.

Finally, the logistic support which may be considered inadequate by a timid or mediocre commander, may be adequate for a bold and competent commander, who understands the nature and sources of flexibility, provided he has adequate command control of a flexible logistic system. It is with hope that I can help in understanding these vital aspects of modern conflict that I have given you today—these concepts of command, of strategy, and of logistics.

BIOGRAPHIC SKETCH

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Present Position: George Washington University,
Logistics Research Project; Ohio
State Research Foundation.

Schools:

Columbia College
U.S. Naval Academy, 1922
Columbia University, M.S. degree, 1930
Naval War College, 1943

Career Highlights:

Spent twelve years in submarine duty, the remainder in battleships, cruisers, and destroyers. During World War II, had command of *USS John D. Edwards*; assigned to the Navy Department; served with Service Force, Pacific Fleet.

1946-47 Commanded *USS Washington*
1947-51 Served as first Head, Logistics Department,
Naval War College.
1951-52 Assistant Chief of Staff for Logistics,
Commander Allied Forces, Southern Europe.
1952- Retired from U.S. Navy and assumed present
position.