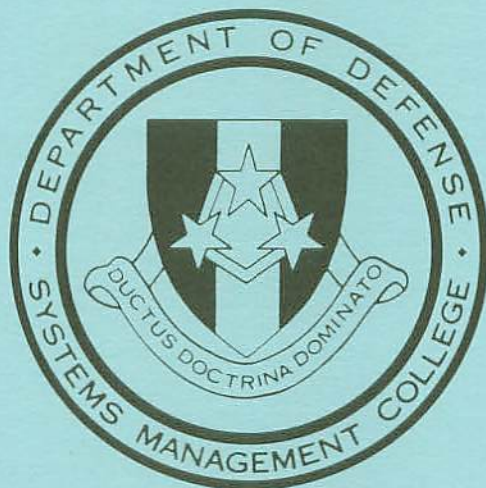


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A Concept of a Two-Way Street

by

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The author, a former Assistant Secretary of the Air Force for Research and Development, has had the unique opportunity of seeing NATO function from inside a nation, and of seeing nations function from inside NATO. He is an astute observer of the research and development problems that challenge the Alliance nations. In this article Dr. LaBerge presents a concept that he believes would make the most effective use of the collective resources of the nations of Europe and the US in their common endeavor. The proposal made represents his private views framed by his experiences. The author is not writing for NATO in any official capacity.*

Introduction

There are myriad research and development (R&D) problems which every day challenge Alliance nations. Airborne Warning and Control Systems (AWACS), next generation surface-to-air missiles, main battle tanks and air-to-air missiles all present different problems and opportunities. The solution to these problems and other future opportunities does require a resolution of how to achieve a meaningful two-way street. I have prepared this article about this concept of a two-way street.

Let me start by discussing the problem addressed by the concept of a two-way street. The problem of the Alliance today has very few historical parallels. The closest parallel is worth exploring because it focuses on what I believe to be our current NATO problem.

Few, if any, of you who are reading this article fought long ago in the campaign of 1916 at Verdun in Northern France. Those contestants who are still

living recall that long deadly battle with a mixture of horror, and pride of valour. Few today consider an understanding of the Verdun campaign to be of any importance in this the missile age. Yet, what we are going through now, though bloodless, may gain its closest insight from the desperate battle of Verdun.

Most students of history say that the Battle of Verdun came about in response to the military and political stalemate of 1914-1915. In Europe, in early 1916, the seemingly unbreakable deadlock reached from Ypres in Belgium to the Marne, passed near Verdun and continued to the Swiss border. After nearly 20 months of World War I it seemed to both sides that a decisive, quick breakthrough was not possible, and that this 1916 stalemate of forces might be impossible to break. So, in like manner, it may seem to the Soviet planner of today, as he sees the stalemate of 1977 stretch from the tip of Norway through the length of Europe to the Straits of the Bosphorous. This modern stalemate is also of long standing, and it too, is one for which it is hard to find a quick solution.

*Based upon a presentation before the Conference on the Atlantic Community at Georgetown University, Washington, DC, 14 February 1977.

The solution in 1916, proposed and attempted by General Eric von Falkenkeyn, was to conduct at Verdun a campaign of unending attrition of military and economic resources. The objective of his campaign was to reduce his opponent to submission by an unrelenting exchange of his manpower and economic resources for those of his opponent. For nearly a year (an eternity in battle) this exchange of men and materials took place until neither side could go on any longer.

Nearly a million men were blown apart from the 21st of February 1916 to the close of the battle in the December of that year. The total losses at Verdun are marked at 976,000 soldiers of both sides killed and wounded, and uncounted millions of tons of munitions expended on a front never more than 20 miles wide and 5 miles deep.

Maintaining the Military Balance

The relevance of the Battle of Verdun to the situation of today, is that where there is stalemate, economic and physical attrition may be the only avenues open to an adversary to change the military balance. It seems to me that the Soviets have chosen economic rather than military attrition as a test of the strength of our military and economic systems. Today the Soviets and their Allies choose not battle but continuous threat of battle to try to exhaust our resources to gain a favorable military imbalance. We are, whether we wish it or not, engaged in a long-term economic battle to maintain a military balance just as were Falkenkeyn's adversaries at Verdun.

If this assessment is true, the Alliance must plan for many years of integrated military and economic confrontation. Each day the strength of the Alliance must be great enough to deter attack, but each day it must also prepare for a tomorrow and a tomorrow beyond that when it must be equally able to deter. The Alliance must use its combined resources to buy the most effective military equipment, and do it in a way that keeps the economies of Alliance nations strong each day as far into the future as one can see. It is my thesis in this article today that the nations of the Alliance are not working on this problem of long term military economic cooperation and, that unless they do the Alliance will have very great trouble.

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To succeed in this long-term conflict, the nations of the Alliance must decide that it is truly obligatory to work together (which I do not believe they have yet decided) and then to adapt their bureaucratic institutions to work continuously to solve the problems of equitable international cooperation.

The Two-Way Street

Fundamentally, the concept of the two-way street is a concept of economic equity needed for long-term economic stability. Thomas A. Callaghan* coined the phrase "two-way street" a long time ago. He suggested then that efficient use of our resources by all Alliance nations was obligatory, and that the efficient use of resources couldn't be accomplished without economic equity among the participants. From my recent perspective of Brussels, where I sit as an international public servant, I agree. To my mind the military-economic conflict forced upon the Alliance by the Soviets has already demanded economic equity as a condition for cooperation for mutual defense.

Today each Alliance nation must export technological products to counter the outward flow of gold paid for foreign oil. This fact leads nations to want to improve their technology so as to increase their trade. No Alliance nation can plan to buy overseas without economic compensation. No nation wants to reduce the state of its science and technology by purchase of military technology overseas. More and more these considerations dominate military procurement. Indeed most European nations appear to believe that the crisis in their economic futures is as real as the crisis in their military future.

The unbalanced flow of products and technology between America and Europe, in the view of these nations, cannot be allowed to continue. The European members of the Alliance feel that there must be a "two-way street" of economic equity, and that it must be built very, very soon. Whether the street is to have much or little traffic, they do not know, but they believe that in the near future it must be economically balanced. What will flow back and forth equally over this two-way street is not at all clear today. It may be compensating arms procurement as suggested in the original version of the two-way street, it may be a balance of arms one way and offsetting commercial products the other. It may be only licensed drawings and technology flowing each way with independent production staying on each side of the Atlantic, or it may be that there will not be a flow at all. The Alliance says the two-way street will be balanced, and I believe they mean it.

Lack of Dedication Toward Finding A Solution

The pity to me at this crucial time is that there seems to be virtually no effort by those in charge of nations to find a long-term solution for this two-way street. Nations are working together, but only on single programs of the very near future, with not too much success. People write, people talk, people exhort and people tire of the subject of a two-way street across the Atlantic. As far as I can see from my office in Brussels, the leaders of the Alliance are not seriously studying how to provide the environment that allows the nations on each side of the ocean to share their efforts.

The United States, while vigorously advocating standardization of armaments, appears to be ignoring the consequences of the fact that what they are suggesting is based mostly on purchase of US equipment. The US has yet to offer any economically acceptable way to allow NATO the use of these great US research and development efforts. The US examples of proposed cooperation with European nations occur so late in the development cycle that the European sources are necessarily uneconomic. Thus, program by program equitable offsets of technology participation are not possible to bring about.

More and more the European nations are finding that there may be no way to work equitably with the US. To me, an outsider, the European nations seem satisfied that there cannot be close cooperation between Alliance partners on each side of the Atlantic in the development and production of armaments. Believing that traffic from European nations to American will always be small, Europe appears to be heading towards a self-sufficiency in arms development. Europe is becoming independent of the great R&D strength in America.

So to me it seems that although the two-way street will soon become a reality, there may never be any traffic on it. That is not what anyone would want if he thought about it, but it is my contention, that is exactly what may happen.

If allowed to happen, this consequence will result in a gross waste of resources. And worse, it will lead to different and uninteroperable equipments and to difficult and unnecessary logistic problems. This Continental research and development apartheid should not be allowed to happen. To prevent it from happening, the people in charge of Ministries of Defense will have to make something different happen, and they will have to do it now.

Options for Cooperation

Basically, three options are possible for equitable transatlantic cooperation in defense procurement:

- (1) The US and Europe can divide equitably procurement of their armaments, one side agreeing to depend on the other side of the Atlantic for a substantial part of their R&D and procurement needs, or,
- (2) There can be a balance of US made armaments sold to Europe and US purchase of technically advanced commercial products from Europe, or,
- (3) The flow on the two-way street can be primarily a flow of ideas and drawings, with the result that, frequently, the same product will be produced both in the US and Europe.

The last option I believe can work. I do not think the first two options are workable no matter how hard we may try to make them so. In my view, option (2), offsetting US armaments with European commercial products, requires regulation of business on both sides of the Atlantic beyond the realistic ability of either side to implement. In cases where it has been tried there has been only limited success. Furthermore, such an offset concept would destroy substantially the financial base for military technology development believed by European commercial industry to be crucial to their own survival.

To believe, as in option (1), that the US will now buy an equitable amount (say up to 30 percent) of its technologically advanced armaments from Europe seems today perhaps even more implausible. The current state of US technology, the US political pressures, and the desire for flexibility of action seem to make the probability of making large numbers of US purchases from Europe difficult to anticipate. One can cite significant cases where each buys the products of the other, but I don't believe it can be done on the scale necessary to solve the problem of interdependency.

The concept of a two-way street based primarily on the exchange of technology, drawings and ideas has yet to be fully explored. Two aspects of such a two-way street need to be examined in detail. A two-way street of plans and technology can lead to cooperative programs to build the same equipment on both sides of the Atlantic. Conversely, it could lead to production of several different equipments, specialized to the interests of the producing nations,

but relying on the same cooperatively shared technology base.

Many people believe that standardization of hardware is the only hope of an Alliance husbanding its resources. I do not believe that at all. Competition is the basis of our economic system. Two tanks each in competition for the business of the Alliance may in fact be better than one. The key, I believe, is to offer the opportunity for cooperation across the Atlantic under equitable terms to the participants, and then to let the particular needs of the Alliance nations (timing, special technical requirements, etc.) determine whether they join in the endeavor or not.

I do not believe that nations can legislate or dictate standardization. I believe that when this has been attempted, it has led to inefficiency and waste instead of efficiency and economy. In fact, most knowledgeable economists believe our advanced standard of living is based upon avoidance of a regulated economy.

What we, as a nation, need to do is offer the opportunity for cooperation under terms of economic equity and then let nature take its course.

The cost of modern weapon development has become so expensive that large scale cooperation within Europe is already obliged. The proliferation which is abhorred today is the result of the situation that occurred 10 to 20 years ago when each nation could afford to develop weapons independently and then expect to sell to the world.

The US does not understand that this is no longer the case. The simple facts are that European nations will either cooperate within their own community or they will join their allies on the other side of the Atlantic. As long as neither side of the Atlantic works on the difficult problem of how to cooperate, the choice is obvious. Europe will be forced to work in its own closed economic community in order to achieve the economic fairness that it feels it needs.

ROLAND is a Ray of Hope

The proposal I have made for a two-way street of technology and plans can work. The short-range air defense system, Roland—adopted by the US from Europe—is an example to prove the point. Here, in exchange for equitable license fees, a European design has been adopted for manufacture entirely within the US by US industry. The US flexibility of action, labor base and technology have been maintained. Roland is a precedent that can work again and again. It can work either way across the ocean as long as co-

operation is planned for early, before competitive national programs become entrenched.

Sometimes the US press has called the Roland program a failure. I believe it to be just opposite. Roland is about to become a truly outstanding success. For the very first time a missile made in Europe has been adopted for production in the US. Soon, from any NATO Roland launcher, a Roland missile of US or European manufacture can be fired. This is the first time that a complete assumption of another's design for full local manufacture has ever been accomplished. It could be a landmark for how to cooperate across the Atlantic.

If the managements of countries really wanted to do so, new programs of similar cooperation could be started. If national leaders really wanted, these new principles of cooperation could be widely tested. With either US or Europe serving as program manager, the nation(s) on the other side of the Atlantic could agree to participate to ensure that its interest were considered and to prepare to produce for itself. Yet, sadly, beyond Roland today, there are too few programs offering such cross-Atlantic cooperation.

Let me state, I believe the reason why Europe and the US are beginning to go their own ways rather than going together is that those in charge of nations are not working the economic problems hard enough. There are not people in Alliance capitals whose jobs and promotions depend on solving the economic problems of cooperation. No one at a high level of government in the US or within Europe is charged with putting traffic on the two-way street. No one will be fired if there isn't any traffic. Bureaucracy in any government does not support the "two-way street."

For example, in a Pentagon housing 25,000 people one would be hard pressed to find one tenth of 1 percent whose main task is to find a way to achieve NATO effectiveness in procurement of armaments. Those who have been so tasked are far away from the centers of preliminary design and decisionmaking authority.

Since Europe no longer is certain that the US is willing to make a "two-way street" work, the leaders in the US must take the initiative. The US must show that it now wishes to develop with European Allies an equitable basis for flow on a two-way street. The leaders of the United States must commit themselves to a basis of economic equity in dealing with Europe whether it be by buying arms reciprocally from Europe, by offering to solve in nonmilitary procurement ways the problem of commercial offset, by organizing the initial efforts at major cooperative

programs or, by encouraging occasional competitive developments—or as is most probable—by a combination of all of these means.

In like manner, the European nations must be prepared to follow suit, and be prepared to discuss how, when and under what terms transatlantic cooperation is possible.

Need for Permanent Organizations

To engage in a sustaining program for cooperation requires that a nation have the administrative capability to cooperatively plan with its allies. Permanent organizations are needed to think out problems, to formulate plans, and to make proposals for integrated Alliance arms development. Today neither the US nor the nations of Europe have an organizational entity which is committed to these tasks. To believe it will happen without organizational strength is to shut one's eyes to reality. Both the US and the European nations need "NATO thinking" people in powerful places, need them staffed adequately, and need them placed in the chain of program decision.

There are two obvious ways by which the bureaucracies of the Alliance can be made to respond to the decisions of their leaders to cooperate. It has always seemed to me peculiar that, when it comes to NATO matters, Presidents, Prime Ministers, Congressmen, Parliamentarians, Ministers of Defense, and Chiefs of Staff of nations can call for cooperation, mutual development and interdependence and then subordinate, almost to a man, seem to ignore the clear direction given.

The actions of the Alliance, I think you will agree, do not follow the words of its leaders. I do not believe this nonresponse to be malicious or intentional. I believe it to be the natural consequence of our contemporary bureaucracies not being set up to make the wishes of our leaders come about.

Virtually nothing happens in our modern bureaucratic process unless there exists power centers in the bureaucracy that have the responsibility to further the desired action. Contemporary experience shows that for ideas to succeed, there must be centers of power able to stop or to delay appropriations unless their special interests are catered to adequately. In the absence of a power center, even with high level urging, a bureaucracy will inevitably stall new initiatives.

One example from recent US Department of Defense history dramatically shows this principle to be true. For years and years, leaders in the DOD and in the Congress decried the low reliability of US military

equipment. Much as "standardization" is today, "improved reliability" was then the popular cry. The more people preached the less the situation changed, simply because ~~there were not~~ high level people whose job satisfaction derived from the demonstration of improved reliability" ^{did not exist,} was then the popular cry. ~~The more people preached the less the situation changed, simply because there were not at a high level people whose job reduced to compensate.~~ So, for all the crying, nothing much happened to improve reliability. Then, Congress and DOD insisted on establishment of an independent testing agency that could stop production until tests verified reliability commitments. A man of ability and courage, Lt. Gen. Alfred D. Starbird, USA (Ret), was put in charge. He was given a staff of 25 people, and was required to report to the US Secretary of Defense the acceptability of test programs and test results. Programs were halted, tests were planned, and program go-aheads awaited test verification.

Almost overnight, the old bureaucracy accepted the new bureaucracy and conformed to make room for it. No longer did the lobbies of schedule and performance dominate but a coequal lobby ensured the interests of reliability. It worked then and it worked surprisingly easily. It could also work in the same way now to ensure national willingness to explore international cooperation.

The Situation in the United States

Although what I say applies to every nation, I will focus on the situation in the US. Though the US leaders want the DOD to consider NATO in its plans there is no one in power within DOD whose job uniquely is to make sure that what is wanted happens. No one in the US has a full time job to see that US designs are used by its NATO Allies or to see that allied designs are used by the US. Because no one stops a US program until commitments to NATO use are demonstrated, these interests are ignored.

The US Congress by Section 202 of its 1977 Military Appropriation has been very helpful. That Section requires that the Secretary of Defense report whenever he undertakes any procurement action which is not NATO standard or interoperable. However, honest people respond to their interests as they see them, and even rules like this do not help unless there is a bureaucratic way to enforce them.

The point that I wish to make to both my US and European friends is, simply, that without enfranchised bureaucratic representation, NATO research and development matters will not be substantially considered. Well intentioned forays by public officials will continue to be thwarted by the bureaucracies

that do not themselves enjoy gain by meeting NATO interests.

A Solution

My hope is that the Independent European Program Group (IEPG) can soon speak for the European nations of the Alliance in discussion of trans-Atlantic opportunities. The IEPG is a proper group to formulate the conditions under which Europe can see it advantageous to work with the US. However, as yet, the IEPG has not broadened its interests to include these discussions.

Although in the US, International Security Affairs and the Director of Defense Research and Engineering each have groups concerned with US interests in NATO, they would probably admit that they neither have the time, nor the people, to do the planning suggested. Nor do they have the power to enforce their plans were they to develop them.

Until the members of the Alliance set up in their own Ministries of Defense strong Starbird-like "Offices of NATO Affairs" no one should expect solving of the economics of the two-way street. Continued unwillingness of nations to set up such powerful offices can only mean that nations do not wish the loss of flexibility that comes with commitment to international NATO-wide cooperation.

Closing Thoughts

Let me offer one last suggestion on how to establish a meaningful two-way street. Were every nation, before embarking on a new armament development, to apply for what I call a "NATO Good Housekeeping Seal of Interoperability," we would begin somewhat correctly. Were we to start early to ensure that things work together today, replacements tomorrow might well be of one design done cooperatively. Today no nation is obliged to check with another on details of interoperability. Therefore, although we in NATO learn of new difficulties, we are obliged to wait for interoperability until "next time." To ensure interoperability, corrective bureaucratic procedure is required. There is now a proposition being examined by NATO nations to require the impartial outside interoperability review that I suggest. I hope that this initiative can gain national support. If it cannot, I will especially question the depth of the wishes of NATO nations for efficient use of Alliance resources.

We are now in a Verdun-like war of resources. The two-way street is a crucial but unthought-out concept that can help us in that battle. The two-way street is an economic problem of interdependency which we must find a way to solve. How to cooperate within the Alliance is a bureaucratic problem, not a technical problem. □



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From 1950 until accepting his present assignment, Dr.

LaBerge was associated with the development of US space and missile programs for NASA and the US Armed Forces. He has served as an engineer in electronics, research and development, weapons systems, and management in positions of increasing responsibility. Dr. LaBerge received his doctorate in physics, 1950, from the University of Notre Dame where he received a BS (Physics) in 1947, and a BS (Naval Science) in 1944.

Dr. LaBerge, during World War II (from 1944), served as Executive Officer and then Commander of the YMS 165 that swept more than 200 mines, a number which is believed to exceed that of any ship of its class in the Pacific area.