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ARMY ACQUISITION SYSTEM VS. THE MEDIA

BY

COLONEL RAY KAUFFMAN

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23 MARCH 1987

US ARMY WAR COLLEGE, CARLISLE BARRACKS, PENNSYLVANIA
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Item 20—continued.

Section focuses on the acquisition system and a realistic policy of dealing with the media. The basic thrust is to improve Army/media relations by starting in the acquisition system a policy of interaction that will allow each player to develop a mutual trust and understanding.
USAWC MILITARY STUDIES PROGRAM PAPER

ARMY ACQUISITION SYSTEM VS. THE MEDIA
An Individual Essay
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US Army War College
Carlisle Barracks, Pennsylvania 17013
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ABSTRACT

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INTRODUCTION

Those who make weapon acquisition decisions in the United States Army inevitably meet the press. Hardened though a Department of the Army civilian or military officer may be toward television or newspapers, he will nonetheless eventually be required to do business with the media. Sometimes good fortune with the press spells victory for an acquisition policy or program. However, failure in dealings with the media can doom a vital weapon acquisition program. This can and has occurred despite the value of the program to national defense or the best efforts of the brightest people. Clearly, those who would be successful defense advocates and weapons program managers need to know about the media and the flow of news.

This essay looks at the media's relationship with the military and the effect it has on the Army's acquisition of weapons systems.

This approach--from a military officer's viewpoint--will provide a brief historical overview of the Army/media conflict: A look at the media as an institution, its diversity, ethics, motives, accuracy, fairness and responsibility. The attitude of the vast majority of military officers, their impressions, and emotional reactions about the media. The movement of news coverage from actual combat to concentrate on budget-related issues and weapons acquisition programs. The final section focuses on a realistic policy of dealing with the media. The basic thrust is
to start treating Army/media relations as an important part of the Army mission.
BACKGROUND

In On War, Clausewitz reminds us that modern warfare rests on what he called "the remarkable trinity" of the people, their government and their army.\(^1\) He goes on to emphasize that, while government provides the direction and the army provides the means, it is "the passions" of the people that are the very engine of war.\(^2\)

With this fundamental point in mind, a search back in history shows this "trinity" first being formed in our own Revolutionary War. The media of that time, i.e., the printed press, and lawyers were both alienated by the Stamp Act of 1765.

Here is where the press of the time played such an important part. In newspaper and pamphlet appeared the literature of the Revolution. The media was how the passions and arguments of the revolutionaries found expression and stirred the people. Samuel Adams, one of the most prolific journalists of his time, is the best example of a "Patriot leader" that would arouse the masses and his principal tool was the colonial newspaper.\(^3\) The early days of the Revolution found three conflicting groups--the "Tory" philosophy whose spokesman was James Rivington; the "Whig" philosophy with John Dickinson, "the penman of the Revolution," as its spokesman; and the "agitators" or Patriots with Samuel Adams as their leader.\(^4\) We can see the conflict in the press and we can clearly see the link between the people, their army, and the government. This love affair between the press, the army and
government was not to be long lived. Secrecy became an issue in 1792 over the St. Clair disaster, Indians attacked and killed 600 men led by General Arthur St. Clair. President Washington imposed "executive privilege," refusing to release information about what had happened to Congress or to the press.⁵

The War of 1812 saw newspapers all over New England opposed to the conflict and they left little doubt about their feelings with columns harshly stating "waste of blood and property" and "a useless and unnecessary war."⁶ The period from 1812 to the start of our Civil War had little disagreement between the press and the military. Yet it was in this period that the press was more and more counted on to supply the information, inspiration, agitation, and education of a society often unable to keep up with its needs. The press was expanding just as was the country. America's "manifest destiny" was also the press' and editors like Horace Greeley were intent on producing a better world and a better press.⁷ Again, common goals was the foundation of the good relationships between "the remarkable trinity."

As a whole, the country was strong and prosperous and that was well for the United States, for it was to be tested as it never had been before. The test began with the first shot at Fort Sumter on April 12, 1861.

The Civil War was the first, on the scene, prompt reporting American war. This was caused by large elements of the population opposed to the war on both sides of the lines. The most usual medium for criticism of both administrations was the
newspaper. The telegraph allowed reporters a means to transmit the news of battles won or lost directly to the newspapers. This caused a very serious problem on how to keep the public properly informed without giving aid and comfort to the enemy. Also, this information flow started the arm-chair general and the overnight military strategists within the press corps. So battle lines were set between a strong aggressive American press that wanted no form of restriction and the military who's goal was public security, which would mean some form of control for the newspapers. This control took the form of censorship and access to the battlefield. However, no system was in place to provide accreditations for reporters or monitor a censorship process. This system was developed by trial-and-error and, as a result, the press, the government and the military made many mistakes.

The Copperhead movement in the Northern newspapers was the cause of most punitive actions taken by military commanders during the Civil War. Near the end of the war, the press and the military had agreed upon the rules of accreditation by military commanders and the voluntary restraints agreed to by the journalists. Legal action was also taken against both Northern and Southern newspapers when their governments felt they had violated the agreed-upon standards of restraint.

The standards for reporting all future American wars were set by the actions of the "trinity" during the Civil War. The lessons learned were used to establish policies for working with the press during World War I and World War II. Censorship of
the means of communication (radio, telegraph, and mail) and accreditation of reporters by military leaders were widely accepted during both wars. Generally the media were supportive and cooperative. Why? The "trinity" was united in a common cause, strongly exhibiting what is called "national will."

Military-media relations during the Korean war commenced with "voluntary censorship." This proved unworkable and was followed by formal military censorship. This was at the request of many newsmen because of competitive pressures to provide more information than a rival reporter. The reporter that was least sensitive to security manners "got the story line in newspapers at home." In January 1951, General MacArthur instituted a strict censorship directive. The media branded the new rules of censorship as the most drastic in military history. The officially accredited US press correspondents were, by Act of Congress, now subject to the uniform code of military justice, which meant they could be court-martialed for violations. In general, the American people were indifferent to the Korean war and the memory of our stalemate there helped set the stage for our future involvement in Vietnam.

The Vietnam war has stirred so much controversy between the media and the military that any analysis of the media-military relationship of that war must be viewed for bias or inaccurate perceptions. The historical facts show that in no previous American war was the media so well treated. No censorship of any kind was imposed. Almost any thing could be reported from the war
zone. Accreditation was very liberal with over 1,600 media representatives being accredited. Transportation and communication was the best provided during any war. This allowed for the first television coverage of a war. The media had free access to the battlefield and all the means to portray their story. What, then, could cause all the controversy? The simple answer is the media was being told two stories. The military in the field was providing information that progress was not being made in South Vietnam and high-ranking representatives of government, both in Washington and in Saigon, made statements that progress was being made. These contradictions led to press skepticism, the better journalists dug up solid information that the government did not want to see in print for domestic political reasons. This caused a national crisis of confidence about the government's policy in Vietnam. Thus, the problem was not that the media, by vividly portraying the "price" of war, destroyed the people-army-government trinity. The problem was that this trinity did not exist on Vietnam from the start.

"The very heart of the basic problem posed by the Vietnam war was the failure of our political leaders to grasp why it was necessary to go to war. In the absence of that understanding, it was difficult if not impossible for our government to explain the war to the American people and get them directly and personally involved."

As the war wound down in the early 1970's, many officers felt they were betrayed by the press. Some became vocal over
what was perceived as deliberate distortions of facts and undermining of the war effort. These officers ranged in rank from general to captain. Their attitudes would affect military/media relations for the next thirty years.

Since the Vietnam war, the attitude of suspicion and distrust of the media has been further set in the minds of the military by news coverage of peacetime defense activities. The Pentagon press corps has used investigative reporting techniques to cover the defense budget stories that involve acquisition problems. Most reporters from the Pentagon press corps agree that you cannot write "good news" stories about military subjects, "they don't sell to your editors." However, problem stories will sell because the question of the defense budget and its impact on social programs is a large and immediate story (guns or butter).

This attitude toward the media is compounded by a misunderstanding of how the media works its role in American society and their organizations--a look at this mythical institution called the media could improve understanding.
ENDNOTES

BACKGROUND


2. Ibid., p. 97.


4. Ibid., pp. 55-57.


8. Ibid., pp. 168-169.

9. Ibid., pp. 169-175.


11. Ibid., pp. 53-54.


13. Ibid., p. 12.
THE MEDIA

The media is the communications industry and, like all industries, it must provide a product or service to the market place. As in other industries, there are all sorts of players, in this case, they are channels of information to the people. These are television, radio, newspapers, magazines, books and motion pictures. "It is the unique nature of the media marketplace that its raw materials are disaster, tragedy, crime, corruption, waste, abuse, greed, lust, and, all too infrequently, human triumph and dignity."\(^1\) The challenge is to sort out all the facts, rumors and innuendos for a large volume of events as to their "sell," relevance, editorial policy, and credibility, all within the unforgiving time constraints of the deadline.

That is news judgment. What is published or aired and what is withheld is based on the subjective judgment of reports and their editors. The beauty of this system is that competition provides the necessary check-and-balance in avoiding extreme news judgments. This leads to the true "power of the press." The ability to influence the public agenda by what they select to publish or broadcast and what they choose to ignore. The question then is this system providing our society with an accurate, truthful account of the news? The answer is yes with comment. News is not simply information. Newsmen are both fact-gatherers and storytellers--their product is not called a "report" or a "study." It is called a "story."
Every news organization's idea of a good story is just a little bit different. Warehouse fires, airplane crashes, train wrecks, budget fights, are always good "stories:" they are diverting incidents. News, depending on the standards of the producing organization, is in part an art form. The conventions are learned on the job. As Roger Rosenblatt pointed out in time: "Journalism inevitably imposes forms of order on both the facts in a story and on the arrangement of stories itself. The structures of magazines and newspapers impose one kind of order, radio and television another, usually sequential. But every form journalism takes is designed to draw the public's attention to what the editors deem most important in a day or week's events. This naturally violates the larger truth of a chaotic universe."

A fundamental vulnerability of this media system is editors rely almost absolutely on the honesty of their reporters. Much more common than dishonesty is an error that results from over-aggressive reporting and inadequate checking. One key cause of this kind of error: a tendency among young reporters to believe the worst, to see a potential Watergate, hence their fame and fortune, in almost every story. The suspicious attitude among reporters leads to negativism in news coverage. The public just does not like that kind of news coverage--this has caused a dramatic drop in public respect for the media.

Describing the Pentagon press corps after completion of an assignment as Deputy Assistant Secretary of Defense for Public Affairs, Major General Jerry R. Curry said:
As I see it, the reporters working the Pentagon beat fall into three categories. First, there are the professional, honest reporters who do a competent, forthright job of covering events and who thoroughly, accurately, and fairly report on them. In my opinion, they comprise about 70 percent of those reporting on Department of Defense activities, and I say, "Thank God for them!"

Fortunately, those at the other end of the spectrum comprise less than 1 percent. They are those who are essentially disreputable, lack professional integrity, and print whatever captures their fancy without regard to fact.

In-between those two groups are the 30 or so percent that are competent craftsmen though their stories are sometimes unreliable. This may be because of editorial policy constraints or because they have selectively omitted a fact that would contribute to the balance of the story. It could be because they have added a dramatic or unusual fact that seems related to the story but really isn't. These impart an unusual spin or twist to a story that may garner high consumer interest, but at the same time they are misleading and misinforming the public. These reporters cannot be trusted, and the damage their stories cause to the nation, the press as an institution, and the government is incalculable.

More important to the media is how the public views the media. The public in most polls sees the media as being reasonably accurate, fair and responsible. In fact, the media rates higher than government in all these areas. The public recognizes and supports the idea of a free media, but within limits that are regarded as reasonable. The function of the media, in the public's view, is to counterbalance the power of government. To the extent the media itself is distrusted, it is for the same reasons as all major institution size and power. "The failings of journalists have been compounded in the public's mind by the perception that as their power has increased, so has their presumption of
self-importance. William Woo, editorial page editor of the St. Louis Post-Dispatch, said, "Arrogance, insensitivity, sensationalism, the sounding of first amendment alarms at every provocation--these have all lost the press sympathy." Such attitudes are particularly grating to a large segment of the public that has come to see the press as primarily interested in its own profits and renown.\(^5\)

The relationship between the media and the public has far greater impact on freedom of expression, of which freedom of the press is a part, than any role the government may play. The media must take to heart the needs of the public if it wishes to serve as the eyewitness for the public. The media is at its best, only when it strives to avoid manipulation either by officials or by critics of the government through accurate, independent reporting.
ENDNOTES

THE MEDIA


ARMY OFFICERS ATTITUDES TOWARD THE MEDIA

History shows that military-media relations have never been entirely smooth, even in the best of times. An adversarial relationship has been the norm. Today most military officers would describe the existing relationship between the media and the military as emanating from the Vietnam war. It is not surprising that the 1973, Naval War College students expressed disdain for the press. In his annual report, Naval War College President, Rear Admiral Stansfield Turner, described the class attitude as:

A dubicity amounting to almost hostility toward the national press... that appeared to be reciprocated when a group of reporters spend some time at the War College last year. The officers felt that the national press had presented a heavily biased picture of the war in Southeast Asia, while the press claimed the candor and professionalism of World War II days were lacking in the military officers the reporters encountered in Vietnam.

This type of bitterness that has divided two vital institutions should defuse over time. However, data collected in a survey of officers attending the US Army War College Class of 1986 shows quite clear that a general distrust between the military's future high-level leadership and the media is perhaps greater than ever. The survey revealed a basic mistrust of the media's motives and objectives. The majority of officers point to the media as being the problem. The survey data showed that many officers have had very little personal experience in a direct working relationship with the media and have had even less formal training about how the media works or its role and
missions in American society. In spite of this, they hold very strong negative views about the media. The survey reveals three major problem areas: (1) attitude, (2) knowledge, and (3) honesty. First, attitude—the officers believed—the traditional media approach is to seek out the controversial, try to place blame, and find fault. If by chance the story is sensational, that will just make it sell better. It is only natural that the military would be a media target. We are entrusted with so much national wealth, both in people and funds. This trust is a moral, ethical, professional responsibility that sets the standard for the military officers: duty, honor, country. Every media attack is then seen as a very personal attack on each of us in uniform.

Second, knowledge—the surveyed officers felt that both sides were uninformed about each other. The media lack the intricate, detailed knowledge of the military to report it properly and factually. Military officers do not understand how the different media sources work and they do not fully understand the role of the free press in our democratic society. There is a need for increased interaction at all levels. This would increase the level of knowledge on both sides.

Third, honesty—the majority of officers surveyed do not trust the media to tell the truth. The officers believe that the media are interested in sensational stories that sell. Media focus is on "selling" the news rather than objective reporting. Most reporters have preconceived bias before they start any interview. The first requirement is that the media should be accurate.
They should not lie. The surveyed officers also stated that being honest with the media was the only policy. When confronted with the media, don't try to "snow" them or don't try to cover up our mistakes. We should open up and provide the facts, not button up and deny access.

There is abundant evidence that the military is very distrustful of the media. This attitude, if allowed to continue, will only be aggravated. Alienation from the media will be self-defeating since it would foster an anti-military frame of mind in the media. It is recognized that we have little direct or, for that matter, indirect control over the media side of this relationship, the focus is therefore on a pure military initiative to turn things around for the better. This distrust and bitterness has already affected the relationship with the media in their role as "watchdogs" for the taxpayer in the military acquisition programs.
ENDNOTES

ARMY OFFICERS ATTITUDES TOWARD THE MEDIA


THE WEAPONS ACQUISITION SYSTEM UNDERFIRE

The Army of the future is dependent on our winning the battle of the budget. Those of us in the weapons acquisition system are the frontline forces in this resource battle. The loss of this battle could signal the start of World War III. Don't dismiss this as just another "Chicken Little" yell. A look at our history shows that coercion and military aggression directed against our nation have occurred following a failure to provide adequate funds for defense. The Constitution charges our federal government to provide "for the common defense" of the American people, our free and democratic way of life, and the ideals for which we stand. The battle of the budget is then centered on "how much is enough" regarding defense.

Now is the time for the acquisition managers at all levels to shake the bureaucratic sand from their eyes and ears and take notice of the battlefield on which they are a major player. First, the battlefield for this fight is the media. The objectives of all players on the field are public relations and persuasion. The nature of this battle is best understood by knowing the players. They are: the media, Congress, defense contractors, other services, our soldiers, and the acquisition system.

The Media

Barring actual combat, the focus of the media who cover the Pentagon on a day-to-day basis is likely to concentrate on budget related issues. The media feels the "rearming of America" theme of the Reagan administration is the main continuing defense story.
The media can be used by any of the players to set an issue before the public to think about. The other key point is the media can influence acquisition of a weapon system by what it uses and how it uses the available information.

Those who want to influence the debate on weapons systems, there is no substitute for the daily newspaper. Wire services are the basic conveyor of defense news, television the crisis medium with broad impact, but daily newspapers—especially a select few—are the ones that lead the discussion of weapons acquisition issues. They are the New York Times, Wall Street Journal, Washington Post, Chicago Tribune, Christian Science Monitor, Los Angeles Times, and the Baltimore Sun.

George Wilson of the Washington Post highlighted the influence of his paper by saying:

The only thing politicians read are newspapers. They don't have time to read briefings. They don't have time to read hearings. They don't have time to read reports that the Pentagon sends them. So when you go to a Congressional hearing, you'll see that about half the questions are provoked by what the guy read over his coffee in the newspaper—which is usually the Washington Post.

A key point to remember is that the media sees its role as one of keeping the government honest.

Congress

The Constitution endowed the Congress with the power to raise and support armies. The Congress exercises much of its power and control through the Federal budget process.

Congressional committees are the major actors who have roles that most directly involve weapon system acquisition. They are
the Senate Appropriations Committee, the Senate Armed Services Committee, the House Appropriations Committee, and the House Armed Services Committee. These committees act on all legislation which authorize forces or appropriate funds. Before recommending legislation to the full House or Senate, the committees hold hearings on the President's budget and receive testimony from military representatives.

Efforts to influence Congress may and generally do come from sources outside the government. As previously discussed, the media can be a major force on any program. In addition, special interest groups, foreign governments and defense contractors may actively promote their programs to influence Congress. Moreover, our problems are complicated by the fact that in Washington, DC, where perception often becomes reality, many Capitol Hill insiders view the Army as the least sophisticated of the Services at playing the public relations and persuasion game so important in politics.

Defense Contractors

Defense contractors may exert influence to adopt their item of equipment over another or to maintain procurement levels. They usually take their program to Congress by lobby. They will also use the media, however, their target is still Congress.

Other Services

Normally the other Services will be players only if the acquisition is a joint program. Support for Army programs by other services is always welcome and can be a major factor in widening public support.
The Soldiers in Field Units

Soldiers in field units can be affected by media stories that undermine their confidence in the equipment with which they fight. This is a problem for leaders at all levels that affects combat capability in their units. The very best way to counter this problem is let soldiers that have used the equipment tell of its capabilities. They will have the best credibility with all players.

A fact that most players don't care to face is the price for their mistake in not providing adequate funds for modernization will always be paid by the soldiers in the field. The price will be the same as paid by US infantrymen that faced North Korean tanks with obsolete anti-tank weapons. That was a very costly lesson that does not need to be relearned.

The Acquisition System

The acquisition system needs to let the fog of battle clear and reorient on the objective. There are lessons to be learned from the successes and failures of the past ten years.

The Army is right in the middle of the largest peacetime modernization in its history. Do we need to finish that modernization? The answer to that question is, of course, "Yes!" if we plan to deter the Soviet Union.

In the mid-70's, the Army leadership established a program to focus technology and development efforts on systems identified as being most crucial to execution of the Service's combat mission.

The Big Five development effort emerged from this guidance and vision. These systems, which provide the mobility and firepower
necessary to support the Army until the year 2000, are now being produced and fielded. They are the M1 Abrams main battle tank, M2 and M3 Bradley fighting vehicles, AH-64 Apache attack helicopters, UH-60 Black Hawk helicopters and the Patriot surface-to-air missile systems.

The success of the Big Five programs can be directly attributed to the ability of the Army leadership to assemble the internal consensus and streamlined focus necessary to launch and sustain a successful procurement program. This was accomplished under intense attack by special interest groups conducting major media dis-information campaigns about each of the weapon systems. The Army has certainly shown its ability to bring together support for its M1 Abrams tank program and more recently the Bradley fighting vehicle program. Both of these challenges were defeated by controlling the battle in the media and on Capitol Hill.

Major losses during this timeframe in Army procurement were the result of a failure to control the battle in the media. The most agonizing one, of course, was the Sgt. York (Division Air-defense Gun-DIVAD). The major lessons learned are:

(1) We are entering an era of even more constrained resources for defense. This will mean a more intense public debate before allocation decisions are made. Therefore, a realistic policy of dealing with the media makes good sense. We must develop a cadre of acquisition managers who are available, candid, knowledgeable, and relaxed with the media. The media are an ever-present fact of life in the business of weapons acquisition. Everyone involved in the acquisition process should understand that decisions are all
made in a public form. In the final analysis, policies and programs that cannot be successfully explained to the public will probably not be funded.

(2) The traditional 8 to 15 year development cycle is too long and too costly. In essence, all disciplines—combat developer, materiel developer, logistician and tester must work closely as a team to reduce the risks inherent in any time-compressed acquisition strategy. Each program must be tailored to its own unique risks, and needs.

(3) The Army philosophy is that soldiers are our most important resource. The difference between the Army is that it equips its men, where other Services man their equipment. That difference must be understood by our own people in the materiel acquisition process and they must be able to explain that difference to the public and Congress.

(4) This last point is not a lesson learned but an observation. The linking of weapon system requirements to national security strategy may be the framework in which we, the Army, can better explain how all the various systems fit together to satisfy the Army mission.

The battlelines are drawn and the supporting forces are in position. The battle of the budget will play on every television and newspaper in this land. All we need to do is tell our side of the story and let the people decide.
CONCLUSIONS/RECOMMENDATIONS

The historical review shows the nature of the relationship between the media and the Army has been constant competition, this relationship provides an additional check-and-balance within our democratic process. This has been a healthy and a historically sound situation. However, a legacy of the Vietnam war has affected the relationship. In short, we have a number of Army officers that view the media with suspicion and distrust; the media have a number of reporters, who are more than a little disdainful of the military. This animosity has carried over into our peacetime relationship. These negative attitudes must be changed before the rift between the two groups grows wider.

A new information policy is necessary to provide the impetus for change in what is obviously an unsatisfactory situation. The policy must be based on mutual trust and responsibility between the military and the media. To do so invites willing cooperation. To do otherwise invites confrontation, circumvention and, finally, damage to our national security.

A continuing intensive scrutiny by the media will be the norm. We must expect and accept an unblinking public eye on all that we do.

The fact is that in the United States the main source of information for the public is the news media. If the Army wants to tell its story to the American public. It must do so primarily through the media. A very important point to always consider is
The media will tell the Army story with or without our cooperation. The key is to always cooperate. This may not always ensure honest and accurate reporting, but it sure increases the chances for it.

The future of media and Army relations is dependent on interaction at every level that will at least allow us to understand each other's strengths and weaknesses.

The Siddle Commission made four recommendations for improvement of media relations. They were:

(1) "Accept the fact that the media are the principal means of telling the military story to the public. This means the Army must work with the media; in fact, the Army must let the media do this job for them. It is especially important that commanders accept this principle and that they ensure that their subordinates and staff officers accept it."

(2) "The best solution is to show the media the story themselves. Attacks on the M1 Abrams tank were brought to an end by taking the media out to see the tank and by letting reporters drive and fire the tank."

(3) "Don't be afraid to admit mistakes. This is important to credibility and for letting the media know that the Army is trying to provide facts, not eyewash."

(4) "Army leaders at all levels must take the time to personally know, on a professional basis, the media reporters who regularly cover their activities."

This fifth recommendation was implied by the Siddle Commission Report but not formally stated.
(5) Train Army officers on how to handle the media. Those who do it best should be our role models. We need to practice it and spend time with the media developing trust through open, candid communications.

The Army needs to move on this problem now for two very good reasons. They are: (1) We are entering an era of even more constrained resources for defense. This will mean a more intense public debate before allocation decisions are made. Therefore, a realistic policy of dealing with the media makes good sense now more than ever. (2) Both the Gallup and Harris Polls reported in December 1986 that Americans have the most confidence in "the leaders in the military." Also, the Gallup Poll shows that the American public puts television last in American confidence.
APPENDIX A

THE WEAPONS ACQUISITION SYSTEM UNDERFIRE

The Army of the future is dependent on our winning the battle of the budget. Those of us in the weapons acquisition system are the front line forces in this resource battle. The loss of this battle could signal the start of World War III. Do not dismiss this as just another "chicken little" yell. A look at our history shows that coercion and military aggression directed against our nation has occurred following a failure to provide adequate funds for defense.

The Constitution charges our federal government to provide "for the common defense" of the American people, our free and democratic way of life, and the ideals for which we stand. The battle of the budget is, then, centered on "how much is enough" regarding defense.

Now is the time for the acquisition managers at all levels to shake the bureaucratic sand from their eyes and ears and take notice of the battlefield on which they are a major player. First, the battlefield for this fight is the media. The objectives of all players on the field are public relations and persuasion. The nature of this battle is best understood by knowing the players. They are: the media, Congress, defense contractors, other Services, our soldiers, and the acquisition system.

The Media

Barring actual combat, the focus of the media who cover the Pentagon on a day-to-day basis is likely to concentrate on budget-
related issues. The media feels the "rearming of America" theme of the Reagan administration is the main continuing defense story.

The media can be used by any of the players to set an issue before the public to think about. The other key point is the media can influence acquisition of a weapon system by what it uses and how it uses the available information.

For those who want to influence the debate on weapons systems, there is no substitute for the daily newspaper. Wire services are the basic conveyor of defense news, television the crisis medium with broad impact, but daily newspapers--especially a select few--are the engine rooms that lead the discussion of weapons acquisition issues. They are the New York Times, Wall Street Journal, Washington Post, Chicago Tribune, and the Christian Science Monitor.

George Wilson of the Washington Post highlighted the influence of his paper by saying:

The only thing politicians read are newspapers. They don't have time to read briefings. They don't have time to read hearings. They don't have time to read reports that the Pentagon sends them. So when you go to a congressional hearing, you'll see that about half the questions are provoked by what the guy read over his coffee in the newspaper--which is usually the Washington Post.

A key point to remember is that the media sees its role as one of keeping the government honest.

Congress

The Constitution endowed the Congress with the power to raise and support armies. The Congress exercises much of its power and
control through the federal budget process.

Congressional committees are the major actors who have roles that most directly involve weapon system acquisition. They are the Senate Appropriations Committee, the Senate Armed Services Committee, the House Appropriations Committee, and the House Armed Services Committee. These committees act on all legislation which authorize forces or appropriate funds. Before recommending legislation to the full House or Senate, the committees hold hearings on the President's budget and receive testimony from military representatives.

Efforts to influence Congress may and generally do come from sources outside the government. As previously discussed, the media can be a major force on any program. In addition, special interest groups, foreign governments and defense contractors may actively promote their programs to influence Congress.

Moreover, our problems are complicated by the fact that in Washington, DC, where perception often becomes reality, many Capitol Hill insiders view the Army as the least sophisticated of the Services at playing the public relations and persuasion game so important in politics.

Defense Contractors

Defense contractors may exert influence to adopt their item of equipment over another or to maintain procurement levels. They usually take their program to Congress by lobby. They will also use the media, however, their target is still Congress.
Other Services

Normally the other Services will be players only if the acquisition is a joint program. Support for Army programs by other Services is always welcome and can be a major factor in widening public support.

The Soldiers in Field Units

Soldiers in field units can be affected by media stories that undermine their confidence in the equipment with which they fight. This is a problem for leaders at all levels that affects combat capability in their units. The very best way to counter this problem is to let soldiers that have used the equipment tell of its capabilities. They will have the best credibility with all players.

The fact that most players don't care to face is the mistake not to provide adequate funds for modernization will be paid by the soldiers in the field. The price will be the same price paid by US infantrymen that faced North Korean tanks with obsolete anti-tank weapons. That was a very costly lesson that does not need to be relearned.

The Acquisition System

The acquisition system needs to let the fog of battle clear and reorient on the objective. There are lessons to be learned from the successes and failures of the past ten years.

The Army is right in the middle of the largest peacetime modernization in its history. Do we need to finish that
modernization? The answer to that question is, of course, "yes!" if we plan to deter the Soviet Union.

In the mid-70's the Army leadership established a program to focus technology and development efforts on systems identified as being most crucial to the execution of the Service's combat mission.

The Big Five development effort emerged from this guidance and vision. These systems, which provide the mobility and firepower necessary to support the Army until the year 2000, are now being produced are fielded. They are the M1 Abrams main battle tank, M2 and M3 Bradley fighting vehicles, AH-64 Apache attack helicopters, UH-60 Black Hawk helicopters and the Patriot surface-to-air missile system.

The success of the Big Five programs can be directly attributed to the ability of the Army leadership to assemble the internal consensus necessary to launch and sustain a successful procurement program. This was accomplished under intense attack by special interest groups conducting major media dis-information campaigns about each of the weapon systems. The Army has certainly shown its ability to bring together support for its M1 Abrams tank program and more recently the Bradley fighting vehicle program. Both of these challenges were defeated by controlling the battle in the media and on Capitol Hill.

Major losses during this timeframe in Army procurement were the result of a failure to control the battle in the media. The most agonizing one, of course, was the Sgt. York (Division air-defense gun--DIVAD).
The major lessons learned are: (1) We are entering an era of even more constrained resources for defense. This will mean a more intense public debate before allocation decisions are made. Therefore, a realistic policy of dealing with the media make good sense.

We must develop a cadre of acquisition managers who are available, candid, knowledgeable, and relaxed with the media. The media are an ever-present fact of life in the business of weapons acquisition.

Everyone involved in the acquisition process should understand that decisions are all made in a public form. In the final analysis, policies and programs that cannot be successfully explained to the public will probably not be funded.

(2) The traditional 8-to-15 year development cycle is too long and too costly. In essence, all disciplines—combat developer, material developer, logistician and tester must work closely as a team to reduce the risks inherent in any time-compressed acquisition strategy. Each program must be tailored to its own unique risks, and needs.

(3) The Army philosophy is that soldiers are our most important resource. The difference being the Army equips its men, where other Services man their equipment. That difference must be understood by our own people in the materiel acquisition process and they must be able to explain that difference to the public and Congress.

(4) This last point is not a lesson learned but an observation. The linking of weapon system requirements to national
security strategy may be the framework in which we, the Army, can better explain how all the various systems fit together to satisfy the Army mission.

The battle lines are drawn and the supporting forces are in position. The battle of the budget will play on every television and newspaper in this land. All the Army needs to do is tell our side of the story and let the people decide.
APPENDIX B

HISTORY OF THE BRADLEY FIGHTING VEHICLE
ARMY DEVELOPMENT

1957

- US Army Armor Policy Conference stated a requirement for an infantry carrier which would permit fighting while mounted.

1958

- Infantry School completed a study which recommended an infantry fighting vehicle that supported mounted and dismounted operations.
  - Firing ports
  - Antitank capability
  - Two automatic weapons - 20 mm cannon and 7.62 mm machine gun
  - Squad size of 5 plus driver
  - 6 to 8 Tons

- CONARC requested approval from Chief of R&D on Statement of Requirements, O&O Concept, and Qualitative Material Requirement on IFV.

- Chief, R&D disapproved because expected employment not clear.

1963

- FMC presented several concepts for armored infantry fighting vehicles to the German Army.

- Germany said it needed an IFV but would not start a coproduction program unless it was adopted by the US Army.

- JCS endorsed the need for an armored infantry fighting vehicle in NATO.

- Combat Developments Command study, Alternatives for a Post-1965 Infantry Carrier Program completed.
  - M113 incompatible with envisioned main battle tank.

B-1
Three alternatives examined: M113, substantially modified M113, and new armored carrier.

Must be more than a "battle taxi."

Protection from shell fragments (155mm), small arms fire, antipersonnel mines.

Air transportable.

Recommended development of new armored personnel carrier.

1964

US/FRG Mechanized Infantry Doctrine for the 1965-1975 Time Frame study was approved by DA. Recognized mounted infantry doctrine.

Six prototype vehicles (AIFV-65 or MICV-65) ordered. Vehicles were also referred to as the MX701.

Vehicles were too big, too slow, and too heavy.

1965

Contract awarded to Cornell Aeronautical Laboratory to conduct a parametric design/cost effectiveness study.

49 design concepts were examined.

Results were the Tentative Operational Characteristics for MICV-70.

Single element, full track vehicle preferred.

Aluminum armor better protection.

Turret better than pedestal-mounted main armament.

Stabilized main armament more effective.

12-man crew with 20 mm cannon most cost-effective.

Cornell Labs also commissioned to examine impact of putting TOW on MICV. Results inconclusive.

1967

Contract to FMC for two experimental carriers based on the M113. Designated the XM765.
Cornell Labs contracted to compare three vehicles: the XM765, a conceptual MICV and a conceptual MICV with reduced protection. Conceptual MICV was considered superior.

Army decided not to pursue the XM765 program.

FMC continued the development of the MX765 and it is now in service in the Dutch Army.

Cornell Labs contracted to conduct "Phase III" design study. CSA limited study to single hull, full tracked, diesel powered vehicles.

- 9-man crew size more effective in the attack.
- Ballistic protection produced the most significant change in vehicle protection and cost.
- 20 horsepower per ton was adequate for cross country speed.
- MICV with TOW alone cost more than the MICV with 25 mm and did not increase effectiveness in the attack.
- Conclusions were 12-man crew design mounting a 25mm cannon and offering protection against 14.5mm fire would be the least costly. Would weigh about 51,400 pounds.

1968

- Project Manager for the MICV Program was chartered.
- Qualitative Material Requirements (QMR) developed for the MICV and disapproved by VCSA.
  - Frontal protection against 23mm armor piercing ammunition.
  - Side and rear protection against 14.5mm.
  - Overhead protection against 155mm artillery fire.
  - Provide for a 10-man crew.
  - Mount a 25mm cannon and 7.62mm coax machine gun.
  - Swim.
  - Cruising range of 400 miles.

B-3
- Collective NBC protection.
- Be C5 air transportable.
- Implied in the CDC proposal was a two-vehicle approach. One that met the QMR for Europe and a less sophisticated one for low intensity conflicts.
- Mechanized Infantry Combat Vehicle Ad Hoc Study Group formed to study the MICV QMR (Casey Study). The study and new QMR recommended:
  - C141 transportable.
  - 12-man crew.
  - 20-30 mm gun.
  - 2-man turret.
  - 37,000 pounds.
- Improving the M113 would not satisfy the IFV requirement of keeping up with tanks.
- Firmly established the need for a single Infantry Fighting Vehicle.

1969
- Commander-in-Chief USAREUR expressed concerns about the protection levels of the MICV.
- MBT-70 came under scrutiny and criticism and so did its companion infantry fighting vehicle (MICV).
- Mechanized Infantry Combat Vehicle Alternatives Cost Effectiveness Study (MICV ACE) was directed.
  - The MICV meeting the QMR requirements (XM723) was considered superior; Austere MICV was second.
- PM started development of an austere MICV during preparation of MICV ACE.
  - Pedestal mounted 20 mm.
  - Smaller engine.
  - Weight 33,750 pounds.
1970
  o MICV ACE and Austere MICV concepts presented to a special cost-effectiveness in-process review.
  o Austere MICV deemed more cost-effective.
  o QMR was modified to reflect the Austere MICV measures.

1971
  o Material Needs (MN) document for the MICV approved.
  o MICV Development Concept Paper (DCP) presented at the Defense System Acquisition Review Council (DSARC).

1972
  o OSD approved DCP. OSD said proposed development schedule was too long.
  o Army issued a Request for Proposal (RFP) for MICV development.
  o FMC received the contract. Schedule called for a low rate initial production to begin in 1976 with the first operationally equipped unit occurring in 1978.

1973
  o Army started taking deliveries of the XM723 MICV prototype.

1974
  o Army stopped the development of the Armored Reconnaissance Scout Vehicle program and combined it with the MICV program.
  o Because of technical problems, PM realigned the MICV engineering development program.
  o GAO issued a report critical of the cost-effectiveness of the MICV and said the MICV AGE was outdated.
  o Because of continued concern over cost of the MICV and a less than impressive Bushmaster COEA, the Army directed a MICV Special Study Group be brought together.

1975
  o MICV Special Study Group report issued:
Confirmed the requirement of a fighting vehicle.
- Antitank capability for MICV desirable.
- Swim capability must be retained.
- Need for firing port weapons confirmed.
- Needed a turret-mounted long range cannon.
- Stabilized turret.
- Integral day-night weapons' sight.
- Dual feed capability for main armament.

The MICV still having problems with its transmission and the Bushmaster development was behind that of the MICV.

Hughes Helicopter given a 25-month contract to develop the 25mm chain gun. Shoot off competition scheduled for 1978 with first weapons scheduled for delivery in 1981.

1976

- A special general officer review of the MICV operational issues (Larkin Study):
  - Common chassis, turret, and upper hull for MICV be developed for the infantry and scout roles.
  - Include a TOW capability.
  - MICV be developed with a 2-man turret.
  - Mechanized infantry battalions be equipped with 4 MICV per platoon, 13 per company and 41 per battalion.

Finding of the Larking Study approved by Secretary of the Army, MICV program restructured.

1977

- VCSA approved the renaming of the vehicle to the Infantry Fighting Vehicle (XM2) and the Cavalry Fighting Vehicle (XM3)

- Phase II development contract given to FMC.
  - Continue development of a two-man turret.
  - Upgrade MICV to IFV configuration.
o IFV/CFV COEA directed as Phase II of the MICV Special Study Group effort.

o Congress directed a study of a follow-on vehicle to the IFV. The IFV Task Force was formed (Crizer Study).
   - Reconfirmed the requirement for an infantry fighting vehicle.
   - Design review of the IFV indicated it was capable of performing its assigned mission.
   - Conceptual follow-on vehicles with heavy armor were more effective but were offset by high investment costs, unacceptable delays in increased force readiness and medium to high technical risks.
   - Recommended continued development of the IFV/CFV.

o Army notified that all funding (procurement and R&D) for the IFV/CFV program had been deleted from the budget submit (22 Dec 1977).

1978

o OSD agreed to continue R&D on the IFV but directed a study of less costly alternatives.

o IFV/CFV Speical Study Group formed at Ft Leavenworth (Mahaffey Study).

o Congress restored funding for long lead items for the IFV/CFV program.

o IFV/CFV COEA completed:
   - IFV/CFV with TBAT II turret was the most operationally effective.
   - IFV equipped force was the only alternative which showed a possibility of mission success.

o Mahaffey Study complete:
   - Continue IFV/CFV development.
   - Do not develop M113 derivatives as future fighting vehicles.
   - Do not commit development funds to IFV derivatives as an ITV replacement at that time.
o Adding TOW on the IFV was a cost-effective means of adding antitank capabilities to the force structure.

o Two prototype turrets delivered to the Army. TOW and gun system firings began.

o First engineering developed vehicle delivered to the Army--Dec 1978.

o Contractor testing started.

1979

o By February, eight IFV/CFV pilot vehicles had been completed.

o Government testing began in July.

o Update COEA conducted.
  o Results of previous studies remain valid.
  o Threat improvements have not degraded effectiveness of IFV/CFV.
  o The IFV/CFV remains the most cost-effective alternative.

o ASARC III held on 20 December 1979:
  o IFV/CFV approved for production.
  o Production rate be increased to 90 vehicles per month as soon as possible.

1980

o DSARC III held on 22 January 1980:
  o IFV/CFV approved for production.
  o Production rate to be increased from 50 vehicles per month to 90 per month by 1985.
  o No FY 81 production funds would be released until a September Program review.

o September Program Review to report on:
  o Acceleration of the cost reduction program.
  o Reevaluation of the Army survivability test plan.
o Correct the deficiencies in the Integrated Sight Unit.

o Examine a program to develop a long rod penetrator ammunition.

o Initiate a high priority effort to execute a competition production program.

o September IFV program review held 16 October 1980.

o OSD released FY 81 funds by Memorandum on 30 October 1980.

o Vulnerability testing began - consisted of vaporifics and ballistics tests.

1981

o First vehicle off the production line - May 1981.

1983

o March - start of unit handoff.

o December - Initial operational capability (IOC) unit.

1984

o Additional vaporifics tests conducted.

1985

o March - Vulnerability testing against overmatching weapons began.

o May - M2A1/M3A1 production decision made.

o December - Phase I vulnerability test report submitted to Congress.
APPENDIX C

THE BRADLEY FIGHTING VEHICLE DEBATE

I. Preface

Individual survivability of the Army's Bradley Fighting Vehicle is the current "cause celebre" working the circuit of national defense professionals and pundits. The nexus of debate rests largely with the level of armor protection and hence the vulnerability of the Bradley and its crew in an unquestionably dangerous environment. This discussion, perhaps, is valuable in its own right in terms of laying grounds for enhanced protection. Unfortunately, it largely misses the point of survivability which should be measured less in terms of system survivability and more in terms of force survivability and battlefield success. The Bradley performs enormously significant roles as part of the combined arms force executing a maneuver doctrine that both enhances survivability of the force and provides a realistic opportunity to defeat an overwhelming echeloned enemy such as the Warsaw Pact forces. The Bradley brings to our force significantly enhanced firepower, mobility and employment options that contribute to force and system survivability, dimensions currently not entering the armor protection debate. No one wants to buy an expensive vehicle that does not perform the roles for which it was built. However, we must understand all the roles to be performed and fully understand the measures of success.

II. Doctrine

Defeat of an enemy force, superior in numbers and equipped with weapons of equivalent technology, must be accomplished through use of maneuver warfare. The essence of such warfare embraces the avoidance of major frontal engagements where enemy superior combat power prevails and initiation of friendly attacks along lines of least expectation and resistance where the enemy's combat power is emasculated and ours is substantially enhanced. At the lowest levels, these tactics are referred to as fire and movement, at higher levels as firepower and maneuver, and at the highest level as maneuver warfare.

To accomplish these indirect tactics, infantry heavy forces fix or at least control the movement of enemy first echelon forces while artillery, air and engineer units support them and freeze second echelon forces through fire interdiction and barrier operations. While the enemy's attention is on these fixing, interdiction and barrier actions, tank heavy units, accompanied by protecting infantry, attack his vulnerable flanks and rear before he can react. Such operations unhinge enemy tactical integrity and provide opportunities for attack deep in the enemy's rear by Division and Corps constituted operational reserves.
III. Roles and Missions

A more precise snapshot of the maneuver aspects of these combined arms operations displays the enemy's target acquisition and weapons systems, offensive formations, and defensive entrenchments facing the one direction and friendly attack emanating from a different direction, normally the flank or rear. Such attacks avoid the enemy's superior strength while concentrating friendly strength against his weaknesses. Flank and rear attacks quickly lead to destruction or paralysis of the enemy's command posts and his artillery, aviation, engineer and logistical support units. Without having taken on the enemy's superior combat force, friendly forces defeat him from within by de-synchronizing his command and control and depriving his combat forces of critical firepower, maneuver and logistical support.

As indicated, there are two maneuver force underpinnings that allow these tactics to succeed. First, the enemy's first echelon force movement must be fixed or at least controlled. Secondly, an agile maneuver force must be able to react more quickly than the enemy. The tank is clearly the preeminent weapons and mobility system for the maneuver force, and it has always performed its role well. The weapons of the infantry's M113 carrier and organic troops have neither the range nor lethality to perform the fixing function. Previously, tanks had to be used to execute this role and, thus, were deprived of the role that they do best—maneuver. When tanks were previously used to fix the enemy, our forces were deprived of adequate maneuver elements and were forced into attrition warfare. The enemy's superior numbers normally presented him victory. Tank-heavy forces are too precious to be used as the predominant fixing force.

With the Bradley Infantry Fighting Vehicle, the infantry now has the vehicle it needs to fix the enemy, freeing tank-heavy forces for maneuver and, thus, providing the Army with the opportunity to conduct maneuver warfare. Not only can the Bradley's TOW missiles destroy enemy tanks, its 25-mm Bushmaster can destroy or suppress its Soviet counterpart, the BMP, and its coaxial machinegun can destroy or suppress dismounted infantry. The range of these Bradley weapons systems also allows the infantry to occupy long range, dispersed, mutually supporting positions, arrayed in depth, on flanks along likely avenues of approach throughout the battle area. The positions deny the enemy complete use of his combat power by avoiding the directional orientation of his target acquisition equipment and weapons systems and bring the majority of our forces' combat power to bear on his weaknesses, the sides of his tanks and the flanks of his formations.

There are other premiums. The range of these weapons systems allows an extension of the umbilical cord between the infantry vehicles and the dismount elements. Previously, the location of both the vehicles and dismount element was a compromise between
positions that would optimize each element. The positions neither completely favored the dismount element nor the vehicles. Now with the longer range weapons, vehicle dash speed, and improved armament and optics, both the vehicles and dismounted element can be placed in optimized positions. Furthermore, such positional flexibility allows dismounted infantry the opportunity for infiltration and ambush attacks and reverse slope and checkerboard defenses—"misdirection" operations implicit in maneuver warfare.

Once the enemy force's movement is either fixed or controlled, a tank-heavy force can quickly maneuver into its flanks and rear. The Bradley infantry also has important roles with the tanks during this maneuver. It performs reconnaissance and counter-reconnaissance, clears restricted terrain, protects at night and breaches obstacles. Further, it mops up by-passed enemy, seizes key terrain to maintain the momentum of the tank attack and, importantly, destroys and suppresses enemy anti-tank weapons. Tanks alone are unable to perform these roles. The M113 armored personnel carrier's lack of cross-country speed and agility prevents it from accompanying the tanks and its lack of mounted firepower to destroy enemy tanks and fighting vehicles compromises the maneuver force. Bradley infantry can effectively fight tanks, BMPs, and other armored vehicles, thus allowing brigade and battalion commanders to mass tanks for maneuver. As can be seen, Bradley infantry is as critical to the maneuver element as it is to the fixing force.

IV. Offensive Tactics

Against light resistance from an enemy force, the Bradley can attack in the same combat formation with the tank. As in all conditions of employment (METT-t) dictate the option. Regardless of offensive mission (move, attack, exploit, pursue), neither tanks nor Bradleys can move with impunity against an alerted, entrenched enemy force equipped with antitank weapons and supporting fires. Under these conditions, tanks and Bradleys either bypass or use trafficable, covered and concealed routes to conduct flank attacks. Even here fire support is critical. As indicated earlier, these flank attacks compromise the directional orientation of the opposing force and its target acquisition equipment and weapons systems and disrupt the tactical integrity of enemy force locations, entrenchments and plans for fire, maneuver, command, control and logistical support.

If such routes are not available and the enemy resistance is significant, tanks and Bradleys assume overwatch positions while dismounted infantrymen from the Bradleys use covered and concealed routes to close with the enemy to provide close overwatch fires (medium resistance) or a final assault breach to allow tanks to fire and maneuver forward (heavy resistance). Bradleys remain in long overwatch until the tank firepower, mobility and shock effect disrupt the enemy's tactical formations or positions and achieve C-3
fire superiority. Once this momentum is gained, Bradleys fire and maneuver forward, continuing to destroy or suppress guided missiles and personnel targets, stripping away fighting vehicles and other thin-skinned armor, and assisting the tanks in mopping up the defeated enemy. During this last phase of the operation, the dismounted elements could participate mounted or dismounted in the mopping up operation. Note when heavy resistance occurs, both tanks and Bradleys are vulnerable and must initially conduct stand-off tactics. Based on historical references and analysis of field and computer wargames, this condition will occur less than 10 percent of the time. More fluid conditions which accommodate more aggressive employment of tanks and Bradleys normally prevail.

V. Defensive Tactics

Defensive tactics required by AirLand Battle doctrine exploit the Bradleys' long range fires and dismounted infantry to exploit indirect approaches to repel enemy attacks. As tanks are pulled off front lines to give depth to defenses and provide formidable counterattack forces, the Bradley, its dismounted Infantrymen, in conjunction with Artillery, Air Force, Army Air, Engineers and some tanks, work as a team to fix or substantially control movement of the enemy. Once this is accomplished, tank heavy combined arms forces are unstressed for attacks against the enemy's vulnerable flanks and rear. The fixing action is frequently referred to as an anvil upon which the tank hammer strikes. The Bradley force performs the fixing function with ease; this was not the case with M113 armored personnel carrier units. Frequently, these forces could do little more than delay the enemy's first echelon units, and this was a major problem. A rearward moving anvil (Infantry fixing force) jeopardizes the hammer's work (Armor flank attack).

As already implied, Bradleys' important antitank, anti-fighting vehicle and antipersonnel firing systems and survivability are enhanced through movement, cover and concealment, dispersion, mutual support, flank attack, stand off, and employment in depth. The Bradley's long range fires allow dismounted Infantry to move to distant flank positions in forested or rock strewn high ground, providing observation and fields of fire over friendly obstacles and key enemy avenues of approach. They further accommodate rear slope, checkerboard and elastic in-depth force oriented defenses either in front or to the rear of the Bradley locations. Although these defensive operations are designed to fix or control movement of enemy, this is accomplished in an in-depth, non-linear manner replete with reconnaissance in force, spoiling attacks, local counterattacks, and movements to alternate and supplemental positions. Tanks frequently accompany the Bradleys during the active aspects of the defense.
VI. Implications For Design

Firepower, mobility, and armor protection requirements dominate the design of Armored Combat Vehicles. Ideally, final design will balance these three parameters consistent with the doctrine and, hence, the roles and missiles of the vehicle. Balance is necessary, because in design enhancement of one dimension often requires a corresponding degradation in another. Additional armor will degrade mobility, while additional mobility may require enhanced fire control capabilities (shooting on the move). Design of infantry fighting vehicles is further complicated by troop space requirements that invariably conflict with armor protection and firepower considerations—weight and turret space conflicts. Given this, it is imperative that the vehicle's doctrinal and tactical role drive design decisions.

As discussed, the Bradley's roles and missions, for which it was designed, demanded flexible firepower and exceptional mobility and agility. The Bradley is the most mobile IFV in the world today, has the best day and night fire control system, and, probably, the best cannon. Design trade-offs to achieve these remarkable capabilities include high silhouette and relatively light armor protection, albeit as robust as that of any other fighting vehicle in the world today. The high silhouette resulted from the enhanced suspension system and the turret and fire control system that allow the vehicle to shoot on the move at 40 MPH over rough terrain, both day and night. Adding armor protection approaching that of the tank would either significantly reduce mobility, eliminate troop carrying space, or prevent use of a turret. Such firepower, mobility or troop strength degradations simply are incompatible with current maneuver doctrine.

On the other hand, the armor on the Bradley protects the crew from indirect fire shrapnel, and up to 14.5 mm direct fire weapons. System and crew vulnerability to larger direct fire systems is clearly lessened by the firepower and mobility enhancements of the system. Such enhancements allow better dispersion, mutual support, and standoff from threatening enemy systems. The capability to accept a much larger displacement from dismounted elements and tanks, because of Bradley agility, also allows a much more effective utilization of terrain, the ultimate arbiter of successful survivability in land warfare.

The wisdom of the Bradley design has been validated in 19 high resolution wargames. Fighting as a member of a combined arms task force against 3-1 odds (motorized regiment) in a full range of mission and terrain conditions replicating the requirements of our doctrine, the Bradley has increased total force effectiveness up to 100 percent over that of an M113 force and reduced total task force personnel casualties by almost 20 percent. The Bradley's relative contribution to the combined arms
fight was over 200 percent greater than that of the M113 in all cases. Bradley firepower and mobility working synergistically with the remainder of the combined arms team in execution of a doctrine for which it was designed, allows that force to win. Without it, the force loses.

VII. Survivability

Bradleys can be and assuredly will be destroyed in combat as will some soldiers riding within--as will some tanks and other systems and soldiers. All our systems entering the force now, though, are designed to support an aggressive doctrine that allows better than survival for the force; it offers operational victory. The doctrine capitalizes on tactics and techniques that are indirect in their very nature and are captured in the design dimensions of the fighting and support systems of the modernizing force. One likely cannot build a big enough hole and thick enough steel box within which Infantry soldiers can move about the battlefield and stand a likely chance to survive given an overmatching ordnance penetration of the box. But survivability cannot be realistically measured by armor protection alone. The F-15 Eagle, sitting pathetically in isolation at the end of the runway, is hopelessly vulnerable. Operating in its environment and using its speed, agility, firepower in conjunction with its tactics, however, it is not only survivable, it is operationally unbeatable. The same is true of the Bradley.

VIII. Product Improvements

When the Soviets introduced an Infantry Fighting Vehicle (BMP) into its land forces, the price of war-fighting went up. By everyone's estimation, civilian or military, allied or adversary, the BMP allowed the Warsaw Pact forces to enjoy a marked superiority in force effectiveness and US deterrence was put at risk. Initial risk acceptance, keyed to the US research of leap ahead fighting vehicle technology, ultimately bordered on foolhardiness as the burgeoning BMP fleet geometrically increased Soviet force effectiveness advantages. A response was critically required.

Enter the AirLand Battle doctrine activities and full scale development of the Abrams tank, Bradley Fighting Vehicle and supporting systems. High technology measure-countermeasure actualities coupled with permutations and combinations of enemy and friendly doctrine, organization and technology innovations, allowed development of the Bradley. The luxury of waiting until all technology cards were face up was non-existent. There were no perfect scientific solutions for the vehicle, just the best solutions at the time realities forced a decision.

The Bradley is not a flawless fighting vehicle; it does protect its troops as well as, if not better than, any other in the world today and substantially reduces casualties of the entire combined
arms team. Of enormous importance, it provides the edge in the combined arms execution of a doctrine that, by field and computer test, wins fire fights and the battle. That is a major and most welcome change. It infuses credibility into deterrence again and represents the raison d'être and ultimate justification for complete fielding of the system.

Did the best solution produce a vehicle that cannot nor should not be improved? No, it didn't. Ten years of technological development, intelligence collection, and field and laboratory tests give rise to significant enhancements that can and should be made to the Bradley. Product improvements will probably commence within the next six months. But such draconian measures as taking the turret off of the Bradley, replacing Bradley with a turret-less tank, or mixing Bradleys with armored personnel carriers and improved TOW missile vehicles (ITV's) would be ill-advised. Training, maintenance, command and control, force structure, and fiscal constraints simply militate against them. This is not to say that the thinking that precipitated the demands for such improvements is wrong. It's not. It, in fact, focuses on the weaknesses of a vehicle developed from the best, albeit imperfect, solutions of the day. The good news is that promising technology is surfacing that should accommodate many of these ideas in the not too distant future. Service schools, materiel developers and industry are hard at work looking at these now. In the meantime, though, we must keep the Bradley. The current congressional and media debate cannot end with merely zeroing out funding for the vehicle. That is no realistic alternative. It would undermine deterrence, cost the lives of many soldiers and could well be the difference between winning and losing in the event of a major conflict. This is not a trivial issue; the stakes are high.
BIBLIOGRAPHY

Books


Documents


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