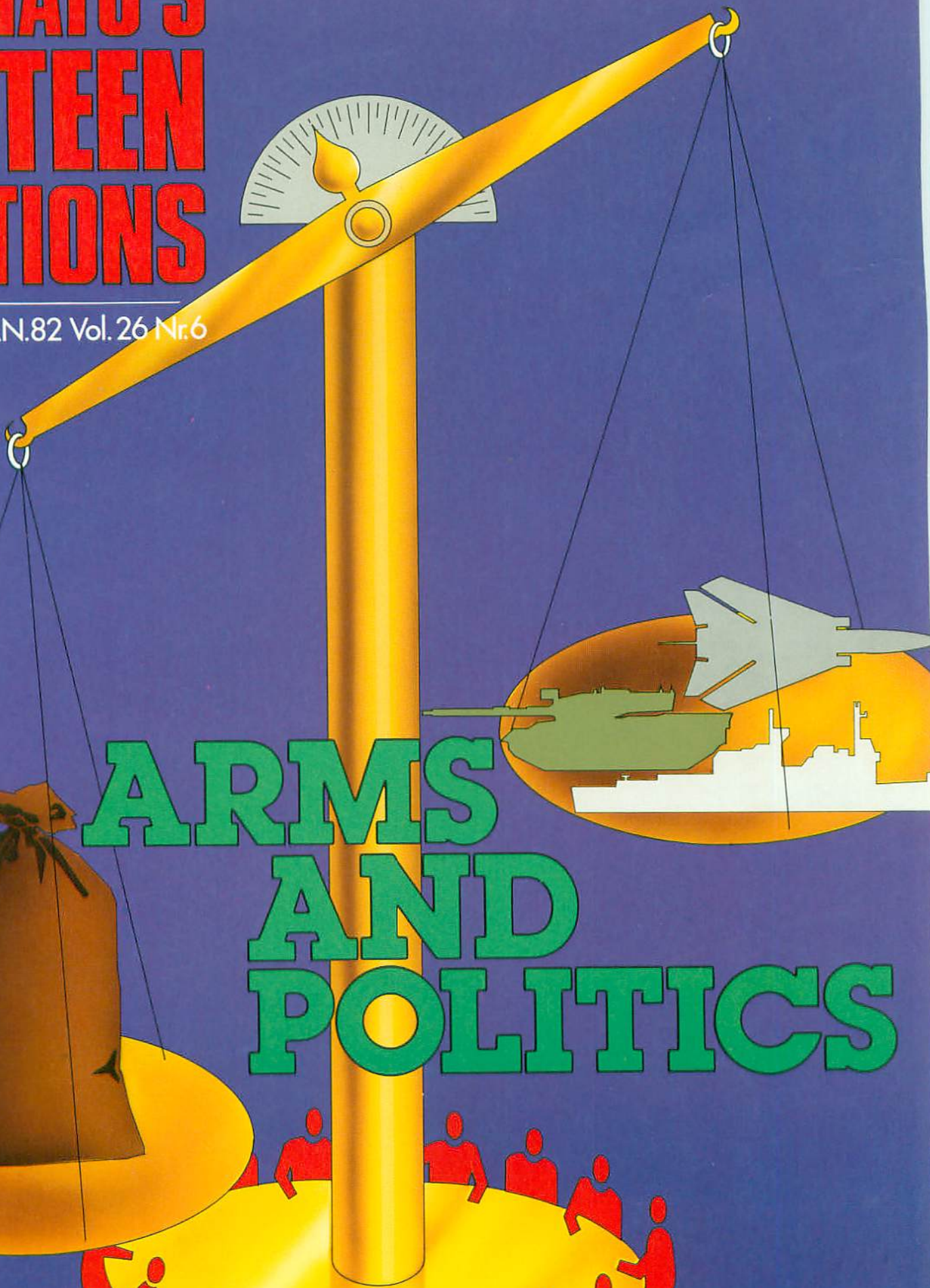




NATO'S FIFTEEN NATIONS

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ARMS AND POLITICS

THE POLITICS OF DEFENCE EXPENDITURE

Precision guided munitions, stealth aircraft, quiet submarines, electronic countermeasures... the rapier must beat the sledgehammer. Faced by superior numbers of forces and superior quantities of armaments, the Alliance has to prepare to meet the challenge. Our authors, both eminent men of action in the equipment field in the United States, point out the problem of diversity in the NATO research, development and production organisations versus the unified Warsaw Pact system. They highlight the associated political problems and show the needs for the future.

Because points of view on Arms & Politics can be so diverse and hard to prove, we all tend to put aside those which are long term and concentrate on only those which are urgent and near term. For example, there is an innate interest in whether to sell AWACs to the Saudis, to base cruise missiles in Europe, to have a credible rapidly deployable force and to provide the MX missile with a mobile, protective shell.

But it is not interest in these programs or their spectacular financial implications that cause decisions on them to be made. Rather, it is their short term nature which evokes decisiveness. Difficult decisions are made only when they have to be made. We solve AWACs, MX and our RDF only because we have to do so, not because we ought to. The thesis of this paper is that we also have to solve the political problems of cooperative armament development and production.

THE CHALLENGE

Few people doubt that achieving real security in the world today requires NATO to maintain an adequate balance of conventional forces with the Warsaw Pact. However, maintaining that balance is becoming increasingly more difficult because of the military challenge being posed by the Soviet Union. The Soviet Union alone is building about twice as much military equipment as all of NATO combined. The reason that the Soviet Union, with equivalent defense expenditures as NATO, can build twice as much military equipment is that they spend only about one-fourth of their defense budget on manpower and one-half of it on equipment, while we spend more than half of ours on manpower and one-fourth on equipment. As a result, even with equivalent defense budgets the Soviets have

almost twice as much available for procured hardware — tanks and airplanes rolling out of their factories, year in and year out.

Meeting the Soviet challenge cannot require achieving numerical equivalence. It is simply not practical, for example, to correct the existing three-to-one disparity in tanks. Quite aside from the expenditures and the time lag that would be required just to build all that equipment, the principal problem is one of manpower. In order to equal the Soviet Union in terms of deployed tanks, airplanes, armored personnel carriers and the like, NATO nations would have to double the size of their armed forces, and that is probably not a political practicality. Even if it were, the high cost of our manpower, which caused the equipment disparity in the first place, would lead to truly astronomical defense budgets. Thus, when we talk about achieving a military balance, we must recognize at the outset the impracticality of meeting this objective simply by matching the Soviets tank for tank, airplane for airplane, gun for gun.

POWER OF TECHNOLOGY

Fortunately, an alternative strategy is available — using our technological advantage to offset the Soviet's numerical advantage. Harold Brown called this a countervailing strategy and used it as the basis for planning the modernization of U.S. forces. Such a strategy considers each major area where the Soviets have some numerical advantage in equipment and seeks a specific way of offsetting that advantage.



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Dr. Walter Laberge was Assistant Secretary General for Defence Support at NATO. After a long and distinguished career in industry in the missile and electronics field, during which he was involved with the Gemini, Apollo and other satellite programmes and held the post of Vice President of the Philco Corporation, he was Technical Director of the Naval Weapons Centre where he was responsible for a large number of recent naval weapons development programmes. He then became in 1973 Assistant Secretary of the Air Force (Research and Development).

For example, the Soviet Union has in excess of 40,000 tanks and the United States has about 10,000; our strategy is not to build 30,000 more tanks, nor to build a tank which is four times as effective as the Soviet tanks (or as Lanchester would argue, 16 times as effective). What is really necessary is an offsetting strategy which finesses the problem — to produce the world's most effective antitank weapons.

Precision anti-tank guided weapons have been developed, tested and second generation designs are already in production. These weapons use a high technology available only within NATO to produce anti-tank accuracy and fire power which can contravene a Soviet advantage in armored forces.

Another area of Soviet advantage is in air defense systems. The Soviets have put a much greater emphasis on air defense than the United States as their means of attempting to offset the superior quality of

our airplanes. As a consequence, we would today have a difficult time penetrating Soviet strategic air defenses and within the next few years we expect an equally difficult problem with Soviet tactical air defenses. Our solution to this problem does not lie in matching the Soviets in air defense systems, but in finding a specific technology to offset the advantage which the Soviets have in their great numbers. Two distinct technologies are appropriate — stealth technology and electronic countermeasures. The proper combination of these two technologies allows us to design aircraft and missiles that are effectively able to defeat Soviet air defenses, even in the great numbers with which they deploy them.

Much has been made in the press in the last year or two about the upsurge of the Soviet navy. The Soviets, in the last decade, have gone from little more than a coast guard to a very capable bluewater navy. It is a navy that has many more ships than our own and therefore it has been argued that our response should be to greatly increase the number of ships in our navy. We think that is a poor approach to the problem. We can within our resources better deal with the Soviet increase in surface ships by a combination of greatly improved ocean reconnaissance, so that we can locate Soviet ships at sea, and by a greatly increased deployment of antiship cruise missiles. This is not to say some increase in numbers is not desirable, but it should not be our principal approach.

By the same token, the way we deal with our numerical disadvantage in submarines is not by doubling or tripling the number of submarines we have in our force, but by continuing to exploit the very great advantage that we have in submarine detection. By combining the technology of submarine quieting and the technology of very sophisticated processing of underwater acoustic signals, we are able to detect and locate Soviet submarines at ranges several times greater than they can detect our submarines, which gives our submarines a decisive tactical advantage.

Yet it is not enough for the United States alone to have this technological advantage. 75% of the ground forces and 50% of the air forces that face the Soviet Union in Europe belong to our European NATO Partners. Major portions of the potential battle lines in Europe are held by them, including some of the most difficult to defend terrain, that of the North German Plain. These forces of our partners must also have the technological advantage that we have if NATO is to be a fully effective military force. We must use the fruits of their technological investments and they must use ours.

But in the last decade there has been a trend towards each NATO nation developing and producing its own weapons. If that trend continues, what is the likelihood that each NATO nation will have a defense technology advantage over the Soviet Union?

The United States today spends about \$ 20 billion a year on defense research and development. That is the base on which all of our weapons technology and all of the improvements in our weapons depends. The Germans, French, and British each spend about \$ 2 billion a year on defense technology while smaller NATO nations spend proportionately less. As long as those countries are operating on such a small defense R&D base, it is unrealistic to expect them to have the technology on which the most effective weapons can be built. Somehow our armament systems must be structured so that the defense technology that derives from the American \$ 20 billion R&D program can be used in all allied countries. This is not an assertion that American engineers, technicians and scientists are smarter than the engineers and scientists in other countries, nor is it an issue of national pride. The assertion comes from simple arithmetic. Because the U.S. is spending so much more than our

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The British, French, Germans and Americans have each developed their own main battle tanks. The British Vickers VALIANT with its Chobham armour was a private venture.

allies in defense R&D, we therefore possess the greatest capability in defense technology. If the alliance is to realize its potential effectiveness, all countries of the alliance must find a way to exploit that defense R&D base. Any solution to armament cooperation which ignored that fact would not be an effective solution. Each of our allies faces the question of how to balance its economic and political concerns

with its necessity for exploiting the R&D base in the United States.

COMMON ACHIEVEMENTS

Over the last few years, a set of programs and proposals have been put forth to accomplish this goal. One program now underway in NATO is the dual production of certain weapon systems developed through the defense R&D program of the

United States. This program makes available for European production the Copperhead laser-guided projectile, the Sidewinder air-to-air missile, the latest generation of laser-guided bombs, and the latest version of night-vision devices. In other words, the latest technology which is moving from American laboratories into our factories is made available for production in European factories by transfer-



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The French AMX-32 was produced with an eye to export markets. The present system is a logistical nightmare as it is impossible, for instance, to share ammunition. Each of the three European tanks uses a different calibre.

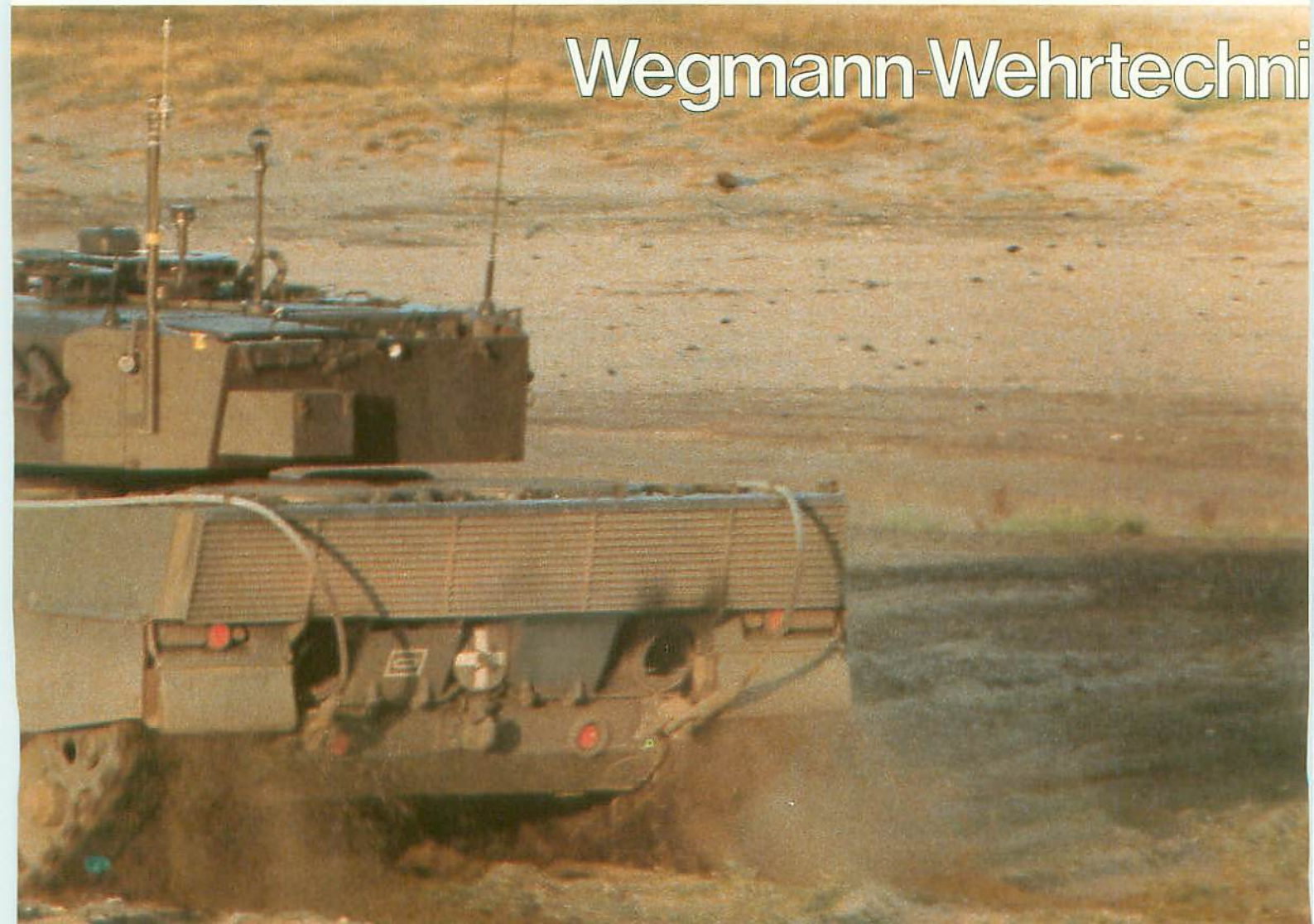
ring to the Europeans our blueprints and technology. In this way, the technology is available to all of the countries in NATO, but the product is manufactured in the countries that are actually using the weapons. Through this program, begun two years ago, about seven or eight major

weapon systems have already been transferred to the NATO countries for their production. The U.S. government did not require royalties, but did insist that one NATO member be designated as the lead country and that the countries form a production consortium so that production

lines would not be set up all over Europe. That program is underway, it is quite successful, and it will bring the most modern and effective weapons and support systems to NATO.

This was the first step of the program. The second step, called the "family of

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weapons", is more significant, but will take longer to become effective. Here, the cooperation starts at the development stage of the program. Agreement is reached, not on a single weapon, but on several related weapons that form a "family". An example of the idea is in the next generation of air-to-air missiles. The United States was planning to build a short-range and a medium-range air-to-air missile to replace the Sidewinder and Sparrow missiles. The British, French, and Germans each were planning similar development programs. Instead, a great political achievement was effected within the alliance. The British, French, Germans, and Americans agreed (and the other NATO countries, I believe, will follow their lead) that the United States alone will develop the medium-range missiles, making them available for production both in the United States and in Europe. The Europeans will form a consortium to develop the next generation of short-range missiles, and when that is completed, they will be made available for production not only in Europe, but in the United States. There is now a formal contract among the four countries, agreeing to this plan for the next generation of short-range and medium-range air-to-air missiles. Whether that agreement can be sustained over the eight years or so of the development and production period remains to be seen. We believe that it is critically important that these defense cooperation programs be sustained to allow NATO to make fully effective use of its technological advantage to offset the Soviet 2 to 1 production advantage. But there are also other important advantages that accrue to our military effectiveness if we can sustain these programs.

DIVIDED WE FALL...

Today NATO wastes perhaps several billion dollars a year in redundant developing, since development of essentially the same equipment is duplicated four or five times within the alliance. For example, the British, French, Germans, and Americans have each developed their own main battle tank. In the United States the R&D cost alone was in excess of \$1 billion for the development of the Abrams tank.

Duplication also occurs in production, where the problem is twofold. First, tooling many different factories for the same product incurs huge, redundant costs. Second, to borrow a term from industrial engineering, there is the problem of "the learning curve". The NATO countries are proceeding down five different learning curves in weapons development very slowly, rather than travelling one learning curve rapidly. In short, the learning curve means that the more units of equipment a

given factory builds, the more cheaply and efficiently it is able to build each unit. Clearly, the disadvantages of having five learning curves instead of one are mammoth. The alliance is losing the benefits of efficient start-up costs. Moreover, it is losing the benefits of the learning curve without gaining the advantages which usually stem from competition. Rather than four or five different countries competing and then deciding upon the best tank, each country, for its own reasons, proceeds with its own tank, regardless of the merit of that tank.

Finally, the present system is a logistical nightmare. Envision these various countries fighting what is called coalition warfare, in which their battalions, regiments and divisions are side-by-side on the battlefield. It is easy to imagine circumstances under which the forces might need to share ammunition, tank treads or fuels. Today it is nearly impossible to do so. For example, each of the three European tanks uses a different calibre of ammunition. The French tank uses 120 mm rifle-bore ammunition. The German tank uses 120 mm smooth-bore ammunition, and the British tank uses 120 mm rifle-bore ammunition. As a result, three different supply lines must be maintained for something as fundamental as artillery ammunition. After a long and contentious debate, the U.S. decided to standardize on the German tank gun so with our new main battle tank, we will at least be able to share ammunition with the Germans.

In summary, we believe that the armament cooperation programs started during the Carter administration, are of vital importance to allowing NATO to maintain a military balance with the Warsaw Pact. They are well started; continued nurturing is critical because these cooperation programs are like fragile hothouse flowers which, placed in the wrong environment, will wither away. But because of the length of time involved in weapons procurement and in political decision making, these initiatives took such a long time to start that most of the follow-through will fall to the Reagan Administration.

EUROPE'S CHOICE

The Reagan Administration came into power after a campaign in which they vigorously challenged almost every area of government operation; they challenged not intent, but technique of implementation. They are now methodically reviewing all aspects of the policies of the prior Administration, keeping some and rejecting others. So far, the new Administration's technique of arms cooperation has not yet been fully developed. So, with respect to arms

cooperation for our NATO Allies, this can be a time when the U.S. can endorse and expand on the cooperative programs of the last four years or it can let them fade away.

How the new U.S. Administration goes in the future is to a reasonable degree up to its NATO Allies. If our European Allies endorse with warmth and vigor what is well started, that which is started has a good chance to continue. If our Allies are mute and reserved, waiting to see which way the political winds will blow, we predict that no winds will blow at all and that the sea of cooperation will be becalmed. Our expectation is that the traditional policy of wait and see may result in nothing to see at all. We think the mood of this Administration is for rapid action in increasing our military capability and is impatient to get at it. This anxiousness for action may interpret the normal NATO cautiousness in armament development cooperation as a delay which too badly protracts the decisions this Administration wants to make quickly.

During the last four years, the U.S. spearheaded most of the effort for mutual arms cooperation and our Allies, while cooperative in the NATO forum, were for the most part reactive. The last four years was a time when our European Allies focused their initiative on promoting cooperation among themselves. The Independent European Program Group and the European Alliance were the primary initiative instruments and the Conference of National Armament Directors was in the main a place for them to hear and respond to U.S. propositions. That may well have been a most appropriate course for Allies on both sides of the Atlantic to have pursued. There was goodwill and strong rapport among Armament Directors and a look at the results of the last four years seems to endorse the view that much was accomplished by that mode of operation. But while much was accomplished, much more remains to be accomplished, and strong initiatives may be required both from the Europeans and the U.S. side of the CNAD table.

We are faced with a real and significant problem caused by the growth of Soviet military capability and their political adventurism. There is a reason for concern, but not for fear. In fact, the alliance has expended too much energy on selling itself short, and not enough on exploiting its strengths. On the other hand, while we should be confident of our strength, there is no reason to bluster. The appropriate response of the alliance to this Soviet challenge is to stop wringing our hands and start joining our hands. Together, our strength is more than equal to any challenge — military, economic or political — with which the Soviets can confront us. ■