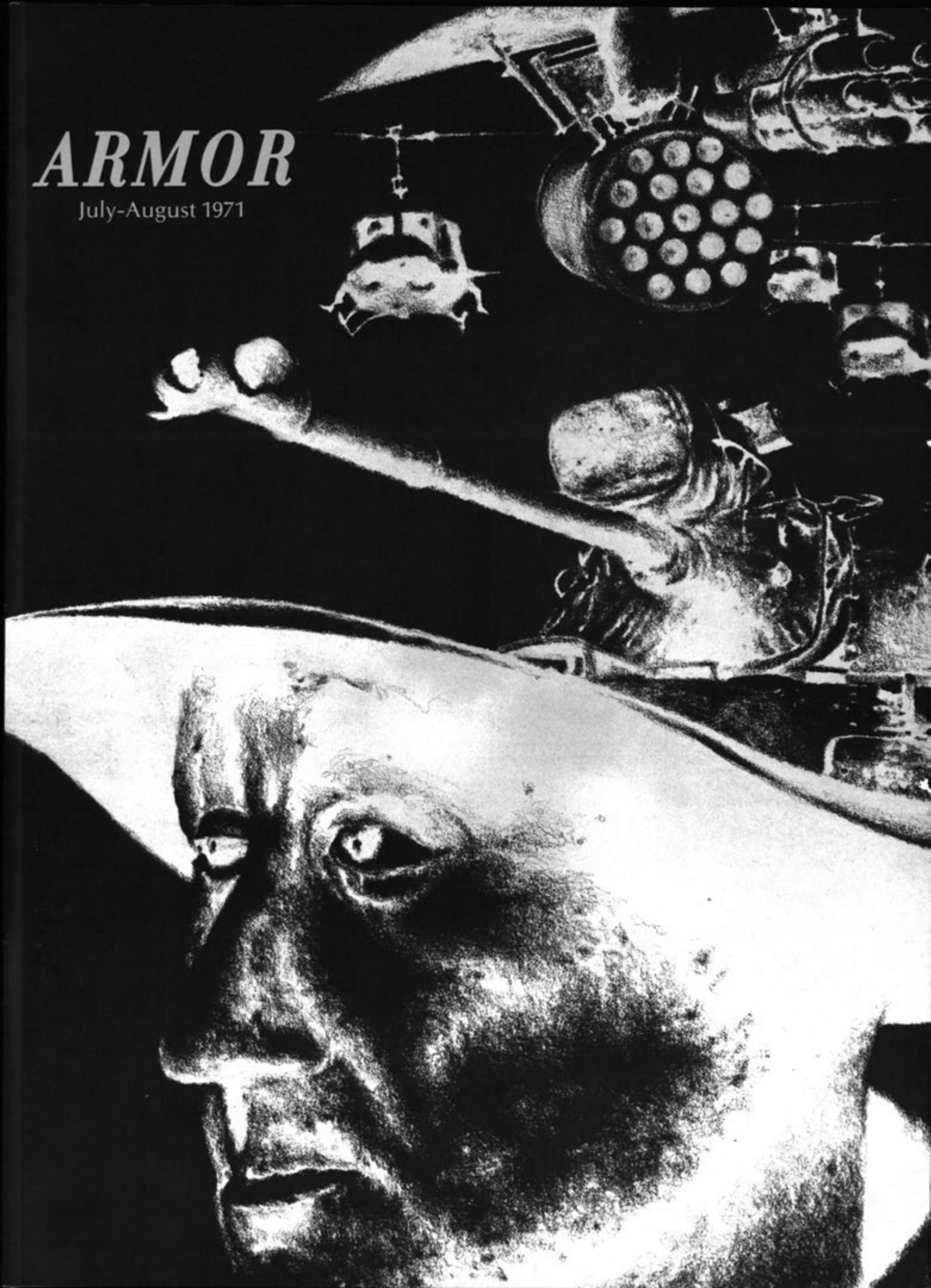


ARMOR

July-August 1971



THE UNITED STATES ARMOR ASSOCIATION

Established 1885 as The United States Cavalry Association

"To disseminate knowledge of the military arts and sciences, with special attention to mobility in ground warfare; to promote the professional improvement of its members; and to preserve and foster the spirit, the traditions and the solidarity of Armor in the Army of the United States"—Constitution.

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ARMOR

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LETTERS TO THE EDITOR



Tank vs Combat in Laos

Dear Sir:

We are hoping to get a definitive article to *ARMOR* on the tank fight between ARVN and NVA armor units in Laos during the period 19 February to 3 March.

Herewith are some preliminary details gathered in conversation with LTC Nguyen Xuan Dung, commander of the ARVN 17th Armored Cavalry Regiment (not to be confused with LTC Nguyen Duc Dung commander of the ARVN 3d Armored Cavalry Regiment and author of "ARVN Armor in the Battle for Ben Het" which was published in the November-December 1970 *ARMOR*).

All engagements took place between Fire Base Alvi (at the junction of Routes 9 and 92 about 16 kilometers inside Laos) and Hill 31 (9 kilometers due north of Alvi). The ARVN unit was TF 17 (HQ and 2d and 3d Troops plus the 3d Troop, 4th ACR and one platoon of the 1/11 Tank Troop). Enemy armor appeared to be a battalion or so of mixed *PT76s* and *T54/100s*.

The terrain was very rough and thickly wooded with the enemy enjoying the use of numerous camouflaged trails constructed by him and showing on neither maps nor photos. Those which did show were heavily mined and infested with RPG-toting tank killer teams. As a result TF 17 was forced to bust jungle in order to move.

The crew of the first enemy tank encountered, a *PT76*, abandoned their tank and fled leaving even their pistols aboard. The NVA commander, in reaction to this shameful performance, apparently caused the crews of his remaining tanks to be locked in since not a single enemy crewman was seen thereafter coming out of a hatch, even from those tanks which were afire.

The ARVN ACAVs, for understandable reasons, busied themselves with the enemy infantry. Thus the entire burden of tank

fighting fell to the five *M41s* of 1/11. When the dust had settled, seven *T54s* and 15 *PT76s* had gone up in flames having been bested by the five *M41s*. At the same time, about twice as many enemy tanks were destroyed from the air.

The years of combat experience of the ARVN tankers caused them to function smoothly and fire accurately under pressure. On the other hand the enemy tankers did not appear to be at all well trained and they certainly lacked extensive combat experience.

The *PT76* was found to be able to be destroyed by standard 76mm HE.

The *T54* is a sitting duck for HEAT delivered against the front or well forward on a flank shot. Some Russian tank designer must have been remanded to an ice floe off the coast of Siberia for putting the fuel tank under the front slope in such a way that every HEAT round hit results in a bonfire. The Israelis discovered the same thing in 1967 as was duly recorded on the pages of *ARMOR* some time ago.

RAYMOND R. BATTREALL, JR.
Colonel, Armor
Senior Advisor
ACAD, USMACV
APO San Francisco

How Would You Do It?

Dear Sir:

I take exception to Mr. Bashaw's approach to the solution of the "How Would You Do It" article in the January-February 1971 issue of *ARMOR* Magazine. It struck me as an academic solution involving numerous estimated factors and failing to take into account the practical realities of the situation. I cannot disagree with his formulas or calculation. However, I do not believe the problem, as such, required a page of arithmetic only to arrive at the conclusion that another tank should be used as an anchor. In his last paragraph, Mr. Bashaw provided the solution to the entire problem in one sentence. He simply stated that, if the original anchor (or anchors) was not sufficient, additional anchors should be used. It did not require a page of calculations to conclude that a second tank could be used thereby negating the reason for using mathematics in the first place.

The "How Would You Do It" series has always appealed to me because of its practical approach to common problems. You have, in my opinion, talked the tanker's language and have provided solutions that he can really use. I hope that you will continue to present practical, needed ideas which will benefit the young, inexperienced leader as well as those of us who have had exposure to the everyday and combat problems of a small unit. I would stress training innovations, solutions for day-to-day maintenance prob-

lems, and tactical problem solutions. Situations and solutions that are merely quotations from Army manuals are not the type of information I look to this department to present.

LEMONS L. FULMER, JR.
Captain, Armor
Goeppingen, Germany

What's Happened To . . . ?

Dear Sir:

It appears that there was an inadvertent clerical aggregation of two key sentences in my piece, "Some Thoughts On What's Happened to Mechanized Infantry," which appeared in the March-April 1971 issue of *ARMOR*.

The sentence (in the 4th paragraph) reads: "The present APC carries an infantry cargo which is mentally geared and trained to fight mounted and, situation demanding, dismount a portion of the crew to accomplish the infantry functions." This is incorrect and inconsistent in its context.

It should have read as follows: "The present APC carries an infantry cargo which is mentally geared and trained for dismounted combat as its primary function. The MICV should carry a crew of armored infantrymen which is mentally geared and trained to fight mounted and, situation demanding, dismount a portion of the crew to accomplish infantry functions."

WILLIAM E. FLORENCE
Major, Infantry

Hq CENTAG 93
APO New York 09099

We goofed. That's what's happened. *ARMOR* is pleased to set the record straight. THE EDITOR.

Range 80. Step One?

Dear Sir:

My battalion, the Iron Dukes, is presently in the midst of tank gunnery at Grafenwohr and we should be on Range 80 in about two weeks. The arrival of the March-April issue was most timely with respect to Colonel Gannon's article.

Unfortunately, I am not in full agreement with Colonel Gannon's article. Although the article states that Range 80 is a measure of crew proficiency and combat readiness, I feel that it implies that it is in large part the measure of USAEUR armor combat readiness. It actually shows nothing more than crew proficiency.

I feel that Range 80 should be Step One. Tactical training at Hohenfels should be Step Two. Step Three should be a platoon live fire battle exercise, with one pure armor phase, one run with infantry attached, and a night exercise employing and emphasizing the use of range cards. I wonder how many Armor lieutenants and captains could now give an adequate platoon fire command. Armor is nothing if not a team, and I feel that it should be trained and tested as such.

Some of the other articles which treated German Armor were also very pertinent. We are very lucky in having with us an officer and 19 enlisted men from our sister unit of the Bundeswehr, Panzer Battalion 64, and three very beautiful *Leopards*. The "panzers" are assigned one per company, and will hopefully go down Range 80 with our line companies, fully integrated into our battalion gunnery competition.

At the completion of gunnery I will write you again, and let you know how we did. I believe it is of significant interest since it will be the first time *Leopards* have trained with an American tank battalion at Grafenwohr, and the first time any have gone down Table VIII on Range 80.

RICHARD M. HEGGS
CPT, Armor

3d Battalion, 32d Armor
3d Armor Division
APO NY 09074

Missile or Gun

Dear Sir:

Mr. Ogorkiewicz' article in the January-February *ARMOR*, "An Advanced Fire Control System," as usual, is interesting, informative and full of food for thought.

The guided missile as applied to the *M551*, *M60A1E2* and *MBT 70/XM803* is not, as Mr. Ogorkiewicz suggests, "... an alternative to the tank gun..." It is intended, rather, to provide a complementary capability to the tank gun. The *Shillelagh* missile, used on these weapons systems, is fired from a gun which also fires other projectiles. The *Shillelagh* was, in fact, developed to provide a fully effective anti-armor capability to an armored fighting vehicle, the *Sheridan*, which was to be much too small to carry and fire an equally effective kinetic energy round. The performance of the missile was so impressive, I believe, that its use by other, larger, tank-type vehicles was a logical step forward. The *M551 Sheridan* has available a full selection of conventional maingun ammunition which includes, in addition to the HEAT missile, beehive, smoke, multi-purpose HEAT and the usual training rounds. I believe that in addition to these the *XM803/MBT* will also have an APDS or APFSDS round available.

The lower velocity rounds are, as Mr. Ogorkiewicz notes, the ones which benefit most from the advanced fire control systems such as the *Cobelda* system he describes so well. This fact has been well recognized here as well as in Europe. The Hughes laser rangefinder used in *Cobelda* was, I believe, originally developed in connection with the US Army's Frankford Arsenal "Full Solution Fire Control System" which dates from the mid 1960s. This system, which had potential for incorporation in the *M551* and other weapons systems, made all of the interior and

exterior ballistic corrections of the *Cobelda* system.

Although I hate to assume the role of "Devil's Advocate" in support of missile armament, I must make an additional comment or two: I must agree with the author that these sophisticated fire control systems can provide the gun with a hit probability equal to that of the guided missile—right up to the time that the projectile leaves the muzzle! No matter how well aimed the gun has been, unpredicted target motion after shot ejection will probably result in a miss. The guided missile will, on the other hand, follow the target despite its attempt at evasion during the missile's time of flight.

It should also be noted that a malfunctioning missile control system does not render a missile/gun-armed tank weaponless. The gun and conventional ammunition carried can be employed using whatever optical devices remain functional—just as in the case of the *Cobelda*-equipped *Leopard* or *M47*.

I must also, of course, acknowledge that the foregoing is not the case with the MBT concept I offered (*ARMOR*, Nov-Dec 1970) which had no major caliber gun fitted.

In summary I must agree with Mr. Ogorkiewicz that these advanced fire control systems merit high priority development. Although I can't agree that the gun is, of itself, the most effective type of tank armament, it is a very important weapon system component and should have available all of the fire control sophistication it can utilize.

NATHAN N. SHIOVITZ
Santa Ana, California

Professional Reading

Dear Sir:

If I had a bit more time I would write a somewhat more detailed note. However short, this will suffice to let you know that I enjoy and profit from *ARMOR* greatly. I could hardly do without it. My check for a three-year renewal is inclosed.

In a recent editorial you compared circulation figures for *ARMOR* and *INFANTRY*. It would be interesting to know how many people subscribe to both.

Just how professional is professional? I like to be thought of as a professional. I subscribe to both. I would not wish to vote on which I enjoy most.

BRUCE R. BEHOSE
1LT, USMC

FPO SF 96621

One mark of a member of any profession is that he takes maximum advantage of available professional literature. We firmly believe that Armor leaders should read INFANTRY and vice versa. Like our professional Marine correspondent, we demur from making any comparative judgments.
THE EDITOR.

Command—A Specialty?

Dear Sir:

Captain Hickman's article on command ("Short, Over, Lost or Target" *ARMOR* Jan-Feb 71) was well received here in Armor Branch. It indicates an excellent appreciation of one of our many problems in meeting the challenges of today's rapidly changing Army.

There are however a number of considerations involved in Captain Hickman's proposal for command as a specialist career field. I suggest we consider, for example: Would not the specialist, staff officer, or instructor be even more qualified to meet his tasks if he has had command? Will such a program hamper either limited or full mobilization? Will there be enough ready commanders to meet our needs? And who is standing in the wings to assume command vacancies resulting from battle casualties, promotion, administrative losses or reliefs? At what point does the officer again become a generalist, if ever? Does a brigade or regimental commander continuously move in and out of command and troop staff assignments until retirement? How will we accommodate the new command specialist as he gains in rank?

While I have no supporting facts, is it really true that a generalist makes a poorer commander than a troop specialist? We must find answers to these questions as we progressively move toward better commanders and staff officers at all echelons.

One of our oldest complaints has been that "We" the users have too little voice in research, development, design and human engineering. I cite the continuing controversy over the sustainability of a three-man main battle tank and missiles vs the gun as tank main armament.

We believe our new 18-month command stabilization tour (in the sustaining base) provides a step in the right direction, a step that ties in well with our Armor Branch command order of merit list (OML), wherein we identify potential or proven commanders for these important positions. Perhaps unknown to many, branch only recommends battalion/squadron level officers to the field commanders. They make the ultimate decision about who commands their units.

I believe Captain Hickman has the range. However, there are still some obstacles in the way before we can say "Target—Repeat Range—Fire." The round is certainly "On-the-way" and is "hot" and stimulating—Thanks.

JAMES H. LEACH
Colonel, Armor
Chief, Armor Branch

Washington, D.C.



COMBINED ARMS BATTALION TRAINING EFFECTIVENESS

By Captain Patrick J. Donaldson



ARMOR OFFICER ADVANCED COURSE 1-71

Are our small unit leaders prepared to conduct effective combined arms warfare? Today the Army is faced with dwindling military budgets and consequent decreasing training funds. Training areas that have sufficient maneuver room for battalions are at a premium, both in the United States and overseas. In Europe, these training areas are scheduled months in advance, and only minimum time is allocated to each maneuver battalion. The rapid turnover of company grade officers in Armor and Infantry units also acts as an obstacle to effective combined arms training. It is not uncommon for a battalion to undergo a complete change in company commanders from one annual army training test to the next. Thus continuous training is necessary to maintain unit proficiency in the employment of tank-infantry teams.

An exchange program of company grade officers between Armor and Infantry battalions could greatly enhance a unit's training program without

increased expenditures in money and equipment. The experience I gained in Europe as a tank company commander attached to a mechanized Infantry battalion during an Army training test demonstrates the need for this type of program.

I reported to the Infantry battalion commander the evening before the test, with no prior experience in working with an Infantry unit. I learned that the task organization would involve placing two of my tank platoons under the control of two mechanized infantry companies; I would gain two infantry platoons. During the next two-and-one-half days, through an attack, delay and night attack, I relied on the advice of an Infantry platoon leader in employing the Infantry platoons. Although I was familiar with the doctrine of Infantry employment, I lacked that knowledge and understanding which results from actual experience. I learned quickly that a deployed Infantry platoon cannot react with the speed of a tank platoon.

As the test concluded, I learned that my platoon leaders who were attached to the Infantry companies encountered problems similar to my own. In talking with the Infantry company commanders, I learned that they had never worked with an Armor unit before, and that they felt they had learned a great deal. We all agreed that the exercise provided invaluable training.

As a tank company commander in Germany, I worked with the Infantry only once a year, and then only for a few short days in the field. This is clearly not enough training time to develop and maintain proficiency in commanding combined arms teams. A year later, I found myself in Vietnam, assigned as a straight leg Infantry company commander, trying to recall everything I had learned about Infantry tactics.

I believe that an exchange program should be divided into two phases, garrison training and field training. The garrison training phase would concentrate on teaching platoon leaders and company commanders the operational and training problems of their sister unit. Armor platoon leaders would attend training classes given to the Infantry platoons on a wide variety of subjects, ranging from maintenance to mechanized Infantry squad proficiency testing. Similarly, Infantry platoon leaders would attend classes given to tank platoons.

Platoon leaders and company commanders from Armor and Infantry battalions would form groups to discuss the tactics and logistical problems of combined operations. These discussion groups need not meet in formal classroom situations. Informal discussions on particular topics would be more beneficial. The men could meet periodically to discuss a specific topic, such as the tank heavy team in the coordinated attack. During each meeting, a different topic would be covered. The discussions would be geared to basic problems of coordination and leadership at platoon and company levels. Once a basic understanding of tactics and procedure is gained, platoon leaders and company commanders from one branch would periodically accompany their counterparts through a day of training. By observing small unit training, officers would gain an appreciation of the capabilities of the sister unit and the techniques used in leading it.

Phase two of the exchange program would involve the tactical field training of the maneuver battalions. Because of limited time and training facilities, Armor and mechanized Infantry battalion commanders traditionally have guarded the time when they can take their units to the field to train them in a realistic

fashion. This training period is an excellent opportunity to allow unit leaders to gain valuable experience in the employment of tank or mechanized Infantry units, by accompanying their counterparts on battalion training maneuvers.

Whenever possible, units should train as mixed tank-infantry teams in the field, to give unit commanders experience in employing combined arms teams in a realistic environment. The logistical aspects of the training should not be overlooked. Unit supply officers must be familiar with the attached unit's fuel, ammunition and mess requirements, as well as additional maintenance requirements.

There is also a need for an advanced exchange program for lieutenant colonels in battalion command positions. This would be a highly competitive program operated in conjunction with Department of the Army's policy of repetitive command tours for selected lieutenant colonels. Under this concept, selected officers would have the opportunity to command both Armor and Infantry battalions, preparing them for brigade command and eventually a division command.

The success of the Army in any future conflict will depend in part on the tactical employment of combined arms teams of Armor and Infantry. Cross training Armor and Infantry officers now will ensure that the Army has the best possible combined arms leaders.



CAPTAIN PATRICK J. DONALDSON, Armor, attended Ohio State University. He was graduated from the Armor Officer Candidate School in 1967 and was then assigned to the 3d Battalion, 64th Armor, in Germany. There he served as a platoon leader, battalion maintenance officer and tank company commander. In 1969, he was stationed with the 2d Battalion, 27th Infantry, in Vietnam, where he served as a company commander and battalion adjutant. In 1970, he returned to the United States and served as assistant secretary to the general staff at Fort Knox. He was graduated from the Armor Officer Advanced Course 1-71 in May.

TOO
NICE
A
GUY...



ARMOR OFFICER ADVANCED COURSE I-71



TO BE A CAPTAIN?

The Fort Knox evening was cold. My wife and I decided to spend the evening bowling. We casually entered the bowling alley and placed our names on the waiting list. The lanes are usually crowded on Sunday nights, and as we sat at a table near the snack bar, a young soldier approached us. Beer in one hand, hamburger in the other—appearing just a bit “under the weather,” he asked if he could sit down. A conversation soon started between us.

At first there was a question of rank and how long I had been in the Army. I told him I was a captain and had been in the service nearly four years. I fully expected to be called a “lifer,” but that term never was tossed my way. I learned that this young soldier was in his seventh week of basic training, and his initial impressions of the Army were not too great. I assured him that things would get better with time. As far as he was concerned, life couldn’t get any worse! Our talk turned to my experiences in Vietnam, then to Europe. What was Germany like? We talked about some of things this young soldier could expect in the future.

Soon it was our turn to bowl. As my wife and I were leaving the table the young man said, “Sir, I just can’t believe you’re a captain.” I had to produce my ID card before he was convinced.

“What do you say to that?” I asked.

“You’re too nice a guy to be a captain!” he replied.

Later that evening as I reflected on how badly my wife had beaten me at the bowling alley, my thoughts turned to that young soldier and what he had said. Obviously that had been his first informal conversation with a captain. Apparently he was a little shocked that officers were capable of being people too! Maybe it was the first time an officer had taken any interest in what was happening to him. I immediately recalled what Lieutenant General John Tolson had said at a recent Advanced Course graduation. “The challenge for today’s officers is mastering the art of communicating with the young soldier.”

How true that is.

For years, terms like “professionalism” and “leadership” have been important in the Army’s vocabulary, but what our problems boil down to is “how to talk with the soldier.” We have many

By Captain Charles F. Moler

problems in our Army today—racial problems, drugs, alcoholism and family problems to name only a few. We as commanders cannot begin to solve these problems until we learn to talk with our soldiers.

Today's enlisted man no longer accepts the commander's word as gospel. He demands to know why.

The unit commander is caught between a rock and a hard place. On the one hand pressure from higher headquarters demands excellence in unit performance, while on the other hand the individual soldier demands to know the why of your actions and orders. The pressures from higher will not change. They cannot change if the Army is to remain combat ready. But we can do something about the individuals' demands by simply being prepared to explain meaningfully the purpose and goals of our actions and orders and taking an interest in the individual soldier and his problems. The commander's success in today's Army and undoubtedly in any type of future modern Volunteer Army will hinge on his ability to talk effectively to his troops.

Nobody has written a book that will give the commander a recipe for talking with the young soldier. Talking with people comes easier for some than for others. But I believe there are certain basics that will assist any commander in overcoming the communication gap.

First, I believe it is essential that the commander know as much about his men as possible. If the commander is well acquainted with the previous civilian and military experience, likes and dislikes, and general background of his troops, he is better prepared to talk with the individual soldier either formally or informally. As a company commander, I found it beneficial to maintain an informal file on my men. I kept track of such things as family, hometown, hobbies, education and previous assignments. The file was very valuable to me in preparing for reenlistment counseling sessions and in understanding the problems of my men. A commander's file may seem somewhat redundant, as volumes of personal data are maintained at company level, but no file is as accessible or as understandable as your own.

Hand in hand with knowing the background of your men is identifying the key people in your organization. This group should not be limited to the officer and NCO ranks alone. Every group has its leaders regardless of rank. The commander has to recognize these and talk with them individually and as a group. This group becomes the commander's source of information about his unit because they

know what is going on behind the scenes, good and bad. Regular sessions with them will be very beneficial in preparing the commander for talks with individuals or the whole unit.

Lastly, I feel the commander has to prepare himself whenever he talks with his unit. In this light command information programs and the open door policy take on new meanings. The commander must keep current on what's happening. He must be knowledgeable about drugs, racial problems, activist groups and a host of other things. If the commander does this he is then ready to talk about the problems affecting the individuals in his unit.

I found that teaching a certain portion of the company classes really helped me establish a rapport with my men and increased my ability to talk with them. Command information programs in many units are a farce. I believe that the commander—as a minimum—must adequately prepare for and teach these classes. This is the one opportunity he has to discuss problems with his unit as a whole.

Next, the commander must find time in his schedule for individual counseling. The open door policy can play role here. Be certain that your troops understand what your policy is and then do not deviate from it. Plan time for informal talks with troops in the barracks, in the motor pool, in the snack bar; the commander has to make the initial effort. Taking an honest interest in your troops will pay dividends in your units' performance. It never hurts to be "too nice a guy to be a captain."



CAPTAIN CHARLES F. MOLER, Armor, was commissioned in 1967 from Western Maryland College. He graduated from the Armor Officer Basic Course and the Ranger Course in 1968. He was then assigned to the 5th Battalion, 68th Armor in Germany. There he served as a tank platoon leader, scout platoon leader and company commander. He then joined the 1st Battalion, 69th Armor in Vietnam, where he served as S3 air and company commander.



JOHN GROTHE, USMC COMBAT ART

THE MISSION

"This is where you all will be goin' in, Seven-four," said Major Steiner while pointing his cigar stub at an area on the mapboard that appeared to cover about 30 square kilometers. "Charlie Company made contact with an NVA force estimated at battalion size at this point yesterday at about 1100 hours." The cigar moved again covering the same area give or take five kilometers. "It will be the mission of your recon platoon to regain contact with the enemy force and to . . ."

After sweeping the battlefield, the Bravo Company commander reported that judging from the expended AK-47 cartridges that the force which annihilated the recon platoon was of battalion strength.

"... will be on the command push. Any questions, Seven-four?"

"No sir."

"Fine. Go get 'em tiger!" Major Steiner turned back to his mapboard with cigar in mouth and grease pencil in hand. "Joe! Joe! Bring me some more of that mess hall coffee. Where is that rascal anyway? Never around when you need him."

By Captain David F. Barth



ARMOR OFFICER ADVANCED COURSE I-71

Seven-four stepped from the operations bunker into the mud of the firebase, dodging just in time to prevent being run over by the major's driver who leaped past him with a rifle in one hand and a steaming canteen cup in the other. The young lieutenant's problem solving process began as he moved toward his platoon's sector of the perimeter. "Sergeant Mumford!"

"Over here, sir." The platoon sergeant emerged from the makeshift shower and stood naked and soapy before his leader.

"Get some clothes on and gather up the squad leaders, we have a mission."

"Be right with you, sir."

Fifteen minutes later the young officer was briefing his subordinates around a map case. "There you have it, men." He turned to his platoon sergeant: "I want a platoon formation so that I can inspect the men's equipment, sergeant."

"Sir, if we have to be on the pad at 1000 hours we don't have time for an inspection," said Mumford. "It's 0930 now."

"Yeh, I guess you're right. Have the squad leaders make a quick check," said Seven-four humbly . . .

Later Newsweek reported that every rifle in the platoon had malfunctioned due to lack of care and cleaning. It was also stated that there would be an official investigation . . .

"Your platoon ready to go?"

"Huh? Oh, yes sir, just about ready," said Seven-four to the husky battalion commander who had somehow appeared before him with no warning.

"I've come to wish you luck with your first mission. I would have preferred to give you more time with your platoon—I realize two days isn't much—but I think this might be good in a way."

The battalion commander turned from the lieutenant to gaze at the mountains to the north that were partially obscured by clouds. "This platoon is my best. You realize that don't you, Seven-four?"

"Yes sir."

"They're all volunteers from the line companies. I have selected them personally."

"Yes sir, they're all fine men."

"Where is your rifle, lieutenant?" The battalion commander's eyes had suddenly narrowed.

Seven-four quickly looked to his right and left, "It's around here somewhere, sir. I just had it. Oh, there it is sir."

It was too late. The battalion commander was walking away.

Years later when General Vollmer reminisced about his career he would say, "I'll always be sorry for giving

my best platoon to that knuckle-head what's his name."

"Is this all the men, sergeant? Where is everyone. I only count 18." Seven-four was clearly upset as he confronted his second in command. "We're supposed to have 30."

"All present and accounted for, sir. Three men on R&R, two men in the hospital with FUO . . ."

The sergeant's voice was drowned out by the approaching helicopters. The platoon climbed on the four birds and was airborne immediately . . .

The division commander determined in his report that 18 men were entirely inadequate to perform the mission assigned . . .

"Are we really going after a battalion this time, sir?"

"Huh?" Seven-four glanced towards his RTO sitting beside him. "Oh, yeh, that's what the S3 said."

"Wow! Maybe we can capture a mortar or something," said the RTO. Then he noticed his leader's stare. "No sweat, sir. With your experience we'll get a good body count. You've had a platoon in one of the line companies for six months haven't you?"

"Well, yes, a mortar platoon," said Seven-four uncertainly.

The RTO's eyes went slightly out of focus but he said nothing more.

. . . the Division Commander further stated that the officer leading the doomed unit was not sufficiently experienced to be leading a recon platoon on an independent operation and further that . . .

Seven-four flipped his weapon off safe as the birds touched down in the narrow clearing. Gunships were still working over the small hills to the west of the LZ as his hand-picked, highly mobile, mission tailored force ran for the safety of the wood line. "First squad leads, second squad follows," shouted Mumford. "What's the azimuth sir?"

Seven-four fumbled for his compass, searching his left breast pocket and then his right. His RTO reached over and thumped the compass, which was dangling from a string tied to his top button hole on his jacket, with his finger.

"Oh yeh, thanks." He lined up his compass and called to Mumford, "Zero Niner Zero."

Mumford hesitated, started to say something to his leader but then turned and called, "Kelly, take the point. No talking and no smoking. Move out!"

. . . the platoon was found 3000 meters from its LZ at a 180-degree error in direction thus explaining why artillery support was ineffective . . .

One hour into the mission Seven-four became impatient with the slow progress through the dense

jungle. With each momentary halt he found himself closer to the head of the column. Then he was behind Kelly, the point man, who was trying to find a way around a nearly impenetrable briar thicket. Seven-four looked closely at his map and said, "There's supposed to be a major trail about 100 meters ahead if my map reading is correct, Kelly."

"It's possible I guess, sir."

"Wise guy," thought Seven-four. Seven-four turned to the man behind him and said, "We're going to hold it up here momentarily. Put out security. Pass it back."

"Roger," said the man and then collapsed into the sitting position before turning to relay the message.

"Come on, Kelly, let's find that trail," said Seven-four as he took over the point. Kelly fell in behind as he picked a course right through the briar thicket.

Seven-four felt a tug on his jacket. "What?" he replied.

"SSSSH."

At this same instant Seven-four saw the trail and then heard the voices. A second later the two moving figures came into view.

BOOM! was the sound in his ear and then Seven-four added his 20 rounds to Kelly's shotgun blasts. Seven-four's heart was pounding as he low crawled to the edge of the trail. There directly in front of him were the lifeless forms that had been enemy soldiers seconds before.

"Wow, look at that machinegun!" exclaimed Kelly.

"Get it," ordered Seven-four. "I'll cover you."

Kelly moved out into the open and picked up the machinegun then bent over and began going through the pockets of the dead enemy soldiers. He was visibly nervous. "This is the first time I ever shot anybody, Sir."

"What? Sergeant Mumford told me that you were the best, the most capable and experienced point man in the division. What do you mean you never shot anyone before?"

"No kiddin' did Sarge really say that?"

There was a noise behind them. Seven-four turned. It was the rest of the platoon moving towards them with Sergeant Mumford in the lead.

"Oh, thank God. We thought you got zapped, lieutenant," said Mumford breathlessly. Then he hardened, "That was the most stupid thing I've ever seen. There is no excuse for what you just pulled lieutenant! You could have gotten us all . . ."

"Hey Sarge look at the machinegun." The lure of the shiny enemy weapon was too much even for a professional like Mumford. In 15 seconds the entire platoon was trying to get a look.



... it appears that the entire platoon was caught bunched together in the middle of the trail by a superior enemy force ...

"All right, break this up. Sergeant Mumford, take the first squad to the other side of the trail and move into the woods 100 meters, then cut north," said Seven-four who was again in control.

"Roger, sir!"

"I'll follow with the second squad and we'll set up a hasty ambush about 300 meters up the trail from where these guys came from."

"Roger!"

"RTO, call battalion and make a spot report. Tell them I'll give them the full details in about five minutes."

"Sir, it's six on the horn. He says to put you on."

"This is Seven-Four. Roger, Two NVA KIA, one RPD CIA. I think there might be more—we're going to set up a hasty ambush. Over." ... "Roger Out."

Seven-four handed his map case to his RTO. Written in grease pencil were some coordinates. "Call these back to battalion as targets for the artillery to be fired on my command."

The platoon moved into the ambush position silently except for heavy breathing. It was a perfect set-up.

... LTC Vollmer commented later that the kid was doing fine but for some reason forgot to put our security to his rear. Five minutes after they were in position they were hit on the rear of the ambush by a superior enemy force that completely ...

"Sergeant Mumford, put out four men as rear security," whispered Seven-four.

"I'm way ahead of you sir," was the whispered return.

Here they came. Five of them trotting down the trail with AKs at high port. Closer. Closer. BOOM! BOOM! The claymores and then the two machine-guns and all the rifles joining in.

"One's getting away, sir."

"Let him go. Grab the weapons and let's make it, we might already be in a bind."

"Sir, it's the ol'man. He says to tell you he's on his way with a flight of four and for us to get a PZ and prepare to pop smoke," said the RTO with the handset offered to Seven-four.

"Tell him to fire those targets we gave him and give him a roger on the PZ," said Seven-four declining the handset. "Sergeant Mumford let's get out of here."

"Yeh, I gotta feeling this place is going to be like Times Square any minute now."

"You're just what I've been looking for in a recon-

naissance platoon leader, Seven-four," said the battalion commander. "Yessir, you've got what it takes, you've got ... uh ... what's the word I'm looking for, Steiner?"

The S3 took his cigar out of his mouth. "Imagination?"

"Yes, I guess that's it. Well keep up the good work there Seven-four and welcome to the team."

Seven-four made his way back to his sector on the perimeter in the dark.

"Who's that kicking my tent rope?"

"It's me, Kelly. Seven-four. Have you seen my rucksack? I can't seem to find it in the dark."

"Right here, sir. I got your air mattress blown up, too."

"Outstanding," said Seven-four as he sat down and began untying his boots. A smile spread across his face and his thoughts began to drift ...

... hurry up dear, we can't keep the President waiting. Besides it's not every day my husband gets the Medal of Honor."

"You're making too much of this honey, lot's of guys get the Medal of Honor, besides lots of guys have done what I did, they just didn't get the recognition ..."

"Huh, what did you say?"

"I said, 'Do you want a beer, sir?'"

"Please."

"Hey, did the Sarge really say that about me being the best point man and all that, sir?" said Kelly as he opened the beer.

"Yep, Kelly, that's what he said."



CAPTAIN DAVID F. BARTH, Infantry, was commissioned from the Infantry OCS at Fort Benning in 1966. He served in the 4th, 9th and 25th Infantry Divisions in Vietnam as a heavy mortar platoon leader, rifle platoon leader, reconnaissance platoon leader and rifle company commander.

'UNDERSTAND...



ARMOR OFFICER ADVANCED COURSE I-71

HENRY CASSELLI, USMC COMBAT ART



'UNDERSTAND'

By Captain Carl B. Marshall

I now know. My life as I have known it will end at tomorrow's dawn. For this reason I now write this letter. I entrust it to my loyal comrade Quang Lan in hopes that my son will someday read and understand . . . understand the reason his father dishonored his beloved ancestors and placed shame on his birthright.

My company and my men and our glorious regiment held the highest honors. The greatest battle feats were always our pride. When our revered and mighty leader spoke of tremendous losses inflicted on the enemy, our unit was spoken of more than any other. We were unequalled from the beginning of our war. When the foreigners descended on our land with their never ending supply of new weapons and ammunition, we were the first to attack and defeat them. We had a radiant legacy.

When the new enemy began pushing out from the populated centers, we were forced back into the depths of our jungles. Sickness and disease began stealing our strength. Our supplies came less frequently and we were forced to ration our meager food, for we knew not when we would receive more.

In spite of our waning strength we struck the

enemy at every opportunity. We attacked at all hours and in every conceivable manner. We would hit him hard and fast and then melt away to our jungle hide-aways. But this, too, ended soon.

This new enemy of ours had many times the equipment we possessed. His terrible airships flew over our sanctuaries raining a choking liquid on us. Soon after, the trees and foliage would wither and die, as if the seasons had changed overnight. Then the smaller ships would be overhead searching for us and following our every route of travel. We dared not fire at these unsparing creatures for any hint of our presence would bring death from his artillery and aircraft.

Our only hope for returning to fight another day was to retreat further and further into the jungle's recesses. Even within the deepest part, where the sun seemed never to shine, we could not build our cooking fires. This enemy seemed to have a demon's eye to look through the leaves and find our glowing charcoal. It was a true blessing and relief to receive orders to leave the country. We were able to refit and rest in the welcome refuge of the land where the enemy dared not come.

ARMOR July-August 1971

Our losses were great of men experienced in warfare and our victories were fewer in recent months. In the rest camp our company was resupplied with munitions and personnel. The new men were very young, inexperienced and often in poor health. On their journey from the north they had been plagued with disease and enemy harassment, as we had been.

It had taken many weeks for these new men to join us. It took much longer than expected to bring the company back to strength. Morale had gradually deteriorated to a state of sullen gloom over the months of hardships and harassment. But it had been rekindled in the absence of constant attack found at the rest area. We were once more a spirited fighting unit!

The methods we had used in our fight were plainly inadequate when viewed in the light of the might and resources of our enemy. We began a series of lightning attacks across the border into the heart of the convoys and bases of the enemy. We then retired to the safety of our base camp. Our losses were usually light and the damage to the opponent heartening.

Now, my son, you know our pains and our joys, our troubles and our fortunes. Do not condemn me until you read of my final mission.

For as long as the war has lasted we have held the land and the populace in the Tinh Phuoc Long region. But the enemy, in his tenacious and determined travesty of our land was advancing as a locust cloud throughout the area. He had established a camp in the very midst of our valued terrain, and sealed the major supply route for our comrades to the south.

The regiment was honored with the task of eradicating this troublesome burden. The camp was a single night's march from us. A detailed plan for the attack was drawn and well rehearsed. Planning was simplified by the fact that the enemy camp was virtually surrounded by trenches and bunkers used by our supply forces in previous months. We were assured success.

I was to lead my company at dawn to the area surrounding the camp. Here, we would prepare the positions for the attack. The regiment would follow at dusk. We would attack the following dawn.

In the darkness before we were to begin our journey, the sickness which had plagued me so often in the past returned. I would burn as if the fires of our camp were in my body. Then the cold of death would grip my heart. I did not have the strength of a child. And then the phantoms returned . . .

I saw the dead soldiers beckoning me to join them. I saw their mutilated bodies twisting and anguishing

in death throes. They cried for peace in their land. They begged for release from their torture. And the enemy appeared . . .

He was a young man with gaunt appearance. Behind him I saw the greatness of his war machines. They were quiet. He opened his arms and asked me to join him. He told of the needless sacrifices of my people and his, and of the devastation of the fertile lands. He said that I could bring peace to our home. He asked for my help. He wanted me to live for my homeland, and not sacrifice my life to no purpose.

When I awoke from my dreams I found death and devastation around me. The attack had taken place during my sickness. One of the other cadre had taken my place. The attack plan had been followed, but the result was vanquish rather than victory.

Our forces had achieved surprise, but they had not penetrated the enemy lines. My company had been caught in the open and decimated. More than a third had been killed in the initial assault. They were thrown back into the midst of the melee again and again with terrible losses. Finally, there were none left to go. The survivors returned here, but many more will die from their wounds.

My son, your father is well and alive. He is at peace, for now he knows that tomorrow he will leave this camp and join the enemy soldier. He will aid him in bringing peace to our land.

You have heard of our plight. You have heard of the desolation. Our land must have peace. My son, I do not shame you. You must understand . . . understand.



CAPTAIN CARL B. MARSHALL, Armor was commissioned in August 1967 from the Armor OCS. He was then assigned to the 1st Brigade, 1st Armored Division. He entered flight school in May 1968 and was assigned to the Air Cavalry Troop, 11th Armored Cavalry Regiment upon graduation. During his tour in Vietnam with that troop, he served as aero-weapons platoon leader and troop executive officer. In 1970, he returned to the United States to attend Armor Officer Advanced Course 1-71.

LIEUTENANT GENERAL WILLIAM HENRY HARRISON MORRIS, JR. 22 MARCH 1890—30 MARCH 1971

General Morris was an extraordinary man and an extraordinary soldier. He was not only an Honorary Vice President of the United Armor Association, but one of its staunchest and most active supporters. He attended Executive Council meetings faithfully and in his warm, modest, common-sense way always made important contributions to Association progress. His kindly and quiet wit readily eased any tensions which arose from differing points of view. His presence and inspiring example ensured the civility of all, as well as instilling a sense of pleasure in carrying on the work of the Association. His youthful mien and up-to-date, though dignified, outlook belied his full four score years.

William H.H. Morris, Jr., was born on 22 March 1890 in Ocdan Grove, New Jersey. Following graduation from the United States Military Academy in 1911, he served in the Philippines as an Infantry lieutenant. Other pre-World War I tours included two years with the 15th Infantry at Tientsin Barracks, China, assignment to the 9th Infantry in Texas, and his first ROTC duty at Texas A&M.

In 1918, as a major, he commanded a battalion of the 360th Infantry in the World War I. St. Mihiel and Meuse-Argonne campaigns. During the latter, he won the Distinguished Service Cross. After service in the Army of Occupation in Germany, he returned to serve successively as Professor of Military Science and Tactics at Bucknell University and then Texas A&M.

There followed a tour with the 10th Infantry, graduation from the Command and General Staff School, and general staff duty. Following his graduation from the Army War College in 1930, he served there as an instructor for three years. Then came duty at Fort Benning with the Infantry Board and as commander of the 2d Battalion, 66th Infantry (light tanks).

In 1940, after two years with the Army General Staff, then Colonel Morris became commander of the 66th Armored Regiment. In May 1942, he became commanding general of the 8th Armored Division and, in May 1943, of the II Armored Corps which was later redesignated the XVIII Armored Corps.

In July 1944, when General Newgarden was killed, General Morris asked for command of the 10th Armored Division which was scheduled for deployment to Europe. He did this despite the fact that it meant probable loss of immediate promotion beyond major general. He commanded the 10th Armored throughout its World War II European campaigns which included the capture of Metz and the defense of Bastogne during the Battle of the Bulge.

After World War II, General Morris served in the office of the Secretary of the Army for two years and then with the Joint Brazil-United States Military Commission. In 1949 he became Commander-in-Chief of the Caribbean Command and was promoted to lieutenant general. He was retired in 1952, but continued to serve the nation with the Central Intelligence Agency for several years. Later he was a director of the Washington, D.C. Capital Transit Company and a frequent volunteer in community and patriotic activities.





Reliability

The elusive design parameter

by Leonas J. Jokubaitis

In recent years, one would indeed be hard pressed to find another subject that has been cursed and discussed, abused and disabused as often as reliability. It has been held to be the cause of overnight failures of multimillion dollar systems, and it has made instantaneous experts of previously rather undistinguished individuals. It has been a favorite club with which to beat managers, since it has been found that reliability is easy to condemn and rather hard to defend. It has brought riches to a number of fly-by-night outfits whose claim to fame is the ability to do third grade mathematics. And it has brought ruin to some others whose methods were correct, but whose findings did not match the desired results.

What indeed is this nebulous element of design called reliability, and how can it be achieved? First, reliability is a design parameter that can be quantitatively specified, designed-in, assessed, and controlled in the same manner as vehicle speed, weight or acceleration. Therefore, whether a system is reliable or not will depend to a great extent on whether the reliability requirements were in fact specified, designed-in, assessed, and controlled.

It would be rather foolhardy to expect a vehicle to achieve a speed of 40 miles per hour unless this

was clearly and distinctly specified in appropriate documents. It would be even more foolish to expect a vehicle to achieve this speed unless the appropriate design actions were taken, viz., selection of the correct horsepower engine to achieve this end. Moreover, we would not know whether this in fact had been brought about, unless we conducted some tests to confirm it.

In the same vein, we would not specify 80 mph if 40 mph was all the speed that was needed and reasonable to expect with the present state of technical development. Similarly, it is not sensible to state a reliability requirement as "operate 2000 miles without failure" when we know that the equipment in question reasonably can be expected to operate only 100 miles without failure. And, it is even more meaningless to define a mission reliability requirement as "90 percent probability of completing a 30-hour battlefield day" when we know that 60 percent would represent a quantum jump over existing similar equipment.

Therefore, as a first step, it is imperative to analyze, establish, and incorporate in appropriate specifications realistic reliability requirements that can be designed-in and demonstrated within the state-of-the-art capabilities. It is only the realistic require-

ments that find their way to the drawing board. The unrealistic ones are either ignored or they serve only as tools for statistical manipulations.

Moreover, it is recognized widely that in order to achieve a 40 mph speed certain design dollars have to be expended. So too, it must be expected that in order to achieve the desired level of reliability, a certain amount of dollars must also be expended for a reliability program. A proper program contains tools and methods to achieve desired levels such as failure modes and effects analysis, fault tree analysis, worst case analysis, design reviews, and failure and corrective action control. Obviously, these tools cannot be used to design a reliable product if the necessary funds are not made available.

The assessment of reliability is in some respects more difficult and more expensive than the assessment of other technical parameters. The speed of a vehicle can be quite readily checked out with a few prototypes. In order to demonstrate reliability, additional time and samples are necessary. For this reason, there seems to be an unnecessary tendency to shy away from reliability testing. To undertake reliability testing for every component of a system would certainly be quite expensive and time consuming. Unless truly required by the critical nature of the mission, this is not ordinarily done. Instead, the idea is to concentrate on the weak links of a system and do the reliability tests on these components only. This will enhance the reliability of the system and it is achievable within reasonable funding and time resources.

The second impediment to achieving reliability is its mathematical and statistical implications. Many engineers shy away from it due to their lack of background in the field of statistical mathematics. Many managers are reluctant to discuss it because of their intuitive feeling that there is something deep, dark and mysterious hidden behind it. The fact is that the expression of reliability is as simple as expressing X number of failures in Y hours, or percent success out of a given number of trials. In effect, reliability adds consideration of time to the usual performance parameters. For example, it answers such questions as, "The vehicle will be capable of attaining 40mph for how many days?" Such confusing refinements as confidence levels, distributions, and parameters can be left for statisticians to worry and argue about. These refinements are only the tools used to arrive at a more precise result. They are not any more magical than the tools used by engineers to define the technical parameters of the equipment such as, stress analysis, weight analysis and system error analysis.

However, in establishing the requirements, performing the analysis, and assessing the results, two inherent dangers are involved. One is the definition of a failure and the other is the definition of a mission. These require careful attention.

A failure can be defined in a multitude of ways. For a given component, it may take several pages to define adequately what is meant by a major or minor failure. Consequently, a term such as *mission critical*

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failure will have a different interpretation for various systems since each system has its own peculiar components and mission requirements. This is not a problem within a single system, since after all we want to design a reliable system by whatever definition we use. However, the danger does exist in conducting comparisons between two or more systems. The only way two systems can be correctly compared is if they are analyzed against equivalent specifications and if the analysis is performed by employing identical techniques.

The second inherent danger is that, in general, each system has a different definition of *mission success* because environmental, terrain/and utilization factors play a dominating role. Clearly, two systems can only be compared validly from a reliability standpoint if the same mission profile is used for both of them.

The third impediment to implementing reliability is related to the old axiom "take care of the big problems and the little ones will take care of themselves." For reliability, this should be reversed to read "*take care of the small problems and the big ones will take care of themselves*". Certainly everybody is concerned about catastrophic events, and since the problems leading to them are always quite apparent immediate action would be taken to correct

them even if no system reliability program existed. However, as a recent finding by the National Security Industrial Association (NSIA) indicates, "In the case of electronics materiel, 80% of maintenance actions were reported to result from failure of parts costing a dollar or less. Considering each maintenance action costs \$200-\$500, preliminary studies indicated potential savings of large magnitude in maintenance of the AMC defense and weapons inventory through increased scope of reliability and quality programs for parts."

Thus, to increase reliability in the field and to diminish the cost of the logistical process, it is necessary to control reliability on the maintenance action level. It is also true that most specified mission critical reliability requirements do not lend themselves readily to demonstration since the occurrence rate of failures which would abort or seriously impede a mission is usually quite low. Therefore, while the appropriate specification documents should and do specify reliability requirements associated with catastrophic event occurrence, the all-inclusive maintenance action rates must also be specified in order to insure that the troops are given equipment which will be available for combat and which will not be deadlined in the maintenance shops.

Unfortunately, there is a basic problem associated with specifying an all-inclusive maintenance action rate. Managers find it difficult to acknowledge that an all-inclusive *maintenance action rate* of 1 per 100 miles for a complex system is a stringent requirement. After all, all the thousands of components in a complex system play a part in an all-inclusive failure definition. As an example, a system with 500 components and a total system reliability requirement of 100 miles mean-time-between-failures (MTBF) has to achieve an average MTBF of 50,000 miles for each of its 500 components. This component reliability is obviously quite difficult to reach when every unscheduled maintenance action, however trivial, is classed as a "failure."

Now then, assuming that one has conquered these basic impediments to the understanding of reliability, how can one achieve it in his product?

There are five basic tools that can be used to improve reliability.

- *Simplicity.* A block of metal lying on a bench is reliable since it does not have any moving parts, is a homogenous structure, and is under favorable environmental conditions. The same piece of metal will have a degraded inherent (i.e., maximum attainable) reliability if we attach moving parts and place it under strenuous environmental conditions. For

this reason, simplicity and standardization is of utmost importance in any design. Of course, a simple block of metal cannot fly, swim, or traverse terrain. Therefore, the potential or inherent reliability is always dependent on the performance requirements of the system.

In general, the higher the complexity and the more components or parts in the system, the less the inherent reliability will be. This, of course, is oversimplified since reliability can be increased through such means as parallel electronic circuitry and standby components. However, this is usually accomplished only with a penalty in cost, weight, volume and so forth. Therefore, a parameter trade-off analysis is needed between performance, reliability, maintainability, and cost in order to establish the required system characteristics. If the performance requirement is invariant as directed by the QMR and if the hardware cost has a ceiling for a given system, then the reliability potential is pri-

*... the ... inherent reliability
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marily determined by the system's performance parameters and monetary limitations.

- *Parts Reliability.* The reliability of standard electronic parts is well-documented and readily available in handbooks. Hence, reliability of electronic systems can be achieved by procuring qualified high reliability parts and by conducting tests to pinpoint and eliminate manufacturing faults. This, of course, will raise the cost of the hardware, but if properly done it will result in substantial program cost savings over the life cycle of the equipment.

The problem is more complex with mechanical components since for these components each system design tends to be peculiar in itself and previous information is not usually available in published form for parts selection. Here a reliability testing program to establish the parts and component reliability is in order to insure the best possible selec-

tion. It should be clear that a reliable system can only be achieved if its smallest parts and assemblies possess a high inherent reliability.

● **Test Time and Sample Size.** The one major difference between the reliability and other technical performance parameters is that the technical performance is fixed by the initial system design while reliability grows as more tests are performed and more corrective actions are implemented. In other words, the inherent reliability is very rarely approached during the first test or with the first sample. Therefore, in order to insure that the inherent reliability is in fact achieved, a sufficient test program must be established to allow identification of reliability problem areas. It is estimated that during initial development tests the design-oriented problems may account for 25 to 50 percent of the total failures. These design problems must be eliminated in order to achieve the inherent reliability. This brings up another problem: the requirements for reliability demonstrations at various points in a program must be consistent with the reliability growth expected to have been achieved at these points. A distinct differentiation must be made between mature production reliability requirements and development phase reliability requirements. It is not logical to expect a system to meet mature production reliability requirements during engineering tests.

● **Reliability Program.** As was mentioned previously, a reliability program must be a part of any sound design program. It is actually an extension of the design program which uses certain tools and methods to insure that the design incorporates the highest possible inherent reliability and that this inherent reliability potential is in fact achieved. It is actually surprising to find that a reasonable reliability program for a complex system can usually be implemented at a cost of no more than five percent of the total budget; the eventual benefits gained more than pay their way. To achieve these benefits, it is imperative that a "closed-loop" data control system for the collection, classification, and corrective action implementation of all the incidents noted during tests be established as a part of this program. Accordingly, an all-inclusive data control system should provide reliability trend analysis for all the components of a system ranging from the most complex fire control mechanism to the most inexpensive light bulbs.

● **Management Emphasis.** In a recent article in *Automotive Industries*, entitled "What's Being Done About Quality Control," L. B. Bornhauser a vice president of Chrysler Corporation, made the follow-

ing statement regarding quality control: "The thing that is most effective is the right management attitude. If you don't have this, all the gimmicks, procedures, and computerized checks are for naught."

This statement can also be applied to reliability. The importance of the attitude of top-level management toward the reliability aspects of the program cannot be over emphasized. The final design of a product is always a result of a number of trade-offs. If reliability is placed in the "nice-to-have" or "desirable if everything else is 100 percent" category, then it will never be achieved. However, if reliability is treated as a key requirement of design, then the

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desired results will be achieved. The necessary managerial emphasis can be achieved in a number of ways, starting with the organizational structure of the company or project and extending to financial support for reliability programs. It can be achieved by intangible means such as implementing and rigidly enforcing coordination between engineers and product assurance departments and by conducting top level management review of reliability problems.

Since reliability is looked upon with suspicion in some quarters, it can only be raised from this mystical state by vigorous management action which gives reliability the status of full partnership.

It is time to recognize that reliability is not instantaneous nor free and that it cannot be legislated by regulations or achieved by specifying unrealistic requirements. It is also time to treat reliability parameters in the same way we do any other design parameter, that is, without causing havoc and misunderstanding (with a 90 percent confidence, of course).

LEONAS K. JOKUBAITIS, a graduate of the University of Detroit, is reliability director of the MBT/HET project. He has also worked on the Sheridan Weapon System and has written about reliability programs and analysis.

mission



**or
men?**



**the leader's
hard
decision**



With our country swept by debates that weigh the worth of the life of the individual against the goals and policies of the state, it is not surprising to learn that many truths which older, more experienced leaders consider self-evident have to be explained in deep and convincing detail to young leaders just entering the service. Those officers and non-commissioned officers involved in training and developing junior leaders must be prepared for a struggle to develop in many of these leaders the belief that—in case of a conflict between mission accomplishment and welfare of the men—mission accomplishment must come first. In the last two years, I have had the responsibility, both as a commander and as a leadership instructor, of developing this basic and essential belief in many new leaders. The paragraphs that follow present my ideas on how to approach this very controversial subject. I hope these ideas will be of value to both the experienced leader and to the junior leader who may not yet have made up his own mind.

A belief that our country generally conducts its affairs in an honorable manner is desirable in all leaders, and we should be prepared to discuss frankly and openly any question in which our country is involved. A defense of American foreign policy can be an exhilarating experience and usually reflects the sincere beliefs of the officer concerned. The experienced soldier is often in a unique position to present his actual observations of a controversial event, and to correct much misinformation to which a new leader may have been exposed. But we do ourselves a disservice if we make acceptance of the requirement to place the mission before the men's welfare contingent upon acceptance of the absolute correctness of every detail of our nation's foreign policy. We know that in government, as in any other human undertaking, mistakes will be made, and events will occur where we were frankly wrong. We should also realize that many new leaders arrive from college campuses, where they were subject to eloquent arguments on all sides of most major foreign policy questions. Changing opinions formed under these circumstances may require more knowledge and time than the instructor or commander has available.

Choosing not to defend foreign policy would seem logically to lead to a primarily patriotic approach, and I think we would all agree that love of home and country is a powerful motivator among our people,

as it is in most nations of the world. Despite this fact, an emotional appeal to patriotism is out of fashion with a significant segment of the population. This statement does not necessarily mean that patriotism is dead, but it does mean that so called "flag waving" is considered a suspicious technique, an attempt to overpower the recipient with a point of view that might not bear close examination. To attempt to tie acceptance of a concept with an approach that is unacceptable to the audience you are trying to reach is to invite rejection.

What course is left then, to the commander or instructor who must develop this basic and essential belief in his new leaders? My experience in dealing with this problem leads me to the conclusion that a straight-forward appeal to reason offers the best chance of providing a new leader with the background from which he can arrive at a sound decision when conflicts between the mission and the men's welfare occur.

Although the size, composition, equipment and employment of the nation's armed forces is subject to considerable and seemingly everlasting debate, the fact that some type of military force is necessary is almost universally accepted. While an ideal world without national military forces can be embraced in the abstract, an examination of history will show quickly that civilization as we define it has always developed behind the protective screen of some type of military force.

The existence of this military force is justified only by the fact that it accomplishes the mission of providing the protective screen behind which the nation can safely live. It is not a producer of national wealth, it is a consumer of national wealth. Of necessity, the military is a totally mission-oriented organization, trained, organized and equipped to accomplish those missions assigned to it by the nation. It seems reasonable, therefore, that mission accomplishment must be the very highest goal of a military force. Certainly, if the military was organized with the primary purpose of providing for the welfare of a select group of citizens, it would take a dramatically different form.

There is another perhaps less noble, but equally important, reason why a military leader must place mission accomplishment at the lead of his priorities. This involves taking a realistic look at the course of his authority. The congressman representing his

by Lieutenant Colonel Grail L. Brookshire

district in the House of Representatives draws his authority from the people of his district. Every two years he must present an accounting of his leadership to these people. If enough of his fellow citizens feel that he has helped them attain their goals, he is reelected and retains his authority. If not, he loses the election and his authority is withdrawn.

A military leader, conversely, is an appointed, rather than an elected leader. As he is appointed to a position of leadership by the military force, his accounting is of necessity to the chain of command of that organization. The military leader's source of authority is from above, from the military force, not from below, from the men whom he commands. If the military leader does not satisfy at least the minimum goals or missions that the chain of command assigns to him, he will be dismissed as a leader, and his authority will be withdrawn.



An examination of these considerations points out why a military leader, when faced with a requirement to accomplish his mission at the expense of the welfare of his men, must emphasize mission accomplishment. This does not mean, however, that the leader should take a callous view of the welfare of his men, nor that he should neglect their welfare in any avoidable way. Humanitarian considerations aside, the leader must be aware of the fact that his missions are accomplished by men, and that to neglect their welfare is ultimately to reduce their effectiveness.

The new leader must also be made aware that considerations of the men's welfare are not confined to the tank commander or platoon leader, but are made at all levels of command. This often leads to a situation where the welfare of a smaller unit must be sacrificed for the welfare of the larger unit. For example, providing for the welfare of the men would appear quite different to the leader of the lead pla-

toon of a troop moving rapidly over a mined road to reinforce a hard-pressed sister unit than to the squadron commander who ordered the move. The squadron commander may well issue orders that, while ensuring the welfare of the men of the squadron, are not in the best interest of the men of a platoon. The new leader must realize that the leaders of the larger units to which he belongs are also considering the welfare of their men, but that the results of their considerations may dictate decisions which appear to be against the welfare of the small unit leader's men.

Accepting, then, that a military organization is by nature and of necessity mission-oriented, and that a leader must except missions that are contrary to the welfare of his men, the new leader must understand that he can mitigate this harsh necessity by accomplishing his mission with the least expenditure of lives possible. Careful planning, reconnaissance and the use of all available firepower reduces casualties. Forcing soldiers who are in need of rest to overrun enemy fortifications which are unoccupied or not complete saves lives. It is usually cheaper in men to execute an audacious though risky move to seize a bridge over a major river than it is to mount a deliberate river crossing operation. The welfare of soldiers is better served by the leader who insists on properly maintained and serviced vehicles and weapons than by one who neglects this duty out of a mistaken feeling of kindness. When the leader builds his unit on the essential foundation of firm, humane discipline, he has taken his greatest single step in providing for the welfare of his men. These are not just empty words. These are facts that have been learned and relearned since warfare began, bought and paid for by the lives of countless soldiers.

A discussion of this relationship should end, however, on a note of caution. The leader must not



use this reasoning as an excuse to become so mission-oriented that he fails to keep his unit in good repair. He must realize that if his unit is to accomplish its missions for an extended period of time, he must provide sufficient time and stimulation to insure that



essential maintenance of equipment is accomplished and that the physical needs of his men are satisfied. To do otherwise is to arrive eventually at the point where the unit is ineffective and incapable of accomplishing reasonable missions. If the leader allows his unit to degenerate to this point, he has not only failed to provide for the welfare of his men, he has failed to accomplish his mission.

I have found over the last several months that a discussion of these facts is usually successful in providing the new leader with a basic understanding of the relationship between mission accomplishment and welfare of the men. It does not, of course, answer all the questions that will arise in a discussion with junior leaders. Questions concerning the legality of orders, My Lai, and Hamburger Hill are complex and not easily answered.

It would be presumptuous of me to imply that the concern of new leaders about the difficult situations that they might find themselves in can be easily allayed. I can say that the new leaders whom I meet every day are ready, even anxious to listen to the advice and comments of experienced leaders. The new leader will make his own choice when faced with his hard decisions, but his choice will be based on all the knowledge and experience he has been able to accumulate to that point. A big part of that knowledge and experience can be contributed by you, the experienced leader, in sincere and honest discussions. Could you reasonably ask for more?

LIEUTENANT COLONEL GRAIL L. BROOKSHIRE, *Armor*, has commanded a company of the 26th Infantry Regiment, a cavalry troop and a squadron in combat. He was an infantry platoon leader and the executive officer of a tank battalion.

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ARMOR GRADUATES CLASS OF 1971 UNITED STATES MILITARY ACADEMY



1st Row: Johnson, Sansone, Ryan, Chabot, Moss, Lindsay, Gooden, Walters, Mason, Quinlan, Post, Boesch

2nd Row: Heffron, Baldwin, Wilcox, Vaughan, Methered, Curry, Turner, Bendas, Lambert, Barbuto, Satchell, Brown, Erickson

3rd Row: Hazeltine, Jorrey, Grazipolene, Nastasi, Glatt, Kirchberger, Rucker, Wharton, Becker, Weilkoszewski, Sivess, Kitt, Doyle, McNulty

4th Row: McIntyre, Hartley, Patterson, Vandal, Metcalf, Hancock, Stith, Glass, Davis, Grigg, Lewis, Cardine, Collins, Currie

5th Row: Turk, Elder, Raymond, Fate, Finberg, Pierce, Beno, Fasi, Abrahamson, Liss, Grant, Lentini

Top Row: Ridder, Watson, Erlandson, Lilley, Hess, Rieschl, Harrison, Mac Aaron, Wake, Barnebei, O'Neill, Watkins, Droegemueller

Not Pictured: Current, Donald, Horton, Petersen, Shoemaker, Turner

The 84 USMA Class of 1971 graduates who chose Armor as their branch are an impressive group. Ten are in the top 100 of the class and, of these, four are in the first 25. Included in the Armor group are the brigade command sergeant major, a regimental executive officer, eight regimental staff members, a battalion commander, two battalion executive officers and three company commanders. Varsity athletes total 21. Thirty-two of the graduates have indicated a strong interest in attending Army aviation training after a year of troop duty. Barring unforeseen circumstances, 31 will be getting married during the first four months of their commissioned service. Initial assignments will see 38 moving to Europe and six to Korea. Forty will remain in the United States for a first tour of duty.

AGENDA

82d ANNUAL MEETING

THE UNITED STATES

ARMOR ASSOCIATION

THURSDAY, 13 MAY 1971

Joint Session with the Fighting Vehicle Systems Section,
Surface Mobility Division, American Ordnance Association

- 0900 Opening remarks by G.P. Psihas, Chairman
- 0910 Technical Papers
- 1215 Reception and Luncheon at the Brick Mess
- 1345 Technical Papers
- 1440 "Army Materiel Acquisition Process" by The Honorable J. Ronald Fox, Assistant Secretary of the Army (I&L)
- 1510 Panel Discussion
- 1830 Reception and Buffet in the Commanding General's Garden

FRIDAY, 14 MAY 1971

- 0800 Honors Ceremony at the Court of Honor
- 0820 Welcome by Major General William R. Desobry, Commanding General, US Army Armor Center
- 0830 Response and Introduction of Keynote Speaker by Brigadier General Hal C. Pattison, 24th President, The United States Armor Association
- 0835 Keynote Address: "A Time of Challenge" by General James H. Polk
- 0915 Symposium on Current Leadership Challenges by a Panel of US Army Armor School Advanced Course Students
- 1100 "Some Thoughts on the Modern Volunteer Army" by General Bruce C. Clarke
- 1130 "New Initiatives in Armor" by Major Nathaniel W. Foster Jr., USA CDC Armor Agency
- 1200 Armor Association Luncheon and Business Meeting at the Brick Mess
Ordnance Association Luncheon at the Country Club
- 1400 Air Cavalry Briefing at Boudinot Hall followed by Demonstration at Lawley Range by the US Army Armor School
- 1530 US Armor Armor and Engineer Board Demonstration
- 1545 Armor School Aeroscout Qualification Course Demonstration and Practical Experience
- 1655 4th Battalion, 54th Infantry Retreat Ceremony Honoring Vice President Agnew at Brooks Field
- 1830 Banquet at the Brick Mess
Address by Vice President Spiro T. Agnew

SATURDAY, 15 MAY 1971

- 0900 Executive Council Meeting at the Brick Mess
Armed Forces Day Displays at Brooks Field

Welcoming Remarks

by Major General William R. Desobry
Commanding General, US Army Armor Center

General Polk, General Pattison, distinguished guests, gentlemen, welcome to Fort Knox and the 82d Annual Meeting of the United States Armor Association. It is a real pleasure for we of the post to have you here as our guests. Last year as I recall, when we came up from Fort Hood, we found hot muggy weather here. This year we are fortunate to have fine weather. It seemed to me as we watched the honor guard that we got off to a tremendous start—a start which I hope will carry us through this meeting in the spirit of Cavalry, the spirit of Armor and in the best traditions of our great Army and our great Nation.

We have a fine fast-moving program, a very diverse program for you, and I am sure that you are going to not only enjoy it, but get a great deal out of the program from a professional point of view.

I say without reservation that if we can be of any assistance to you while you are here at Fort Knox please call on either me or my staff and we will be glad to help you in any way.

At this time I would like to introduce the President of our Association, General Pattison.





Introduction

by Brigadier General Hal C. Pattison
24th President
The United States Armor Association



General Polk, General Desobry, distinguished guests and fellow members of the United States Armor Association.

At this initial point in our proceedings I wish, on behalf of all members of the Armor Association, to extend a hearty welcome to the members of the Fighting Vehicle Systems Section of the American Ordnance Association. A goodly number of that organization are present this morning. Gentlemen, we are glad to have you with us.

It is always a pleasure to have our annual meeting here at the Home of Armor for that almost certainly assures fine arrangements in addition to an excellent and well run program. What we have seen so far at this, our 82d Annual Meeting demonstrates the truth of that observation. I know I speak for all when I express our appreciation to General Desobry, General Cantlay, General Patton and the people of the Armor Center and the Armor School who have contributed much time and effort to make this meeting possible.

We meet this year in a time which can perhaps be described as a downbeat in the cyclical rising and falling which seems characteristic of all institutions as well as of individuals. In this instance the fortunes of the Army and the Nation seem to be running parallel. Historically, this has not always been the case. But since these low points in the pulse of institutional life are, as with individuals,

essential to the gathering of strength for the next upsurge of effort, we should take advantage of this diminishing national demand on our energies to reexamine, reevaluate, rejuvenate and reorient so that we will be better able to meet the exacting requirements of future demands that are certain to come. Our program this morning is a beginning of the reexamination and reevaluation phases.

We are sorry that some of our most distinguished members could not be with us today. General Bruce Palmer is required to be in Washington due to the absence of the Chief of Staff. General Haines had expected to be here but official duties of greater priority required his presence in Europe. I am glad to be able to report to you that our Honorary President, Lieutenant General W.D. Crittenger is well and in excellent spirits. He regrets that he could not be with us but sends his heartiest greetings and best wishes. General John Waters was scheduled to participate but unforeseen circumstances required his presence elsewhere. For those of you who may have missed the news, I am sorry to have to report the recent death of one of our Honorary Vice Presidents, Lieutenant General W.H.H. Morris, the wartime commander of the 10th Armored Division.

We are both honored and privileged this morning to have as our keynote speaker a man who is uniquely qualified to speak to us about some of

the problems the Army and Army people face today. General Polk is an experienced combat commander and leader of men. He has commanded Cavalry units in combat with great distinction at both squadron and regimental level. He has commanded Armor at division, corps and at army level in Europe in a period of great national and international stress. He is one of our finest soldier-statesmen having served an apprenticeship in the intelligence field in the Far East during the Korean War. Later, he was a planner in the International Security Affairs field at the Department of Defense. Thirteen of his last 16 years of service were spent in Europe where he achieved great success in dealing with the communists along the Iron Curtain. Furthermore, he achieved a distinguished record of accomplishment in his professional and personal relationships with our NATO Allies (to say nothing of the Navy and Air Force). He is probably as well informed on the problems of leadership and command at the company level as any senior officer today. Notably, he has served a total of seven years on the Executive Council of this Association in grades ranging from lieutenant colonel to lieutenant general. On 1 April of this year he was placed on the retired list after more than 37 years of active service.

I am proud to welcome General James Hilliard Polk to this platform for the second time in three years—

Keynote Address A Time of Challenge

by General James H. Polk
US Army, Retired

Thank you Mr. President, you are more than kind and I am ever so grateful. General Desobry, General Forsythe, fellow members, it is a real pleasure to come back to Knox. It is great to see how good the place looks, how smart everybody looks, how the weather favors us. And the sort of warm welcome which we have received, always makes one feel good.

Now, I intend to make a rather serious talk because I think these are somewhat serious times. Let me start off by saying that I think you are familiar with the recent speech of Senator Jackson to the American newspaper editors and with another speech by Mr. Laird to the newspaper publishers made about two weeks ago. Together these two speeches are pretty sobering statements. What they are saying is that the Soviet Union now outnumbers the United States in land-based missiles—strategic missiles, and that they are rapidly catching up in seabased ballistic missiles. These speeches make it clear that while the United States has a considerable superiority in landbased bombers, there is considerable doubt that this force can penetrate the Soviet defenses. And, then, both speakers warn of a generation of huge new missiles being developed and scheduled to be deployed by the Soviets this year. That sets the strategic stage.

Secretary Laird also spoke of our strategy of realistic deterrents; and he cited the fact that it is the most difficult and challenging national security policy that we have ever undertaken. He mentioned that this policy has little room for error and no room for failure; and I think we would agree. Then we look to the SALT talks to see if there is some hope there that there will be some mutual disarmament or

holdup in increasing strategic weapons. Unfortunately, there is no particular reason to be completely happy about the progress of the SALT talks today.

Thus, the strategic situation is one big point in the equation. There is another. That is recognition of the fact that we are experiencing a wave of hostility, that there is a distinct wave of hostility toward the military establishment. This is a sort of unreasoned enmity that makes objective discussion of defense issues rather difficult. Some of the public seems to believe, or is trying to be convinced, that money spent for defense is misdirected and wasted and that it could better be spent on social efforts. On the other hand, we in this room and, I think the majority of the American public, know that our country is rich enough in both moral and material resources that we can provide both for security and for these domestic issues.

Well, what does all this mean for the future. It seems to me that for one thing, it means that the Armed Forces are in for some pretty hard times. As General Pattison mentioned, we have been through this before. I think we can also expect though that the Soviet leadership is probably going to pursue a more vigorous expansion of Soviet interests; that they will be willing to accept greater risks and maybe harder bargaining and some considerable turbulence in international affairs. We can expect to see greater efforts at blackmail and intimidation across a broad range of foreign policy issues.

I would like to talk a little more about our tactical force deployed in Europe. As General Pattison mentioned, my experience for some years has been devoted almost entirely to study, planning, operations, and

training of the European base force for both conventional and nuclear war and this with primary emphasis on armor.

Of course, Central Europe is where the greatest armored armies of the world face each other in a rather delicate balance, but a balance that has succeeded in keeping the peace for the past 25 years. I think we can say that this has been a true success. We can all be proud of our part in that.

When one looks deeper at this area of operations he is impressed by the Soviet Union's willingness to fund fully their forces, to train them very realistically, and to introduce new generations of equipment in a fairly steady stream. And Warsaw Pact armies, like their strategic forces, do not stress defensive operations. Quite the contrary; in the course of almost all their war games and their maneuvers and their exercises, they practice attack and counterattack.

They did not build their impressive tank heavy force for defensive purposes. Rather, it seems obvious that should they think the time is right, they are prepared to employ massed armor and concentrated attacks in overwhelming strength and backed by a competent tactical nuclear force which can be used either to support this effort if required or to deter our own use of tactical atomic weapons.

I do not want to infer that this Warsaw Pact force is composed of supermen. I would prefer to be realistic about them. I think one has to say that they are proud, that they are quite well trained, and that they have good rugged equipment. But, they also have their problems. Their tanks are not as good as ours. Their tank gunnery is not as good as ours. Their artillery



gunnery is not as good as ours. They have nothing that matches the TOW or the Shillelagh or the Cobra. They suffer from a shortage of career non-coms, and they recently dropped down to a two-year draft which gives them considerable problems. They have other problems, but what they go in for in their organization is a sort of rugged quantity as opposed to the quality that we go for. I think we must always seek quality.

Now, how does all this affect the officers and non-commissioned officers in this room and, in fact, the whole group of dedicated professional soldiers of Armor, Infantry, Artillery, etc., who understand and seek and train to achieve that professionalism in mechanized mobile warfare which we require.

Well, to go back a minute, Secretary Laird said that for the 70s we need a strategy that can effectively deter not only nuclear war but all levels of armed conflict. And General Lemnitzer, General Goodpaster and the President himself have said that the greatest single factor in protecting American security today is the maintenance of peace in Central Europe. That is to say that in concert with our allies, we maintain such a high state of preparedness—such a ready force that the success of NATO is assured.

Now, as I said earlier, there are a lot of voices, which call for reduction of our contributions to NATO. Particularly, many would like to cut the Army's combat and combat support forces. Their reasons are related to gold flow, or budget problems, or impatience with the Europeans, or their own optimistic downgrading of the Soviet threat. In some cases, emotionalism alone is the basis. The fact, though, is that NATO's success is our own success and that one does not adopt a doubtful policy when one has a policy which is working. There is really no substitute for this kind of success.

Nor does it follow, as a lot of people seem to think, that a reduction in our forces in Europe will result in an increase in the other Allied forces. As a matter of fact, it appears to be quite the opposite. Our Allies regard our presence as critical.

Now, even if we insist on downgrading the Soviet military threat, there are other arguments for continuing our strong support of NATO which collectively, it seems to me,



carry a lot of weight. In the first place no one can deny the tremendous interest we have in Europe—cultural, economic, social, ethnic, all the rest. We are deeply tied to Europe in almost any field. Thus any sort of isolationism or withdrawal must be temporary and illusionary. In my own military service, we have gone through three large deployments to Europe and, in my lifetime, four. Are we going to withdraw and then go through this thing again the next time our friends and allies are threatened? I hope not.

What I am saying is that our very considerable military presence unquestionably provides peace and tranquility in this very critical area. It gives our allies diplomatic freedom and a chance to move toward greater security. And it promotes their economic development which in turn promotes ours. But I think, most importantly, it gives the United States some ability to control events in Europe—for example, the proliferation of atomic weapons, mutual force reductions, or the money crisis.

I believe that the American contribution in about its present strength is essential to a strong, effective NATO. We are in the position that no nation can provide its own security. As I mentioned earlier, we have achieved a delicate balance of forces and have succeeded in convincing the

Soviets that to attack the NATO force is a bad risk; that the Warsaw Pact's chance of success in such an attack is highly questionable. And we have convinced them that we are neither frightened of them nor can they blackmail us into passively accepting their dictums or assuming an attitude of helplessness.

I think it is also important for us that we of the American Army have a meaningful mission, an objective towards which we guide our training and our activities. Everything indicates to me that the American disengagement from Southeast Asia is proceeding on schedule and proceeding pretty fast. It appears that residual commitments in the Far East are going to be carried out to a large extent by the Navy and the Air Force with the Army's part being rather minor. And, as a matter of fact, Armor's part of the Army's part is almost negligible.

On the other hand, when we look into the 70s on the other side of the world, it seems to me that the primary mission of the US Army is assuredly the defense and peacekeeping of Central Europe and that this is to be achieved primarily with reliance on armored firepower. The tactics of sweeps and firebases and vertical envelopment and the type of action that most of the young men in this room know very well and are intimately familiar with simply do not apply without changes to Central Europe. Just as it was after the Korean War, we have learned some things and we have gotten into some habits due to the peculiar nature of the Vietnam conflict that just will not fit in Europe. There are many things learned in Vietnam we can use. There are many things we can profit from. There are many techniques we can adapt. But, I see very few things that I think can be transferred intact.

There are a number of differences. Most of us are familiar with these. I think two are worth highlighting. One is that we are faced with a large powerful Soviet tactical air force. Of course, we have a rather extensive Air Force and air defense system of our own. Notwithstanding, I think we are going to have to relearn lessons of operating in an area of intensive aerial two-sided combat and probably in an area lacking in friendly aerial fire superiority.

Secondly, we operate in a coalition

Army. As a result, to a very large extent we are forced to hold and control large masses of critical terrain. We just cannot plan on giving up to the enemy substantial areas of Western Germany and expect the alliance to survive. A strategy for the defense of the Rhine just will not work. The Germans simply will not permit the capture of places like Nuremberg or Munich or even Kassel any more than we could stand the capture of Boston or Washington; it's that simple.

This means that we have got to fight an offensive/defensive type of action where our Infantry-heavy task forces, largely in what we would consider the traditional way, have got to hold ground or give ground mightily grudgingly while our armor-heavy battalions counterattack, beat off the attacker and regain the territory. We have got to stay in there and slug. Of course supported by all the modern means at our disposal, and they are considerable, we might like to fight a series of ambush and delaying actions and that kind of thing. But as I mentioned, successive positions back to the Rhine are not acceptable.

Therefore, we have to rethink things and learn once again how to optimize our equipment, and our tactics, and our training and our skills and our brains in order to defeat this Soviet threat in a real standup slugging match. I don't think the task is impossible at all. As I indicated earlier they have their problems and they have their difficulties. I think you can say that by and large that we have better equipment, better training methods, better trained people, more brains, better coordination, better communications. And, in any such war, probably we would be better motivated. We have some exciting new weapons that the Soviets do not have. We have TOW, Shillelagh and Redeye.

The TOW/Cobra combination fascinates this audience, I'm sure. Under test, of course, and showing great promise—not as a ground gainer or as a ground holder but as a mighty vicious weapon of attrition—this system makes possible an aerial attack and ambush system that is not only going to be an effective tank killer but also a means of surprise and shock in the best armored tradition. This system has great promise.

If my look into the future is cor-

rect, I think young officers here will have some very interesting challenges. And, of course, one of the most interesting will be how to adapt and to fit Vietnam experiences and know-how and combat knowledge to the European Theater and to a different kind of enemy.

I'll mention a couple of other challenges of the real world as I see it. One of them is the interesting problem created by the *M60A2* tank. This has fascinated me for some time. Not the least facet of this problem is maintenance. The *A2* is the same automatically as the old *M60* but the turret is essentially hydraulic whereas that of the standard *M60A1* is mechanical. To further complicate the problem the *Sheridan* has an electrical turret. So the problem of turret maintenance is a real one that is going to become even more complex.

Even more interesting is the problem of tactical employment. What we expect to do is to integrate two of the new *A2s* into a platoon which will retain three *M60A1s*. One tactical problem is how do you attack with a platoon which has two tanks which can fire missiles very accurately from a halt and somewhat less so while moving, tanks which can shoot quite well a low velocity round on the move. At the same time, the platoon has three tanks with very accurate high velocity guns which must halt to shoot. With great interest, I will be watching from the sidelines for a solution to that one and others as well.

Another challenge is coming on very fast in the Army. I think you can best call this cost accounting or cost management. It will be a fact in Europe very soon and possibly is a fact here already. Already we can cost out battalions for their consumption of spare parts, gasoline, TDY money, general supplies, R&U and the rest. Costing at company level is a rather simple proposition and is already being done in some units. Very shortly, a company commander, as well as a battalion commander, is going to be judged among other things on how efficiently he can manage his resources. Furthermore, he will have the tools to manage them. We are coming into the money game fast and furiously. And in this time of tight budgets it becomes more and more critical.

Now, the last problem I want to

mention is the problem raised by equal opportunity and fairness versus discrimination—the problem resulting in racial tensions and dissent which we in the Army have inherited from our society. This challenge is not going to disappear very soon. In fact, it seems to me that some of it will never disappear in my lifetime. As much of this is deepseated emotionalism it is incapable of real satisfaction. However, these feelings can be managed and defused and channeled into gainful solutions by sympathetic understanding, by constant command attention and by education.

Some of these problems stem from false information, from imagined discrimination and from wild unfounded rumors as opposed to real discrimination. Thus, communication, understanding, fairness—these types of things—are the keys to effectiveness and mission accomplishment. The whole subject of dissent and racial equality and equal opportunity is surely one of the real problems which is going to face us in the 70s. And the whole thing falls squarely on the shoulders of the unit commander.

In closing though, let me say that I do not want to do so on a pessimistic note. I am optimistic about the future of the Army, and its future leaders. I envy the young men in their years ahead. You will have lots of frustrations. At the same time I think you will have a very rewarding, and at times a very exciting, life. Surely, the current animosity towards the service is a passing phase like some lived with before and that we will live with again. We can overcome these downswings.

I guess what I really want to say now is that you have a mission and a challenge which essentially is peacekeeping through the maintenance and manifestation of superb readiness and sharp skills. This mission is particularly applicable to the Armor arm. The potential theater of future operations and the threat are clear. The prospects are somewhat ominous and definitely challenging. So it seems to me that your future, as leaders in the Army, will be both considerable and interesting and that you have a great opportunity to live a rewarding and a satisfying life of service to your country.

Good luck to you and God bless you.



Introduction

by Brigadier General
Hal C. Pattison

Our next speaker is a man who truly needs no introduction to an audience of Armor people. He is a former President of our Association and was a longtime member of the Executive Council before that.

Few people have been as unstinting of their time and talents, particularly in retirement, as has General Bruce C. Clarke. I doubt that any single individual has appeared before as many Army audiences as he has during the past nine years. Recently, the Chief of Staff sent him on a fact-finding mission in support of the Modern Volunteer Army concept. General Clarke has volunteered to brief us on some of the salient points of his findings.

Some Thoughts on the Modern Volunteer Army

by General Bruce C. Clarke
US Army Retired

General Pattison, General Desobry, distinguished guests, members of the Armor Association.

During the last 10 weeks, I have traveled to over a dozen Army posts looking at what is being done to increase the attractiveness of the service. I'd like to point out to you that in doing this I worked for General Forsythe, who is here today. He is a great believer in mission-type orders. When he sent me on this trip, he said "Get recruits." A two-word mission-type order, that's all the instructions I've had. And that's what I've been trying to do.

Now the purpose of the recruiting program in the Modern Volunteer Army is to get as many high quality enlisted men into the Army as we can. You note that the Army does not speak about an all-volunteer Army

because "all" is pretty positive. When I commanded USAREUR, we had 84.6 percent volunteers. That's probably the optimum. The other 15 percent fit in well. That mix made a very fine army.

We must keep what we are doing in perspective. I enlisted in the Army 53 years ago. I have lived through five armistice periods. We are in an armistice period right now. Every one of them has been the same really—bring home the troops, no more wars. Soldiers say, "Well I've done my part and I'm getting out," and that sort of thing. Personnel turbulence, turbulence in appropriations, turbulence in everything. Now this sort of thing is going to go on for three or four years. It is not going to end tomorrow.

This reminds me of a story of the West Virginia countryman who went

into town as he was having problems—physical problems. He told the doctor all about his aches and pains and about his spells. When he got through, the doctor said, "Have you ever had this before?" and he said, "Yes, I've had these spells about twice before." "Well," the doctor said, "don't worry, you've got it again."

So we've got it again. But we've lived through it before. Out of the turmoil has always come a better Army. Out of this will come a better Army—I am convinced of it. I would not tell you so if I were not sure. I'm not interested in promotion. I'm not interested in a choice assignment. I don't want to go to the War College. And I don't want a command. So I can tell it to you like it is—I think.

Now a part of the program that General Westmoreland approved was

unit recruiting. I had discussed with General Forsythe the proposition of trying unit recruiting—say for the 1st Infantry Division in Kansas. General Westmoreland thought it was worthwhile to expand the experiment to seven units. I agreed. I recently visited all seven units and spent at least a day with them. In a two months period the Army has refined the instructions and techniques and so forth to the point where we are now really beginning to produce. This has not been easy. But it has been done and the units have good instructions; they have good procedures; and they are all going at recruiting with good enthusiasm.

I don't know how many were here on the 15th of July 1940 when we stood on the street out here and activated the 1st Armored Division. Just before that the members of the 7th Cavalry Brigade (Mechanized) were turned loose in the states of Kentucky and West Virginia and brought back a division. That's where the 1st Armored Division came from. We brought back a division in civilian clothes by unit recruiting. So, it can be done.

And now a few further remarks on mission-type orders. Everywhere I talk to senior commanders, they all say the same thing. "Tell me what you want to accomplish. Tell me the factors that are needed for coordination. Tell me how you are going to help me. That's all I want to know."

Everyone of them says the same thing. That's a mission-type order. But when you get down to the staff, gentlemen, they don't want that. They are going to have to interpret it. I was in General Forsythe's office the other day when somebody, a staff officer, called and said, "I have an instruction which said so and so, but he didn't spell it out exactly. What do you want to do?"

General Forsythe said, "Get recruits!" and hung up. We need staff officers that want mission-type orders and by God we don't have them. Now, why don't we have them? Because they are afraid to make mistakes.

Recently I talked to an ROTC outfit, and when I got through, the first question from the floor was, "General, what did that commander of the Coast Guard ship do wrong when he turned this man back to the Russians?" I answered, "He asked." If he had not asked, he would be still

on active duty. Now, he's been retired. If the fellow above you knows less than you do, don't ask.

I can tell you that people in the Pentagon will welcome that. I never served in the Pentagon, but now I'm learning about those that do, and they aren't as bad as I used to think they were.

Today, we must get back to the peacetime garrison type of handling our men and our training. We have a new ballgame, the situation is different than it was in Vietnam. You have been commanders in Vietnam. I have not. But I have kept track of what is going on. I have three sons in the service. Two majors in the Army and one in the Marine Corps. And they have no hesitation about telling me what's wrong with the service.

The leadership we need is not new. We have not dug up any new slabs in the desert with hieroglyphics on them that can be interpreted. The principles are not new. When you came in here you were handed a little card entitled "What Our Soldiers Have a Right To Expect from their Leaders." This was part of a lecture I gave to the First Class at West Point in 1945. I claim there is nothing on the card that anybody who wants to lead soldiers can find fault with. Nobody ever has.

In the letters that General Westmoreland gets on the misuse of American soldiers, the basis for complaint almost every time is a violation of one of these simple principles. Now,

why is this? I bring this up to you because these principles are the basis of the VOLAR Program. They were not written for that purpose, but I studied the VOLAR Program and I can find nothing in it that differs materially from what is on the card. Furthermore, I can find nothing on the card that is permissive. We have all seen things in the paper about beer, no reveille, long hair, and that sort of business. This doesn't worry me at all. I was at Benning and spent a day with the 197th Infantry Brigade, 6000 troops, and I asked about the beer business. "Oh," they said, "less than half of our soldiers want beer. That is just something to write about in the paper." Let's not get up in the air over beer and whether a soldier's hair is three inches long or three-and-a-half.

Not long ago, we took the green tabs off the shoulders of the sergeants major for some reason which I have not figured out yet. All we did was to make the sergeants major mad. My point of view is that if the sergeant major wants to wear a feather in his hat, that's all right with me. There's only one in the battalion and it takes two to establish precedent. The point is, let's concern ourselves with the proper things. As far as having a reveille formation goes, General Desobry, your commandant stopped the reveille formation in the 1st Armored Division a year before it was ever published. And the 1st Armored Division didn't go to pieces. I don't

WHAT OUR SOLDIERS HAVE A RIGHT TO EXPECT FROM THEIR LEADERS

- (1) Honest, just, and fair treatment.
- (2) Consideration due them as mature, professional soldiers.
- (3) Personal interest taken in them as individuals.
- (4) Loyalty.
- (5) Shielding from harassment from "higher up."
- (6) The best in leadership.
- (7) That their needs be anticipated and provided for.
- (8) All the comforts and privileges practicable.
- (9) To be kept oriented and told the "reason why."
- (10) A well-thought-out program of training, work and recreation.
- (11) Clear-cut and positive decisions and orders which are not constantly changing.
- (12) Demands on them commensurate with their capabilities not too small nor too great.
- (13) That their good work be recognized—and publicized where appropriate.



think that this made any particular difference—in efficiency or discipline. So let's not get ourselves exercised about that either.

You know, when I was a recruit I took training under a drill sergeant named Scott. He was a cavalryman. He was a good soldier, with about 20 years of service. Every time we had a 10 minute break, we fell out under the only tree on the parade ground and he wouldn't let us rest. He lectured to us about the Army. One thing he said which I have never forgotten was, "Young Gentlemen, never forget, the Army isn't what it used to be; in fact it never has been." That was 53 years ago and it is just as true today. It never has been. And it isn't going to be. And therein lies its strength.

Now, what is the challenge that you and I—no just you—face. I don't face it anymore, but you officers and NCOs on active duty do. You have a challenge unique among the services. That is you are charged with producing superior units with the ordinary run of manpower. No other service will attempt that. Now remember that. That, to me, makes the Army attractive. "Produce superior units with the ordinary run of manpower." And we do it. The people who do it are good leaders and good commanders.

And that leads us to the question of morale which is a thing that a lot of people do not understand. Civilians usually do not understand morale. Many soldiers do not understand it either. Morale results from only three simple things.

- The first is having a responsible job to do. From this comes job satisfaction. The greatest gripe that I get from soldiers is "I'm doing make work. I don't have a job." I get the same thing from lieutenants. "I'm doing a buck sergeant's work. The company commander is doing everything. He does not trust me because he is trying to build up good statistics. He does not want me to make a mistake."

Everyone in the Army must have an important job from which he can get job satisfaction.

- The second thing is that everyone must have been trained well enough that he feels he is properly trained to do his job properly.

- And the third thing is that somebody appreciates what he has done.

Now that is all there is to morale.

WHAT BATTALION AND COMPANY COMMANDERS HAVE A RIGHT TO EXPECT FROM HIGHER COMMANDERS AND THEIR STAFFS

- (1) That their honest errors be pointed out but be underwritten at least once in the interests of developing initiative and leadership.
- (2) To be responsible for and be allowed to develop their own units with only the essential guidance from above.
- (3) A helpful attitude toward their problems.
- (4) Loyalty.
- (5) That they not be subjected to the needling of unproductive "statistics" competitions between like units.
- (6) The best in commandship.
- (7) That the needs of their units be anticipated and provided for.
- (8) To be kept oriented as to the missions and situation in the unit above.
- (9) A well-thought-out program of training, work and recreation.
- (10) To receive timely, clear-cut and positive orders which are not constantly changed.
- (11) That the integrity of their tactical units be maintained in assigning essential tasks.
- (12) That their success be measured by the overall ability of a unit to perform its whole mission and not by the performance of one or two factors.
- (13) That good works by their units be recognized and rewarded in such a way as to motivate the greatest number to do well and to seek further improvement.

Job satisfaction, a good job, trained to do it well, and somebody appreciates it. With that, you've got a complete course in leadership.

As some of you know, in connection with the Kermit Roosevelt Lectures, we exchange very senior speakers each year with the British. In 1969 British Lieutenant General Sir John Mogg had this to say: "In my command, the task of man management is given a higher priority than the skill at arms or professional ability." That, gentlemen, is what we must get back to.

At this point it seems appropriate to say that leadership must be, and truly can only be, exercised in the climate of good commandship. Not long ago I spoke to an audience of company officers at one of our service schools. I came down strong on what our soldiers have a right to expect from their leaders. At the end one captain rose to say, "General, I understand your points and I agree. But what has the company commander a right to expect from his battalion commander?" And shortly thereafter, students at Leavenworth asked what the battalion commander had a right

to expect from the commanders above him. I had to admit that these questions were in a field that we had avoided. So, on the plane, I sat and sketched out a list of things I thought company and battalion commanders had a right to expect from higher commanders and their staffs. It is not a final product. I sent this to about 30 persons for comment.

One of the comments was, "This is hurriedly written and it has many errors of syntax." You know I was in the last section in English at West Point and I don't know what the hell syntax is. Apparently this hasn't stunted my career and I haven't looked it up. I asked somebody the other day what it meant and he said, that's the fee which you pay for opening up a house of ill repute. That's as good a definition as I need.

It seems to me that commanders above battalion, brigade, division, and so on and their staffs would follow these precepts, it would make life worthwhile for the people below them. The commanders, I find in going around, are not universally at fault. However, the staff is often at fault.

The staff fellow has got to show that he is industrious. In being so he often harasses the troops.

Red tape has been cited as one source of friction the Army must eliminate. One means to do this is to stop having staff sections subordinate to other staff sections. Section heads should report to the chief of staff or executive officer directly. When I instituted that system in USAREUR, the chief of staff was a classmate of mine. He said to me, "Bruce, that's too many for me to coordinate." "Well," I said, "Bill, I'm sorry about that because I wanted you to stay on as chief of staff. Do you have a suggestion as to who I should get in who can coordinate?" "Well," he said, "Maybe I'd like to try." Nothing more was said about that and everything went fine.

Now, size of headquarters also has a lot to do with red tape. When I took over command of Seventh Army, I inherited a major general as chief of staff, a brigadier general as deputy chief of staff for operations, and a colonel as deputy chief of staff for administration. The papers went



around that triumvirate day after day until I finally got fed up with it. I went down to a new division which had just come to Europe and talked to the assistant division commander, who was a sharp

young brigadier. I said I wanted him to come up and replace those three. "Would you like to try it?" I asked. "I sure would, sir," he replied. So I brought him up and he took over the

from a book of principles. Now all law schools teach by case method. If you are going to study the law on burglary, you have about 15 or 20 burglary cases that have been decided

There is a difference between leadership and commandship, a broad difference. I have seen commanders who never could get over being leaders and they are awfully hard to work for. We have got to do a better job in teaching the technique of leadership and commandship.

job of those three and did it in half the time. His name was Harold K. Johnson. As you know, he later became a fine chief of staff of the Army.

Not long ago, I asked 40 students at the Army War college to fill out a questionnaire on leadership and commandship. This was done before my talk to their class in order that they would feel free to be completely objective. These students are smart people, being well within the top 15 percent of officers in the Army.

One question was, "If you were appointed Chief of Staff of the Army tomorrow, what are the first five things you would do to improve the Army?" Their strong first choice was to eliminate or cut down on the size of headquarters.

And now a related area—there is a difference between leadership and commandship. There is a difference, a broad difference. I have seen commanders who never could get over being leaders and they are awfully hard to work for. We have got to do a better job in teaching the technique of leadership and commandship. We teach very well the principles. I bet that everybody here could sit down and write a very good paper, a page-and-a-half, on the principles of being a good company commander. But the technique of how to do it is another matter. We must teach technique of command. People used to study law

by the courts. After you study them through and analyze them and so forth, you get a pretty good idea of what the law is on burglary.

I would like to suggest that the Armor School prepare a case study of the technique of the command of an armored company. Students could write up two or three experiences illustrating the special problems which confronted them as company commanders, what was done about these and what the results were. Such a book would be fascinating and it would be the best instruction one could get. I think our school would lead the entire Army school system with that sort of thing. I think everybody would follow.

I would like to end with a story that probably is a little silly, but it makes me laugh and maybe it has some application.

There was a countryman in Vermont who went into a general store and found only the proprietor there. Tom, the boy who had worked there, was not present, so the man asked, "What's become of Tom?" The storekeeper replied, "Tom ain't here no more." Well, the customer went on with his shopping and finally he said, "Have you thought about who is going to fill Tom's vacancy?" The storekeeper said, "Tom didn't leave any vacancy."

I suggest to you that whenever you go to a new assignment, you leave a hell of a big vacancy.



New Initiatives in Armor

by Major Nathaniel W. Foster Jr.
US Army Combat Developments Command Armor Agency

Gentlemen, the United States Army Combat Developments Command Armor Agency is pleased to be afforded this opportunity to make a presentation to you. We are going to forego the usual method of presentation. You will not see any organization charts, wiring diagrams, or capability statements. Instead, we propose to challenge you with some new initiatives in Armor—initiatives to meet the current threat, a threat which retains its magnitude and preponderance of mechanized strength; a threat committed to mobile combined arms warfare with emphasis on the continued offensive.

The Soviet Army together with its Warsaw Pact allies represents the largest mechanized ground force in the world today. The Warsaw Pact allies are capable of employing heavily armored forces against the NATO allies in Europe on fronts extending from Denmark in the north to Italy in the south. Soviet doctrine stresses that the offense will be conducted from the march by fast-moving tank and mechanized forces. Rapid, hard-hitting, round-the-clock attacks are coordinated with conventional rockets, air and artillery fire. Small airmobile and airborne forces may be employed in rear areas. Their integrated weapons systems include medium and light

artillery, medium tanks, air defense weapons, rockets, mortars and small arms.

We must be prepared to meet this strength within the constraints of manpower ceilings, decreasing budgets, and increasing costs. To achieve this we must use every technique available to increase our combat effectiveness. One hears continually that we aim to offset their quantitative advantage by maintaining a qualitative advantage, both in professional soldiers and effective weapons. This is easily said, but four salient conditions must be met if we are to make this qualitative advantage work.

- We must have the requisite mobility about the battle area to apply our qualitative advantage at the decisive point.
- We must have rapid, accurate intelligence to determine where the decisive point is.
- We must have rapid means of decision making and control to enable us to be there at the decisive time.
- We must be able to employ our weapons systems both day and night, in rain and fog, dust and smoke, whatever the conditions.

Considering the last point first, we must be able to fight at any time. Night and adverse weather have long hampered combat operations, giving

an advantage to the attacker. For example, would there have been a Battle of the Bulge if our reconnaissance had been able to penetrate the adverse weather to detect the German buildup? Would the Nazis have infiltrated past our positions if our ground soldiers had been able to observe their movements in the driving snow and black of night?

Probably you are all familiar with starlight scopes which amplify ambient moonlight or starlight several thousand times. These devices are a major step forward over white and near infrared searchlights. However, they are adversely affected by atmospheric conditions, and smoke and dust on the battlefield. A major new initiative lies in the area of thermal imagers—devices which “see” a target because of its difference in temperature from its background. Although the details of these devices, applicable to ground and aerial use, are classified, we can outline their employment and characteristics in broad terms.

One thermal imager is FLIR (Forward Looking Infrared Target Acquisition and Fire Control System). It is called forward looking because when mounted on the nose of a helicopter, it looks in the direction of flight.

For the next few minutes imagine yourself flying in the dark of night—

then turn on FLIR and see as if by day: another helicopter is seen against the background of a valley at night; houses, roads are plainly visible. Even the speediest transporter is no longer hidden by the dark of night. The operator can reverse the color from white on black to black on white to best reveal the contrast.

Another fair infrared detection system is called PINE, or Passive Infrared Night Equipment. Another device, called FIRT, or Far Infrared Target Indicator, has been tested on some tanks. An experimental "breadboard" model mounted externally has been used in initial tests. Follow-on models will be installed inside the turret. These systems represent a major breakthrough. In some cases they also enhance target acquisition by day as they will easily penetrate camouflage. Any hot object stands out vividly.

Tests have also shown that thermal imagers markedly increase second round hit probabilities with tank guns (both in the day and night) as they are little hampered by obscuration or dust, and, tracer rounds show up very well on the imager. They also have a capability to detect buried mines from ground or aerial vehicles.

Such an all-weather vision capability for the crews of ground and aerial vehicles is a major priority, and thermal imaging devices seem to offer many advantages. Our goal for night vision is to ensure that we put the best device for our purposes on our combat vehicles, and to develop doctrine to capitalize on the capabilities these devices promise to provide. Thermal imagers are a part of the ever-increasing field of STANO, or surveillance, target acquisition and night observation devices. These devices are rapidly increasing and night observation decreasing the effectiveness, and also complexity, of mobile warfare. A second major type of STANO device is the sensor—an instrument which greatly extends our capabilities of surveillance, long a mission of cavalry units.

How many of you have ever felt the frustration of knowing that the area or zone assigned was too large to survey adequately? How many times have you wished for 50 additional pairs of eyes to cover avenues of approach—eyes that never sleep? Sensors, particularly UGS, or unattended ground sensors, are not an all

encompassing solution. There is no substitute for an alert, well trained observer; but they do offer a dramatic means to increase the density, intensity, and range of surveillance operations. Unattended ground sensors detect potential targets by transmitting radio frequency signals whenever disturbances of a seismic, acoustic, magnetic or physical nature occur in their vicinity. When used in an alerting role in conjunction with radar or passive night vision devices, they are a potent means of increasing our knowledge of enemy movement, which is so important to our ability to react in a timely manner.

Though developed for Southeast Asia and the problems of low intensity conflict, one of our new initiatives is to use these devices to increase our effectiveness on the more conventional battlefield. You can, of course, visualize how UGS can aid in the surveillance role, but consider the attack of an objective by a tank-heavy team. UGS delivered by indirect fire on the immediate rear of the objective could give indications of the enemy's withdrawal from the objective. This information is valuable in the assault phase. Delivered deep in the enemy rear, on avenues of approach, UGS can give warning of the movements of reinforcements, or of an impending enemy counterattack during the consolidation phase. Additionally, they can be delivered on suspected enemy firing positions to locate the enemy's supporting artillery. These are brief examples of techniques which are currently being written into armor field manuals. In the current revision of FM 17-36, *Divisional Armored and Air Cavalry Units*, there is a new chapter called "Surveillance Planning," which provides guidance for the use and integration of STANO devices.

Since one result of this increase in target acquisition means will be an increase in information available to the commander, the means by which he makes decisions must be streamlined. This is, in our opinion, another area where Armor must take the initiative. The commander must have technological support since all evidence indicates that the manual command and control system will become saturated with information as our ability to find and fix the enemy improves. As has been indicated, the improvement of this capability is moving by leaps

and bounds. But a word of caution is in order—there is no substitute for the commander and his staff, so the use of technology must be tempered. The total automated battlefield is not considered an attainable or desirable goal in the next few decades. IBCS, or the integrated battlefield control system concept, has been the driving force behind technological advances and is critical to Armor tactical command and control.

Compact, modular, militarized ADP equipment can be provided to tactical units and operate with the same degree of reliability currently enjoyed with our family of tactical radios. This equipment is currently being tested for TACFIRE, our first ADP-supported requirement. We feel we must go even further and Armor must take the lead in establishing compact modular tactical command and control packages that are as mobile and quick reacting as any weapons system or unit they control.

We must eliminate the necessity of throwing up canvas, manually erecting, tall antennas, and establishing elaborate command posts. The TOC must be fully linked with the commander at all times; it must be flexible enough to afford full, formal direction and control, and still move with the commander for "off-the-cuff" operations.

Battle area mobility is still yet another initiative, and it takes two forms—the ability to move in the immediate conflict area, and the mobility to move between conflict areas. Our major new initiative in the latter area is in the air—the movement of mobile, direct-fire weapons systems into the third dimension. Last year the vehicle for this concept, the air cavalry combat brigade, was discussed. This afternoon the Armor School will bring you up to date on the latest chapters in attack helicopter developments. For now, let us look at ground mobility. The increased mobility of future Main Battle Tanks will cause a concurrent requirement for an increase in the mobility of our reconnaissance vehicles. In this respect, we have taken the initiative in examining reconnaissance and security missions in Europe.

ARSV, armored reconnaissance scout vehicle, will afford marked improvements in cross-country mobility, firepower to meet the threat, survivability, and target acquisition.



It will be costly to equip all our armored cavalry platoons with this vehicle. Could we perhaps perform some of the missions of armored cavalry differently?

Napoleon said, "Every army must change its tactics every 10 years." We are considering different tactics in the form of light and heavy cavalry units: light units of scout helicopters and small, quiet ground vehicles to perform light reconnaissance and surveillance missions, making maximum use of STANO devices, to include sensors; heavy cavalry units organized and equipped for heavier reconnaissance and economy of force missions using larger ground vehicles and light attack helicopters. I would emphasize that these concepts are not approved at this time, and are only ideas which are being investigated together with other possibilities.

Some interesting vehicles are under test, or will soon be tested, by the Armor and Engineer Board. These will be measured against these concepts. One vehicle is the "Dune Buggy." Another vehicle is the *Twister*, which will be demonstrated this afternoon. A new concept envisions *Twister* in a tank-killer role using a multiple TOW missile launcher. This concept, especially when teamed with TOW-firing helicopters, offers a practical means to exploit mobility to assume some of the burden of the antitank role from main battle tanks.

Another initiative in this area,

XM803 OPERATIONAL SERVICE TEST

Determine the:

1. increase in combat effectiveness of an XM803 platoon over the current tank platoon.
2. reliability, operability and maintainability of the XM803.
3. logistical and maintenance requirements to support units equipped with the XM803.
4. changes to present doctrine tactics and techniques of fire required by the XM803.
5. organizational impact and BOI for the XM803.
6. adequacy of training programs for crew and support personnel proficiency.

called MISTIC, is to stop massed enemy tanks by other means so that our tanks may play a more offensive role. Recent developments indicate that indirectly fired, terminal homing and true fire-and-forget missiles may not be as far off as was previously believed.

Such systems, while offering tremendous advantages, are not without complications. So we must temper our impulse to rush headlong down this path. The ability of, say, a scout, to guide an indirectly fired missile onto a target at great range, and with little exposure to himself, raises the question of how to integrate this system with our missile firing tanks. It is such questions which we in Armor

must answer as we proceed with these new initiatives.

You may say, "These ideas and new weapons systems are interesting now, but it takes too long to field them. What are you doing to shorten the developmental cycle?"

As many of you know, time drags on as we complete a cycle of tests to ensure that what we commit ourselves to buy is effective. Mistakes are costly, and money is a major constraint; but, delays cost money too. A major new initiative in compressing the test cycle is the proposed OST, or operational service test. While the name may change, the OST concept combines the normal service test with a series of field evaluations or

FROM THE DEPARTMENT OF SARTORIAL SPLENDOR

The fickle finger of fashion (FFF) has left us with a limited stock of beautiful Armor and Cavalry ties perfect in every respect except that they are in a 3" width. These originally retailed for \$6.00. We are now forced to offer them to you for \$4.49 each. Please send no money with your order; this will save us making refunds when this spectacular bargain sale is ended for lack of merchandise.

ORDER BLANK

Please rush me _____ (Armor) (Cavalry) ties in the 3" width for \$4.49 each. I understand that there is a 4-1/2% discount for orders of 3/4 dozen or more.

You have a problem which I can't bring myself to help you solve. Please send me _____ (Armor) (Cavalry) ties in the new 3-1/2" width for \$6.50 each.

My suggestion for eliminating the 3" ties from the inventory is _____

NAME and ADDRESS:

user tests. Unit personnel, not factory representatives or test personnel, operate the equipment in a semi-tactical environment to assess materiel, training, doctrine and support implications of the new equipment.

The first tank to be tested under this new, yet to be formalized, test procedure will be the *MBT/XM803*. This tank, when placed in the hands of the troops, will be the best tank ever built. As you know, this tank was started as a joint developmental effort of the United States and the Federal Republic of Germany. It has since turned into a cooperative effort, with each country proceeding on its own. Close coordination is maintained between both countries so that each may take advantage of the scientific know-how and expertise of the other. This commonality of interest and close cooperation will result in the end product of two distinct, yet similar, superb fighting tanks.

The *XM803* is so completely new, and will contain so many new developments, that numerous innovations will

be required in all areas. Studies are either in progress or programmed on new doctrine, tactics, logistics, gunnery, testing, and so on.

The innovative OST will be jointly evaluated by the Combat Developments Command, the Army Materiel Command and the Continental Army Command. These commands are locally represented by the Armor Agency, the Armor and Engineer Board and the Armor School.

The entire test will last one year and include 6000 test miles. There will be several field exercises with an *XM803* platoon and an *M60A1* tank platoon for comparison. The results of the OST will give Department of the Army invaluable information upon which to base full production and development decisions.

Gentlemen, we recognize that you here today represent the most knowledgeable accumulation of expertise in Armor which could possibly be assembled. As we do not claim to have a corner on imagination or ideas, we have not presented our

solutions. We have presented our initiatives: Armor's initiatives, to seize new ideas and develop them into increased combat effectiveness. In closing, we the members of the Armor Agency, would like to present a challenge to the Association and each of its members. We have raised some of the many questions and problem areas which are under investigation at this time. Your comments, suggestions, or ideas will be most welcome at the Armor Agency.

We challenge you to join us in pooling our resources in order to ensure that Armor makes the best possible decisions so that our maximum potential is reached. This is necessary if we are to be able to meet and defeat the Communist threat should that ever become necessary. There will be no second chance. With such high stakes, it is imperative that we leave no stone unturned in an effort to gain and maintain a supremacy on the battlefield which will either deter or defeat the Communist threat.

Application for Membership or Subscription

TO: THE UNITED STATES ARMOR ASSOCIATION

1145 19th Street, NW, Washington, D. C. 20036

NAME _____ ☐ NEW
 ADDRESS _____ ☐ RENEWAL
 CITY _____ STATE _____ ZIP _____

PLEASE FILL IN ALL APPLICABLE SPACES IN 1, 2 OR 3 BELOW

1. ACTIVE DUTY MILITARY MEMBER	<input type="checkbox"/> REGULAR <input type="checkbox"/> RESERVE <input type="checkbox"/> ARNG <input type="checkbox"/> USMA	_____ (grade)	_____ (service)	_____ (branch)
		_____ (social security number)	_____ (unit)	
2. OTHER MILITARY MEMBER	<input type="checkbox"/> REGULAR <input type="checkbox"/> RESERVE <input type="checkbox"/> ARNG <input type="checkbox"/> ROTC <input type="checkbox"/> RETIRED <input type="checkbox"/> VETERAN	_____ (grade)	_____ (service)	_____ (branch)
		_____ (social security number)	_____ (unit) (if veteran or retired indicate former unit)	
3. SUBSCRIBER	<input type="checkbox"/> DOMESTIC <input type="checkbox"/> FOREIGN	<input type="checkbox"/> INDIVIDUAL (FOREIGN MILITARY INDICATE RANK, BRANCH, ETC. IN 2. ABOVE) <input type="checkbox"/> MILITARY UNIT <input type="checkbox"/> BUSINESS, INDUSTRY, ETC. <input type="checkbox"/> LIBRARY, EDUCATIONAL INSTITUTION		

Dues for members (including subscriptions to *ARMOR*) and domestic subscriptions \$18.00 three years; \$12.00 two years; \$6.50 one year. Cadets and midshipmen only \$5.00 per year.



The Banquet Address Introduction

by Brigadier General Hal C. Pattison
24th President, The United States Armor Association

JUDGE GORDON, GENERAL POLK, GENERAL MILEY, GENERAL DESOBRY, DISTINGUISHED GUESTS, FELLOW MEMBERS:

For three years the officers of your Association have sought to have the Vice President as our banquet speaker. This year, for the first time, he was able to fit our meeting into his busy schedule. I know that you came here tonight to hear him speak—not to listen to a long-winded introduction. I will, therefore, be brief.

In any case, what could I say about the civil and political attainments of our Vice President that has not already been said many times? I do believe that I can say with confidence, however, that this is one Vice Presi-

dent who will certainly not soon depart into the limbo of forgotten men!

There is one part of our speaker's service to the Nation that does not seem to be as well known. All here will be interested in it. I refer to his military service which totaled five years altogether—53 months in World War II and seven months during the Korean Conflict. He entered the service as a private in September 1941. He attended the Armored Force Officer Candidate School here at Fort Knox and was commissioned a second lieutenant in May 1942. He was promoted to first lieutenant in September. He served with the 8th and 20th Armored Divisions in the United States and then went overseas as a replacement officer in mid-1944. He joined the 10th Ar-

mored Division (which was then commanded by our late Honorary Vice President, Lieutenant General W.H.H. Morris) and served with that division until it returned to the United States after VJ Day. He was a rifle platoon leader and commander of Service Company of the 54th Armored Infantry Battalion which was with CCB at Bastogne. He was awarded the Combat Infantryman's Badge, the Bronze Star Medal and the Presidential Unit Citation.

Mr. Vice President, The United States Armor Association is proud to welcome you back to Fort Knox and to our speaker's platform.

Gentlemen—The Vice President of the United States—The Honorable Spiro T. Agnew.

The Banquet Address

by The Honorable Spiro T. Agnew
Vice President of the United States

Members and guests of the Armor and American Ordnance Associations:

It's a pleasure to return to Fort Knox. And I must confess that I find the circumstances somewhat different from nearly 30 years ago when I reported here for Officers' Candidate School.

Although I vividly recall the weight of responsibility shouldered by the military in those World War II days, those in positions of high command had a distinct advantage over their counterparts of today. Their detractors were all overseas.

The challenge to military professionalism has never been greater than today. The armed forces are being subjected to an antiwar and antimilitary movement, perhaps more vitriolic this time than in other periods of our history. For today the unpopularity of a war is compounded by the fact that our country is experiencing intense social pressures which result from vast scientific, technological and cultural changes. And in an international sense, while we are

still engaged in the crucial, final stages of our Vietnam involvement, the overriding requirement of an effective nuclear deterrent is being made more difficult by accelerated efforts on the part of the Soviets in strategic weapons development.

Except for World War II, when Pearl Harbor peremptorily silenced the pacifist-isolationist movement of the 1920s and 30s, a substantial anti-military sentiment has existed in our country, even in the ranks of its citizen-soldiers. Furthermore, deeply ingrained in the American tradition is the belief that, once the battle is over and the mission accomplished, the armed forces should be brought home and disbanded without delay.

Going back beyond the experiences of World Wars I and II, which are more familiar to most of us, the Civil War is a good example of the two traits just described. During the war there were large draft riots in New York that had to be quelled by armed force. And after the war, the Union Army, of over a million men in 1865,

was reduced to one-tenth its size in just one year. By 1880 our Army had leveled off at a strength of approximately 25,000. These forces had to be expanded to over 200,000 during the Spanish-American War but were drastically reduced thereafter despite the requirements of the Philippine Insurrection.

Commitment of U.S. forces in the Philippines caused widespread domestic dissent. A motion was even passed in one of our state legislatures "extending sympathy to the people in the Philippines in their heroic struggle" against the US forces. Also, the Army's control of the trans-oceanic cable from Manila back to the United States led to expressions of outrage in the press over "news-management." Sound familiar?

Between World War I and World War II the Army, and in particular its ROTC program, came under attack by pacifists and other critics. Once again reduced to a small force, averaging between 150,000 and 200,000, the Army grew more isolated from



society. But with remarkable dedication, the Army directed its energies inward—to improvement through greater professionalism.

Thus, I urge you to reflect and take courage in the realization that, as far as dissent and domestic anti-military sentiment go, you are traveling a familiar, well-worn path.

Today the armed forces face a domestic situation similar in many respects to that prevailing after the Korean War. In that conflict, enthusiastic early support for the war later turned to frustration and an unwillingness to accept the costs in human lives and fiscal expenditures to achieve the limited goal of a battlefield stalemate. Yet, as we all know, the stalemated war in Korea stopped Communist aggression and provided for the South Korean people the opportunity to establish a stable, democratic government.

One puzzling aspect about current dissent is the frequency with which the word "defeat" is used to characterize our Vietnam experience. I

challenge anyone to justify that conclusion. The mission of the armed forces has essentially been two-fold: first, to prevent the military domination of South Vietnam through unchecked Communist aggression; and, second, to advise and train the armed forces of the South Vietnamese.

The first goal has been achieved. Communist troops have been unable to take over the South by military force. Moreover, the heavy casualties inflicted on the enemy have proven, time and again, the inability of the invaders to mass significant forces without being subjected to the punishing firepower of Allied ground and air forces.

We have made dramatic progress in our advisory and training efforts, particularly in the past two years. The South Vietnamese have now assumed responsibility for almost all naval operations. They are conducting air-mobile operations with their own helicopters and taking over a greater proportion of the close air support mission. The South Vietnamese are

continuing an impressive effort to upgrade the regular as well as provincial ground forces into competent, professional military units. Clearly, the struggle has not ended and American casualties, though reduced, still exact a painful cost. But to characterize this performance as a "defeat" and to demand that we precipitately abandon it is ludicrous—and an undeserved injustice to those valiant men who have borne this burden.

Now, looking ahead, what can we expect to happen to the military? Have we really learned anything from history? I believe we have.

The United States cannot afford, nor does it intend, to decimate its general purpose forces as our involvement in Vietnam is brought to a conclusion.

The President has made it clear on many occasions that international realities and the imperatives of national security require strong military forces. I can assure you that, unlike some periods in the past, our military leaders, in planning for the

future, have ready access to the highest civilian policy makers in the government. Military counsel is considered indispensable in the consideration of basic issues affecting national security.

The "massive retaliation" strategy of the 1950s, which relied on our strategic nuclear superiority, is inappropriate to our present needs. The requirement for credible conventional forces—a basic ingredient of the "flexible response" strategy of the 1960s—is essential to our strategy of "realistic deterrence"—a strategy designed to discourage both nuclear and conventional conflicts.

This strategy acknowledges the realities of the contemporary world in which the United States must exist. Domestic considerations—fiscal, political, and humanitarian—cannot be ignored. But they cannot be even relevant unless we effectively deal with the overriding strategic realities facing us today. For we live at a time in history when the consequences of instability and disorder in the world are far more menacing than ever before.

The conditions of near nuclear parity with the Soviets and their momentum in the strategic field give us great cause for concern. The inability of either the Soviet Union or the United States to dictate events in their respective areas of special interest around the world, and the increasing need for reaching some agreement on strategic arms limitations have shaped our strategy for the post-Vietnam period. This strategy is designed to implement a foreign policy based on the principles of partnership, strength and a willingness to negotiate.

We are a world power and we expect to remain one. Although the Nixon Doctrine seeks a clearer definition of our interests in specific areas, it assumes that a world order of stability and peace is linked to United States interests and security. Thus, the doctrine does not suggest that our interests and responsibilities are or can ever be confined to United States territory and surrounding waters, nor that our security can be assured from within a "Fortress America." While it announces, as policy, a reduction in the United States presence overseas and an expectation that our Allies will contribute more fully to the collective security, the Nixon Doctrine

is a policy which reaffirms the treaty commitments which now exist. These commitments, adequately supported, represent the best hope for the strategy of peace set forth by the President.

For the concept of partnership to serve as an effective component of a strategy of realistic deterrence, it must be based on strength. It is also essential that we establish evidence of a shared mission with our Allies. Such evidence may vary from region to region, but the basic principles that should apply in all cases are:



- A common interest in a forward defense.
- A capability to assist or support our Allies with a wide range of options.
- A guarantee of US involvement that is relevant to the ally concerned and proportionate to our national interest in the area.

We have demonstrated our commitment to the security of Western Europe for more than two decades. Our forces stationed there provide the most visible and viable indication of this commitment. They are committed to the deterrence of aggression at any conflict level, and, should deterrence fail, they are capable of applying whatever force may be required to counter the aggression.

The commitment in our armed forces, in Vietnam as in Korea, has demonstrated our determination to

make good our pledges to assist our Allies. In Vietnam the Army has had the principle role . . . and has performed in an outstanding manner, despite the unprecedented difficulties encountered in fighting that war. The fruits of your efforts have been long in coming. But as the South Vietnamese are increasingly able to take care of their own defense the goals we seek become nearer at hand. The military's achievements, both in combat in Asia and in carrying out our military assistance programs there, have provided the necessary framework for peace and security in that part of the world.

Because the Soviet Union and others may view domestic dissent against the war and the military as a picture of apparent American exhaustion and lack of will, it is essential that the strategy we adopt be supported by a visible capability. Strength, then, is the central pillar of the Nixon Doctrine. Although our strategic nuclear power remains the essential backdrop to our total deterrent, shifting strategic realities could cause a potential foe to test our will by the threat or use of force below the level of general nuclear war. Thus, as the President has stated, our conventional forces play a vital role in deterring war as well as providing the appropriate and responsive capacity to defeat conventional aggression. The President has therefore pledged to "maintain the required ground and supporting tactical air forces in Europe and Asia, together with naval and air forces." The presence of US ground forces, standing guard on our Allies' soil, is the ultimate demonstration to any potential aggressor that we will honor our national commitments. Tactical air power provides a swift and flexible military instrument which forms, with the Army, a natural land-based team. Naval forces guarantee the extension of US conventional forces overseas by maintaining essential sea-lines of communication and augment our conventional capabilities by performing special operations in conjunction with Marine Corps and Army forces. These resources must be backed by a ready reinforcing capability, and, ultimately, the vast mobilization potential of the United States.

The challenge to today's military professionals is clear. Responsive to the Nixon Doctrine, and our strategy



of realistic deterrence, you must maintain the military skills, provide the proper organizations and determine the required weapons and equipment to insure this Nation's preparedness to defend itself and meet its commitments. Your tasks will require:

- Constant evaluation and evolution of doctrine to include adaptation of lessons learned in Vietnam and other areas of the world.

- First class research and development, test and evaluation programs to ensure that we capitalize on technological advances which may impact heavily on military tactics and national strategy.

- Military assistance to allies, a key ingredient of the Nixon Doctrine, that

is perceptive, imaginative and well-managed, if we are to make the most of limited funds.

- Intelligently fashioned decisions concerning the allocation of funds between the competing requirements of strategic and conventional forces, and between the demands for modernization, readiness, research and manpower requirements.

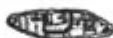
- Reserve components maintained at an unprecedented level of readiness.

The smaller Army of the 1970's must be a better one with greater skill, flexibility, mobility and firepower. And, in the face of public criticism, the Army—like all the armed forces—must maintain the discipline, esprit and morale of its men and

women despite the considerable problems of drug abuse, dissent and racial discord.

The challenge to military professionalism in the 1970s will be great indeed. The accomplishment of the tasks I have enumerated will require leadership and dedication of the highest order. You will have to accept virulent criticism from some sectors of the public without becoming embittered. Your responsibilities—to achieve preparedness, to be effective in war, to offer sound guidance on national matters involving security—will require an extraordinary effort.

Although the challenge is great, I am convinced that you can and will meet it.



Vice President Agnew accepts a Master Tankers Award from Major General William R. Desobry, Commanding General of the Armor Center and Vice President of the Armor Association. The Vice President commented, "This is really overwhelming for a fellow who barely mastered the halftrack."



firepower at fort knox



PHOTOS BY LTC CHARLES E. CANEDY



The Business Meeting

Presidential Observations

by Brigadier General Hal C. Pattison
24th President, The United States Armor Association

Before we get on with the agenda of our business meeting I wish publicly to thank General Desobry and General Patton for the outstanding presentation put on by the panel of students at this morning's meeting. It certainly was thought provoking and will, I trust, be only the beginning of a continuing study and examination of the leadership problems which are a major issue in civil life as well as in the military services today. I think it is typical of the dynamism of *Armor* that it is taking the lead in this type of study. All of us should be proud of the type of young officers who contributed so brilliantly this morning. If any other organization or institution has undertaken such an exploration as this presentation represents I have not heard of it.

We were all informed and edified by General Polk's challenging and inspiring views on the responsibilities and rewards of being a military leader today. Likewise, General Clarke's frequently witty and always down to earth advice should help us all to steer a clear course despite the confusions of the times.

This meeting marks the 82d occasion, since our Association was established in 1885, that its members have assembled to listen to presentations and to discuss matters in order to increase their knowledge of the military arts and sciences and to promote their professional attainments. As has been said before today, it is a difficult

time but also a time of opportunity—a time for study, examination and exchanges of views. At this point, I cannot forbear reminding you that the one forum open to every member of the Association—either as a contributor or as a reader, or both—is our professional journal, *ARMOR*. The magazine, as well as the Association, was saved during a controversy of many years in the post-World War II period in large part because it was the only platform available to the *Armor* company grade officer or senior NCO who had something to say and wanted to get it said. Our journal continues to be a sound professional publication, highly regarded by students of military matters, open to all its members who have a timely topic and are willing to compete with their peers for space in its pages.

In my view, every professional *Armor* man is demonstrating a degree of disinterest in his own professionalism if he fails to read the magazine, a subscription to which goes with membership in the association. Of course, all here are members but I urge that you help to spread the word and assist in promoting membership among your own contemporaries.

I must report to you that the tenure of our present Secretary-Treasurer, Colonel Sonny Martin will end in July, at which time he will move to Fort Leavenworth to become the editor of *The Military Review* when its present editor retires from the service.

I wish publicly to thank Colonel Martin, on behalf of the Association, for the outstanding manner in which he has carried out his duties over the past four years.

Colonel Martin will be succeeded by Major Robert E. Kelso who has just returned from Vietnam and who is postponing his well earned leave with his family in order to be present here at Fort Knox this week. Major Kelso has impressive credentials and I am sure he will soon establish his own enviable record as editor.

Finally, I know that each of you joins me in thanking our hosts here at the Home of *Armor* for having invited us and for having worked so hard to make our meeting a fruitful one and our stay both comfortable and enjoyable.

(The Secretary-Treasurer reported that the Constitution requires that five percent of the membership present in person or by proxy shall constitute a quorum for the transaction of business; that the active membership on 5 May 1971 was 4776; that 458 active members were present in person and 542 by valid proxy for a total of 1000; that 239 active members were required for a quorum; and that there was a quorum. It was then moved, seconded and voted unanimously to dispense with the reading of the minutes of the 81st Annual Meeting since the proceedings had been published in *ARMOR*.)

Report of the Secretary-Treasurer and Editor

by Colonel O. W. Martin, Jr.

General Pattison, Fellow members of The United States Armor Association:

The tradition is that the Secretary-Treasurer of an association rises at the annual meeting, clears his throat and begins his report to the assembled membership with the statement that he "has the honor" and then mentions what a great time of progress it is for the society. That's the tradition. In this case it is probably more accurate to say that I am gladly seizing the opportunity of a captive audience, the members of which I hope to inform and then to convince to work harder for their professional association as it goes through some challenging times.

The most important means for our association to realize its objectives is its journal *ARMOR*. For that reason *ARMOR* is the major financial indication and gauge of both our professional influence and our business operations.

In common with all military professional journals, ours has suffered some loss of paid circulation as a result of diminishing Army strengths—both in people and in units. In 1969, *ARMOR* had a per issue average of 9400 total paid subscriptions which

included those of nearly 5000 members. In 1970, this average was only 100 less. But, whereas the average paid circulation per issue had risen consistently with but three minor exceptions from the January-February 1967 issue to the March-April 1970 issue, it began to fall off with that issue and has fallen with each issue since. Thus from an all-time high of 9837 paid for March-April 1970 we fell to 8180 for March-April 1971.

Seven hundred of this 1657 loss resulted from the expiration of a US Army Vietnam Special Services bulk order which was not renewed. While the present 8180 is still a gain of 2400 over where we were when the period of steadily rising circulation began in 1967, the recent trend is alarming and demands that each of us do something about this serious matter.

The potential for increased circulation is truly arresting. Nearly three quarters of the Armor officers on active duty are not Armor Association members. Less than 200 active Army senior non-commissioned officers are members. In contrast to several battalions and squadrons

where Armor officers and senior NCO membership is a respectable 75-85 percent, there are battalions where only one to three Armor leaders are members and sometimes this does not include the commander.

I believe that I am correct in saying that every officer and senior NCO of General Weyhenmeyer's 50th Armored Division of the New Jersey Army National Guard is a member. And this includes those of other branches as well. On the other hand, there is an Army National Guard Armored Cavalry Regiment which has but four members.

Someone among your Association officers has written to every Active Army division and armored cavalry regiment commander, every Active Army battalion and squadron commander (your secretary-treasurer has written the latter twice in the last five months). Every State Adjutant General and the project officer appointed by him as well as the few Army Reserve Armor unit commanders have each been sent one or more letters. Each was urged to support AUSA and the branch professional journals in general and *ARMOR*



in particular. The *ARMOR* pitch was stronger in letters to Armor people. Response by some, most remarkably to include some non-Armor commanders, has been great. Unfortunately, in other cases, there has been no noticeable response. However, had this letter writing not been done, we believe the situation would be dire.

But the point to be made now is—what has each of you sitting here today done? Have you done all you could? Have you explained the benefits of Armor Association membership and need for the Association's support by Armor people—to the Armor officer non-member at the desk next to yours in the Pentagon? To the nearest Armor first sergeant? To the Armor reservist who lives down the street? To the 50 plus percent of the Armor leaders in your battalion or squadron who do not belong? To a fellow student? To a commander whose unit fund does not subscribe? This is not a charity to be given donations or to be the object of a drive like the home for unwed mothers. These are *your* professional association and journal and they depend on what *you* do for them throughout the entire year.

1970 was a strong year financially, which saw your Association earn income of over \$7500. \$4300 of this was profit on books and professional items. Happily also, *ARMOR* Magazine operated in the black due to stringent economies, but economies which we feel did not cut quality below acceptable standards. However, in this regard, had we more income we could incorporate more attractive full-color illustrations as does our arch-rival *INFANTRY*.

The last two year's successful operations produced the cash to buy much needed modern circulation machinery.

This has made our operation much more efficient and our record keeping more accurate. And it will result in appreciable savings over the coming years.

Our latest informal printing contract calls for the same high physical quality of *ARMOR* at about 3 percent less than last year. Copy production cost remains about 60 cents.

The stability of your Association, and those with whom it does business, might be illustrated by the fact that we have had the same printers—William Byrd Press of Richmond

which merged with Garnett and Massie a few years ago—since 1932. Furthermore, *ARMOR* and its predecessors have been printed by only five different companies since the first issue was published in March 1888. And we have had the same bankers for 51 years. Hardly a fly-by-night outfit!

Which leads to the next point. When you believe, or learn of someone else who believes, that we have not given proper service or have misposted a membership record, or some such thing, please do this. Write or phone us immediately. Do not tell others anything at all about the matter until we have the chance to do the right thing. With but one exception, I know of no one who has put a complaint in our hands who has not gotten superb attention to it and prompt resolution of the matter. Unfortunately however, I know also of a few people who have bad-mouthed our Association and its staff directly or indirectly in a most unfair way. Please help to stop this when you have the chance.

Most of our investments are made with money paid in as dues and subscriptions which has not yet been earned as income by our delivering *ARMOR* Magazines to members and subscribers. Rather than have this money idle, it is invested in government bonds and high grade securities legal for investments by trusts in the District of Columbia. The investments are closely supervised by a committee of members experienced and skilled in the field. The investment committee chairman is General Holbrook.

At the end of 1970, our common stock holdings had cost \$31,215.97 and had a market value of \$31,505.51 which represents a paper gain of only \$289.54. This was quite good considering the state of the market at that time. On 5 May, these figures had increased to \$37,377.81 cost and \$39,484.75 market for a paper gain of \$2106.94. Income on investments for 1970 was \$2274. The investment committee is now pursuing an aggressive, but prudent, course which should see greater earnings from investments in 1971. These will, in turn, help in part to permit us to produce an increasingly high quality journal while keeping dues and subscription prices at reasonable levels.

As you know, I have had the privilege

of being your Secretary-Treasurer, and the Editor of your professional journal, for over four years. I have tried hard to serve you well and in so doing have been helped by a changing but consistently dedicated and able staff to each of whom you and I owe more than we have given, or have to give. Without these young officers and soldiers it would not have been possible to do what good things have been done. Moreover, in violation of the tradition of mentioning women in the mess, I want to acknowledge publicly the direct role my wife Dunc has played in supporting me not only in wifely ways but by pitching in as a volunteer when help was needed.

And many of you here have been wise counsellors, true friends in times of need when you put aside your own problems to listen patiently to my lesser ones. And you were loyal supporters who did not waver when unconventional approaches were tried. Furthermore you have never since mentioned those that were less than fully successful. Special mention goes to the four presidents for whom I have served—the late General Brown, and Generals Waters, Wright and Pattison. Their guidance and support have been wise and unfailing. The vice presidents, the members of the Executive Council, the *ARMOR* authors (who are a proud company in themselves) and many, many members have been noble colleagues. The Armor Center and the Armor School, whose patch and coat of arms I have worn proudly and even a bit cockily in Washington, have winced at some of my requests but they have been consistently good supporters without whom there would be nothing to report.

The unrealized ambitions, the things that could have been, or could have been better, are, I pray, not the result of a lack of dedication or sense of purpose but rather of human frailty.

Soon, I shall turn over to Major Bob Kelso a priceless part of our Armor heritage and our Armor future. I know it will be in good hands. I know all of you join me in wishing him well, and even more importantly, in a pledge to help him in the way he needs and deserves.

[The foregoing report was accepted. General Pattison then asked Colonel Leach to assume the chair.]

Remarks

by Colonel James H. Leach
of the Nominating Committee

General Pattison, gentlemen of the United States Armor Association.

General John K. Waters, the chairman of the Nominating Committee, is unable to be with us due to having to judge a horseshow which was rained out a week ago and was postponed. He asked me to take his place and to present to you the results of the committee's deliberations.

The Constitution of our Association prescribes that the officers shall be a President and three Vice Presidents to be elected by the membership at the annual meeting and a Secretary-Treasurer and an Editor to be appointed by the Executive Council. The Constitution further provides that these officers together with 14 elected members shall constitute the Executive Council of the association.

As you know, General Hal C. Pattison is completing a very successful first term as our President. At a time when military associations are faced with a number of problems resulting from the general situation as well as declining military strength, his leadership and guidance have kept our Association strong and moving forward.

General Pattison entered on active service as a captain of cavalry in March 1941 following a most successful start in the business world. Following distinguished World War II combat service under General Bruce C. Clarke with the 4th Armored Division, he served in the pioneer project to develop the helicopter as a military vehicle, and as Chief of

Armor Branch, OPO. His other assignments were tactics instructor at the Armor School, service on the Army General Staff and key positions with the newly formed NATO military headquarters which became SHAPE. General Pattison served as assistant division commander of the 7th Infantry Division in Korea and of the 1st Cavalry Division in Japan. Later he was assistant division commander to General Waters in the 4th Armored Division in Germany. Retiring in 1962 he was recalled to serve as Chief of Military History for eight years. He has since retired for a second time, from this position.

With the anticipated turnover in the office of Secretary-Treasurer and Editor, continuity of experience at the helm is a mandatory requirement. It is the honor of your committee to nominate General Pattison for a second term.

We also recommend that General Bruce Palmer Jr., Army Vice Chief of Staff, and Major General James H. Weyhenmeyer Jr., Commanding General of the New Jersey Army National Guard 50th Armored Division, be reelected as Vice Presidents. We further propose that Major General William R. Desobry, Commanding General of the Armor Center and our host, also continue as a Vice President.

The Constitution further provides that of the other 14 elected members of the Executive Council, at the time of election, one shall be a general officer, seven field officers, four com-

pany officers and two senior non-commissioned officers. The By-laws note that it is desirable that a number reside near the Association Headquarters to facilitate getting a quorum to transact business.

Our proposed slate includes the Assistant Commandant of the Armor School, the Chief of Armor Branch, Office of Personnel Operations, two Army National Guard officers and three Army Aviators. Among those nominated are veterans of representative campaigns of all the major wars including and since World War II. Decorations held include the Medal of Honor, several DSCs, and many Silver Stars, Bronze Stars and Purple Hearts. There is air cavalry, armored cavalry and tank experience represented as well as airmobile and mechanized infantry. For continuity, eight nominees are veterans of last year's Council.

It is both an honor and a pleasure to commend the slate to you for your approval.

[Colonel Leach then called for nominations from the floor. There being none, upon motion and by unanimous vote, nominations were closed. Again, upon motion and by unanimous vote, the slate as presented was elected. The officers and other Executive Council members elected are listed on the inside front cover.]

[Following an ovation for those newly elected, further new business was called for by General Pattison. There being none the business meeting was adjourned.]

The Executive Council
The United States Armor Association:

We have examined the balance sheet of The United States Armor Association as of December 31, 1970 and the related statement of revenue and expenses and Association equity for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying balance sheet and statement of revenue and expenses and Association equity present fairly the financial position of The United States Armor Association at December 31, 1970 and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Peat, Marwick, Mitchell & Co.

February 12, 1971

THE UNITED STATES ARMOR ASSOCIATION
Statement of Revenue and Expenses and Association Equity
Year ended December 31, 1970
with comparative figures for 1969

	1970	1969
Operating revenue:		
Dues and subscriptions	\$ 58,082.29	\$1,551.18
Registration fees	436.00	718.20
Book, prints, and publication sales	15,262.29	19,424.20
Interest and dividends	2,774.01	1,660.56
Other	8.12	600.00
Total operating revenue	76,562.61	22,954.14
Operating expenses:		
Armor magazine	34,371.10	36,036.72
Producing and delivering	1,444.48	2,481.18
Circulation	496.10	280.13
Promotion and advertising	1,907.61	327.78
Stationery and supplies	27,921.29	29,723.81
Association:		
Annual meeting	545.37	429.88
Executive Council	-	3.60
Memorials and contributions	68.72	150.00
Awards	1,142.73	818.00
Cards, by-laws, and decals	178.23	350.00
	1,936.05	1,751.89
Book department:		
Books, prints, and publications	9,778.40	13,926.43
Postage	560.86	584.92
Supplies	449.36	92.06
Promotions	112.79	76.96
	10,901.41	15,580.37
General and administrative:		
Equipment rental and maintenance	1,041.34	159.41
Depreciation	3,511.74	616.38
Telephone	782.85	713.03
Staff travel and parking	2,311.10	2,319.25
Rent	4,164.26	4,092.97
Professional services	500.00	350.00
Other	2,288.18	1,312.01
	16,000.47	9,390.04
Total operating expenses	66,854.93	60,063.42
Excess of operating revenue over operating expenses	9,407.68	7,890.72
Other additions (deductions):		
Gain on sale of assets	146.37	-
Loss on sale of investments	(1,951.03)	-
Total other deductions, net	(1,804.66)	-
Excess of revenue over expenses	7,401.22	7,890.72
Association equity at beginning of year	37,035.00	29,161.10
Association equity at end of year	\$ 44,436.22	\$ 37,051.82

THE UNITED STATES ARMOR ASSOCIATION
Balance Sheet
December 31, 1970
with comparative figures for 1969

	1970	1969
Current assets:		
Cash:		
Demand deposits	\$ 5,955.41	\$ 6,646.42
Savings accounts	3,337.11	3,158.67
Total cash	9,292.52	9,805.09
Marketable securities:		
U. S. Government securities, at cost which approximates market	13,842.19	9,630.30
Stock investments, at cost (quoted market, 1970, \$31,505.51; 1969, \$34,029.13)	21,715.92	21,806.37
Total marketable securities	35,558.11	31,436.67
Accounts receivable	2,625.44	3,207.51
Inventories, at average cost	5,156.07	4,858.26
Prepaid expenses	8,751.28	6,028.12
Total current assets	66,803.40	57,335.95
Office furniture and equipment, at cost	21,658.74	9,841.39
Less accumulated depreciation	(8,266.22)	(6,980.81)
Net office furniture and equipment	13,392.52	2,860.58
	\$ 80,195.92	\$ 60,196.53
Liabilities and Association equity:		
Current liabilities:		
accounts payable and accrued expenses	253.34	79.11
Deferred income - dues and subscriptions	41,328.68	38,001.59
Association equity	38,613.90	22,115.83
	\$ 80,195.92	\$ 60,196.53

FINANCIAL HIGHLIGHTS FOR 1971



1967 loss \$1066.21	1969 gain \$7892.92
1968 gain \$2985.21	1970 gain \$7601.22

Gains Included	1969	1970
ARMOR Magazine	\$1495.63	\$2938.97
Investments	\$1660.56	\$ 320.98
Book Department	\$4736.73	\$4341.27

Gains were used largely for new circulation machinery (\$15,000)

ARMOR Average Paid Circulation

1967	6079	1969	9400
1968	7073	1970	9296

1971 27% postal rate increases
plus other rising costs
will force dues/subscriptions increases . . .

unless we work together to increase
membership and subscriptions . . .

There will be more members and subscribers if,
and only if, you do your part now!

The Secretary Treasurer

ARMOR july-august 1971



United States
Armor Association
82d Annual Meeting



DRUG ABUSE INSTRUCTION

The Leadership Division of the General Subjects Department of the Armor School has incorporated into the training of all Armor Officer Advanced, Armor Officer Basic, and Noncommissioned Officer Courses, instruction in the leadership aspects of drug abuse using material developed by the Division.

A conference during the first two hours, illustrated with 35mm slides and TV tapes, covers classification by effects of frequently abused drugs. Indications of drug abuse and actions the leader can take to avoid or reduce a drug problem are discussed. The third hour consists of a discussion with a panel composed of two former unit commanders who have had experience in dealing with drug problems, one medically qualified individual associated with the drug rehabilitation program, and a lawyer qualified in the legal aspects of drug abuse. This panel discussion is designed to allow the student to ask questions about drug abuse and to learn from the panel's experience in this field.

The instruction concentrates on the leadership aspects of drug abuse, develops a better understanding of the problems facing junior leaders, and assists the Armor leader to overcome any drug problem which arises.

TOE REVISIONS

The USACDC Armor Agency, in coordination with the US Army Armor School, has the responsibility for developing and maintaining Tables of Organization and Equipment (TOE) for armor, armored cavalry and air cavalry units. In June 1970, the Armor Agency assumed from USACDC Aviation Agency, proponentcy for the Attack Helicopter Company (TOE 1-111), and the Armor Division Aviation Company (TOE 1-87). With these additions, the Armor Agency now has proponentcy

for 47 TOE (35 company/troop TOE and 12 TOE recapitulations).

The goal of our TOE developers has been to give armor flexible organization documents which will accommodate the reorganizations planned for the coming years. The primary effort has been to revise the G-series TOE to the H-series TOE.

Publication and distribution of the H-series TOE for the Armored, Infantry, and Infantry (Mechanized) Divisions were virtually completed in March 1971. For the first time, the divisional TOE reflect a theater orientation. The Armored and Infantry (Mechanized) Divisions are oriented toward a European environment, while the Infantry Division is oriented toward a Korean environment. The objective of theater oriented TOE is to reduce MTOE actions. Theater reviews and recommendations have been incorporated, whenever possible, in the final TOE. These H-series TOE incorporate several new features:

- Similar organizational structures for the Tank Battalion and the Infantry (Mechanized) Battalion to facilitate cross-attachment of combat, combat support, and combat service support elements when organizing battalion task forces for combat. These battalions are organized with the command and control and the logistical support elements in Headquarters and Headquarters Company, and the combat support elements in the Combat Support Company.
- The use of augmentation paragraphs to provide systems whereby capabilities of the unit can be augmented on a selective basis to support operational requirements. For example, two ground surveillance teams are provided the battalion ground surveillance section in the augmentation paragraph of the Combat Support Company, Tank Battalion.

Strength Level 1, plus augmentation, represents full wartime requirements.

- The addition of an Aviation General Support Company to the Armored and Infantry (Mechanized) Divisions.

The following list of actions recently approved, or proposed, will also affect armor organization:

- A new basis of issue (BOI) for Army aircraft has been published which has standardized the number of LOH in the Aero Scout Platoons of all Air Cavalry Troops at 10. The BOI also directs the replacement of the Armored Cavalry Squadron with an Air Cavalry Squadron in the Infantry and Airborne Divisions. This results in an increase from 88 to 160 aircraft in each of the divisions with a proportionate increase in aircraft maintenance personnel. Additionally, organic direct support aircraft maintenance is being introduced into the Air Cavalry Squadron.

- Being deleted from TOE are radio sets AN/GRC-26, AN/GRC-46, and AN/GRC-122, AN/GRC-142, and AN/GRR-5 which were authorized solely for transmitting and receiving in an emergency warning net.

- The Medical Corps officer is to be deleted from the divisional armored cavalry squadron and the tank battalion. The Aviation Medical Officer will be retained in the Air Cavalry Squadron. Medical officers will also be retained in the divisional and separate brigade headquarters.

- A chaplain and an enlisted assistant will be added to the cavalry squadrons.

- An enlisted Career Counselor, SFC within the battalion/squadron, MSG at brigade/regiment, and SGM at division have been added.

- An SP6 legal clerk has been added to the battalion/squadron.

The Armor Agency is currently conducting a study to determine the adequacy of the MOS and grade structure within Armor units. The study will include a review of the career progression of the various Armor MOSs (1203, 1204, 11D, 11E) and the career progression for those MOSs for which MOS producing courses are taught by the Armor School.

ARMOR EDUCATION FOR ROTC GRADUATES

Selective enrollment in the Armor School's Correspondence Course Program is advantageous to both cadets anticipating immediate active duty upon graduation and to those who are postponing their active service for graduate studies.

The Armor Cadet may choose courses in such fields as land navigation, forward observer and fire

direction center procedures, army aviation, maintenance management and company administration in order to increase his familiarity with some of the more important or more complex subjects he will encounter in the Armor Officer's Basic Course. ROTC graduate students, on the other hand, may, in addition, find selective enrollment valuable in refreshing their military knowledge in other subjects prior to entry on active duty.

Armor Officers who are in a position to advise or counsel ROTC Armor designees or graduate students are requested to inform them of the availability of such programs offered by the Nonresident Instruction Department of the Armor School.

SMR CODES

The military services have instituted a uniform system for source, maintenance and recoverability (SMR) coding of repair parts and tools. The codes are used to communicate maintenance and supply instructions for parts and tools to the various logistic support levels and using commands for logistic support of systems, equipment, and end items. In the Army support system, these codes are made available to their intended users by means of SMR code columns in the "-P" (parts) technical manuals.

In February 1963, a DSA Provisioning Study Group published a report which pointed out that it was impossible for the services to coordinate or communicate necessary logistic data among themselves because of the incompatibility of definitions, coding structures and ADP file structures individually developed and used by each service.

It was recommended that the solution was to standardize SMR codes throughout the DOD. A DOD group followed up on this study and in 1965, they proposed a uniform coding system. This proposal encountered severe service criticism and was never implemented. The problem, however, did not go away. On 17 June 69, the Joint Commanders' Panel, Army Materiel Command/Navy Materiel Command/Air Force Logistics Command/Air Force Systems Command chartered a Joint SMR Coding Panel to review the various SMR coding requirements of the services and develop a uniform coding system, and to develop principles and policies for its implementation.

The panel developed an initial SMR coding instruction which was given an extensive preliminary staffing within the services, and, again, encountered major areas of service disagreement. However, these disagreements were resolved and a single SMR coding structure was established. Based on this, a

draft SMR Code Joint Regulation was prepared and was approved by the Joint Commanders' Panel 15 December 70 for implementation by the services.

It was directed that each service will ensure that the uniform SMR coding structure is incorporated in their logistic management system in order to accomplish uniformity and to provide a means of interservice communication of information on multi-service equipments. The Army has already included the uniform codes in the revision to AR 700-18. The end result is a realistic potential for an overall capability to provide an effective system of interservice support.

M34 DRIVER TRAINER

The 1st Training Brigade, US Army Armor Center, the only unit in the Army conducting Armor AIT, uses the *M34* Tracked Vehicle Driver Trainer to teach basic driving skills to Armor crewmen.

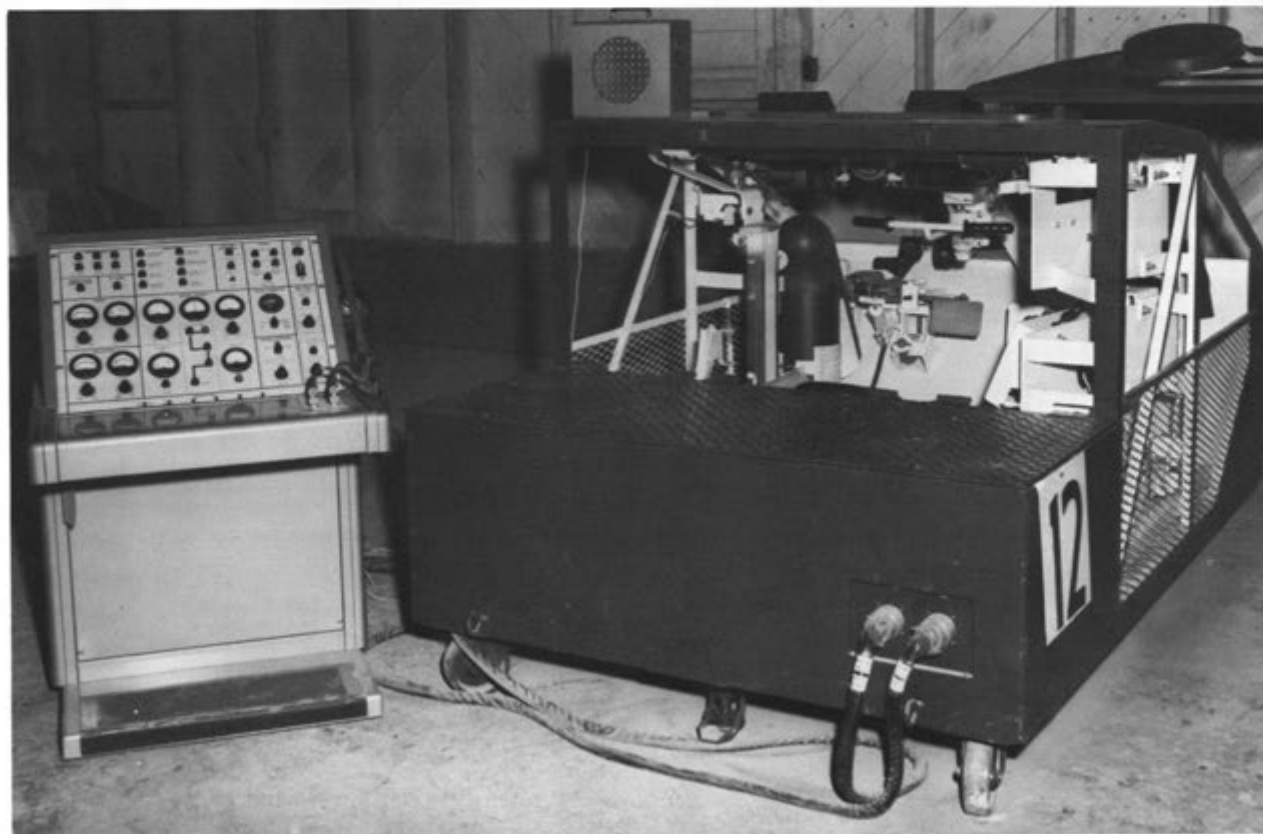
The driver's compartment of an actual *M60* tank is isolated and inclosed, making effective supervision of student drivers difficult. The *M34* trainer is a mock-up of the driver's compartment with open con-

struction to facilitate observation of the student driver's actions by the instructor and other trainees. Instrumentation and controls are identical to those found in the *M60A1* tank. The same pressure required in the *M60A1* for application of brake pedal, steering and control shifting are duplicated in the *M34*. Directly behind the driver is an inclosure housing the speaker and sound production system which reproduces all the sounds of an *M60A1* tank from starting the engine through acceleration, shifting, turning and hill climbing.

The instructor's console has instrumentation identical to the *M34*. It may be placed anywhere within a 15 foot radius of the driver's compartment. The instructor can, by using his console, override the student driver's controls in order to simulate any number of conditions such as driving on pavement, earth or mud, driving on grades ranging from -60 to +60 percent, engine and transmission failure or overheat, and battery or generator failures.

The trainer not only reduces training time and costs but also avoids possible injury to personnel or damage to tanks.

The *M34* driver trainer allows closer supervision of AIT Armor crewmen than an actual *M60* tank.





Colonel L. J. Knepp and Sergeant First Class Lawson of the USAARMS Weapons Department examine the new 3A110 laser subcaliber trainer.

LATEST LASER SUBCALIBER DEVICE

The USAARMS Weapons Department has recently received the first mockup of the new laser subcaliber training device 3A110. Although the mockup is not operational, it is an exact duplication of the actual subcaliber device. With an external power supply it will be used by the department to test durability and alignment capabilities.

The 3A110 represents a great improvement over the present ruby-rod, 3A102B laser device. It will be easier to install, operate, and maintain. It has its own internal power supply. It is lighter and more compact than the older model. It is capable of operating in a continuous wave mode for extended periods of time.

When fielded, the laser training device will allow tank and *Sheridan* units to conduct subcaliber training in restricted areas without the expenditure of ammunition. In its continuous wave mode the device can be used for snake board training to sharpen gunner's tracking proficiency.

NEW GAMA GOAT TESTED

The MOVER (motor vehicle requirements) study completed in 1961 called for the M37, ¾-Ton Truck to be replaced by a 1¼-Ton Truck. The M561 (*Gama Goat*) truck program was begun in order to develop a highly mobile, multi-purpose wheeled vehicle which will have a 1¼-ton payload capacity. The original design for the new vehicle was approved in 1962. In June 1964, 14 XM561 prototypes were built. On 30 June 1966, following completion of prototype, engineering and service testing, the vehicle was type classified as Standard "A".

The US Army Armor and Engineer Board is currently testing an up-dated version of the truck, which has several engineering changes which were designed

to correct the main problems disclosed during previous testing. The M561 is a lightweight, articulated, dual-body, multi-purpose vehicle. The M792 ambulance version is identical to the M561 except that the carrier portion of the vehicle is heated and is designed to carry ambulatory and litter patients. The 103hp diesel engine powers the vehicle in either a two-wheel drive or six-wheel drive mode of operation. Maneuverability is enhanced by the vehicle's articulation system, which permits a +40 degree pitch and a +30 degree roll at the rear axle. Both front and rear wheels steer, thus affording better control and a turning diameter of nearly 58 feet. The vehicle has a top speed of approximately 55mph on land a 2.5mph in the water. It swims by rotation of the vehicle wheels. The independent suspension of the vehicle and its soft coil springs afford an unusually smooth ride as compared with similar military wheeled vehicles, even over rough terrain. The adaptability of the vehicle is demonstrated by its capability of being configured as an ambulance, or with a different body as a cargo carrier, a troop carrier or as a 4.2" or 81MM mortar carrier. All models have an airdrop capability.

M715 TRUCK MAINTENANCE

The initial plan for maintenance support of the M715 truck involved a throw-away concept and reliance on cannibalization points for replacement of major components.

On 23 September 1969, the Department of the Army directed that the maintenance policy of controlled cannibalization be abolished and the 1¼-ton trucks be maintained in a manner similar to other high density vehicles.

Subsequent to the above directive, actions have been taken by responsible activities to implement the revised DA policy. The date of 1 January 1972 is tentatively established for implementation of this revised maintenance policy.

The Army Tank-Automotive Command has initiated a time phase schedule for implementing the revised program. Major tasks to be performed include the selection of additional repair parts, assignment of the FSNs to all new repair parts, revision of technical manuals and procurement and distribution of the required items.

During the interim period required for delivery of items, maintenance support of the vehicle will depend on availability of certain items from selected cannibalization points as prescribed in the original support policy. It is anticipated that program actions will be completed in early 1972.



SHORT, OVER, LOST or...TARGET

LET YOUR LIGHT SO SHINE

BY MAJOR ROBERT W. GARROTT JR.

As a former tank gunnery instructor in the Weapons Department of the Armor School, I was very glad to see that somewhere in our Army, someone had finally set up a TCQC course that would do a better job of testing tankers than the rather stereotyped Table VIII that had been run on Range 42 ("Range 80" by Colonel Vincent deP. Gannon, Jr., *ARMOR*, March-April 1971). A variety of targets at varying ranges will certainly test more of the skills of our tankers than will a course that remains static over the years.

However, even with these improvements, I believe that we are still missing, or rather, not testing, one of the weapons systems on our tanks. Every tank now has a searchlight, but how many tankers can really use that searchlight?

Illuminating our night ranges usually calls for selecting one or two tank crews which are pretty good and giving them some special training so they

can provide proper illumination. But this does not really help our night fighting capability. Of course, during FTXs, the searchlight can be used where other weapons systems cannot be used, but what about with the pressure on, as it is for TCQC?

How many of our tankers can really provide illumination for another tank so that it can actually hit a target? How many tank commanders can move their tanks into a prepared firing position and, given a range card, illuminate a target on order, knowing that one of their fellow tank commanders is depending on this illumination to kill the enemy or to get a target hit on Table VIII B?

There are many methods of illuminating targets at night. It is important that we be able to use these methods of illumination or we will never be able to find or to successfully engage targets during the hours of darkness.

This department is a range for firing novel ideas which the readers of *ARMOR* can sense and adjust. It seeks new and untried thoughts from which the doctrine of tomorrow may evolve. Items herein will normally be longer than letters but shorter and less well developed than articles—about 750 words maximum is a good guide. All contributions must be signed but noms de guerre will be used at the request of the author. **ON THE WAY!!**

The searchlight, while not the most satisfactory form of illumination (in terms of revealing your own position), is the only one that is immediately available to the tanker from company commander down. Therefore it is one that tankers should know how to use.

Table VIIIB would be a much more meaningful experience if, as a tank company fired on the range, tanks from that company were required to provide effective illumination on targets that require searchlight illumination. The searchlight tank crew would be graded on their ability to provide effective illumination while the firing tank would not be penalized for poor illumination on the part of the searchlight tank. The searchlight tank crew would also be graded on how quickly they provided effective illumination on the target, as well as their technique of illumination (flicker for fixed targets and continuous for moving targets, etc.)

Illumination could be required to be based on range card data as well as on a flash of light simulating an enemy who is practicing sloppy light discipline. The illuminating tank could be required to acquire the target with infrared then place white

light on the target for the firing tank to shoot at it. Most important, could be a provision that unless a tank crew can provide effective illumination at night, they would not be able to pass Table VIIIB. (As always, whether or not the illumination is effective would be determined by the AI on the firing tank). Provisions could be made for the firing tank and the illuminating tank to communicate with one another so that instructions to improve the illumination could be passed.

Additional scoring points can be added to Table VIIIB for the illumination phase. Of course, with an illumination requirement on TCQC, each night range prior to TCQC should require that crews provide illumination as well as engage targets with live ammunition.

We have had our night ranges for almost 13 years now but we have repeatedly failed to insure that all of our crews can use the complete tank weapons system.

If you can't see the target, you can't get rounds on the target. At night, the searchlight is one of the most responsive means for illuminating a target. So let's make sure that everyone learns how to use it!

DON'T JUST STAND THERE! COMPLAIN!

Many things can cause a member or subscriber not to receive a copy of *Armor*. These include our automated addressing machinery inadvertently skipping one to five times out of 10,000. Not a bad rate, but understandably irritating to the person who does not get his journal.

Other causes are losses in the mail, members and subscribers forgetting to send a change of address, the fact that magazines are not forwarded to, from, or between APOs, and, of course, the operation of Murphy's First Law.

Help us to help you! When your copy does not arrive when it should, write and let us know. Don't tell others, tell us. We will gladly respond promptly.



From the Armor Branch Chief . . .

'Hello, I've got a question!'

"Armor Branch. May we help you?"

"This is (Lieutenant) (Captain) (Major) (Lieutenant Colonel) Huey Cobra, may I speak to the aviation assignment officer please?"

Then the long wait begins. While you are waiting, however, your records are pulled and some answers to your anticipated questions are probably being assembled by the various Armor Branch officers. We have noticed that a high percentage of the aviators who call Branch have the same questions. In an attempt to eliminate undue concern and uncertainty we are going to try to answer some of the most frequently asked questions.

"Sorry to keep you waiting, may I help you?"

"Yes, I've been here at (Hunter) (Rucker) (Hood) (Knox) for (5) (10) (20) months. How long can I expect to stay and where will I go next?"

"In an effort to cut down on some of the personnel turbulence here in the States and to reduce the number of PCS moves we are attempting to keep officers at the same station in CONUS for a minimum of two years. Turn-around time for a second overseas tour is up to about 30 months."

"Where you are going next is dependent on your short tour vulnerability and branch requirements. If you are a company grade officer and you have completed two short tours, at least one being in Vietnam, you are not vulnerable for the time being. If you have not completed two short tours, the 30 month turnaround time will apply unless there are unusual circumstances, such as compassion. In our last

Armor News Letter we announced third involuntary tours for majors were to begin in May."

"I have a friend who is a direct appointee. He received his commission from warrant officer status after he arrived here. When can he expect to attend the Armor Officer Basic Course (AOB)?"

"He should check with his local training officer to see if there's a possibility of your post sending him on TDY to Ft Knox to attend AOB and return. If funds or quotas aren't available at your post, Armor Branch will see that he attends on a "TDY en route" basis in conjunction with his next PCS.

"I've been here about a year now and I'm wondering when I'll attend the Advanced Course (AOAC)."

"As I mentioned earlier, we have no plans to move any officers until they have been at a given station for two years. Any move in a shorter period will be the result of a high priority requirement. You will be considered for AOAC between your 18th and 24th month there. As short tour turnaround time increases, Armor aviators may expect to remain at CONUS stations and overseas long tour areas for longer periods of time. Consequently, officers selected to attend the Advanced Course in the future will generally have more service than those who attended in the recent past. The important thing is not *when* you attend but that you do attend during

your years of eligibility. The Branch AOAC selection committee considers each officer for AOAC at the time of every PCS move until he is selected.

"Speaking of schooling, when can I expect to attend some additional aviation schooling such as Cobra, Chinook, OH6 IP, safety school, etc.?"

"Well, considering that most of our aviation transitions or qualification courses are linked to a short tour requirement, you'll probably get additional schooling only when en route to a short tour."

"When my time for a second Vietnam tour comes up, can I be assured of additional aviation school?"

"Not necessarily. It depends on what school quotas are available at the time of your movement and what your present qualifications are. If you are an aviation safety officer, or instructor pilot you stand a good chance of filling a requirement for one of those skills since we must fill those requirements with experienced or second tour officers. If you don't possess one of these skills, Armor Branch may be able to qualify you in one of them by sending you to school en route. Again this depends on school quota availability. I might add at this point if you don't have a preference statement in your file, we have no way of knowing what type of transitions you are interested in. By the way, please include in your preference statement the names of your dependents, your home or leave address and phone number. Quite often we must contact our officers to obtain or provide additional information concerning PCS and or TDY. A current phone number surely helps us to help you in preventing costly and inconvenient moves or trips."

"Do you at branch really use an officer's preference statement?"

"We certainly do and it therefore behooves you to keep one in your file and to up-date it periodically. It's particularly important when you're overseas and anticipating returning to CONUS. That's the first thing we look at when preparing your assignment."

"Try to keep your preferences realistic, for example, you'll have a much better chance of getting assigned to one of the posts with high troop concentrations than to a small flight detachment in the National Guard Advisor Group in your hometown. Don't forget to keep a copy for your own files."

"Speaking of hometowns, we've heard rumors about an early release policy for commissioned officers, anything to it?"

"Yes, OBV officers, to include OBV III aviators, on their initial tour who have not extended will be released up to two months early. This is the full extent of the program and no further expansion of this pro-

gram is expected. Since the program is phased from one to 60 days based upon each officer's current scheduled release date (e.g. officers scheduled for release 1-15 of Apr will be released 1 Apr and those scheduled for 1-15 Jun will be released 10 May), you should check with your unit personnel office to determine the specifics of the program."

"Thank you, sir!"

"You're welcome, On the way—goodbye."

WHERE ARE THE JUNIOR ARMOR OFFICERS?

In past Armor Branch Chief notes, as in this one, we have emphasized realism in filling out Officer Assignment Preference Statements. In that connection, junior officers have asked to what duty stations they might normally expect to be assigned. Lacking this information, they are at a loss to state a reasonable choice. Sounds like a communications gap—and of all places between Armor officers, whose life blood is good communications. Well, let's breach that gap by naming the CONUS duty stations with the largest concentrations of Armor lieutenants and captains. We will do this periodically in future Armor Branch Releases. To quote a recent "Redleg Newsletter", with a message equally applicable to Armor, "There are no (Branch) units stationed in Sun Valley, Miami Beach, or Bermuda and no military build up is expected in those and similarly exotic places." Armor Branch assigns most of our junior officers in CONUS to troop units at Ft Carson, Ft Dix, Ft Hood, Ft Jackson, Ft Knox, Ft Leonard Wood, Ft Lewis, Ft Polk, and Ft Riley. Obviously, some may be assigned to any installation requiring their skills. If you are an aviator, prepare an alternate flight plan if you desire Carson, Dix, Jackson, or Lewis; we do not receive many requirements for Armor aviators for those stations; you might add Ft Rucker as a fair possibility however.

MORE ABOUT ATTENDING THE ADVANCED COURSE

All Armor officers who maintain their manner of performance at a level which would conceivably result in normal promotion attend the Advanced Course. A popular misconception associated with the Advanced Course is that early attendance indicates superior performance. This is not the case, since for the most part selection is based on availability.

In the past, most Armor officers were not programmed to attend the Advanced Course until they had successfully commanded a company or troop. With the advent of the new command stabilization

policy and the concurrent increasing turn-around time, the command requirement will in many cases be waived. As an example, a captain returning from Vietnam who has not had command may be assigned to the Armor or Infantry Officers Advanced Courses if he is available. If an Advanced Course starts soon after his DEROS, he will most likely attend that course and then be programmed for command immediately thereafter. If no course is starting about the time of his DEROS, he can expect to be assigned to a CONUS post or perhaps to Germany for command. Under these conditions he may expect to remain there for two to three years before he will attend an Advanced Course.

Again, it must be emphasized that it is not important how soon an officer attends the Advanced Course. However, that he does attend the Advanced Course between four and eight years of commissioned service is important. Thus officers who have returned to CONUS from Vietnam in the past 12 months and have not attended an Advanced Course can expect to remain up to an additional 12 months at their present location before attending the course. Likewise, officers who received an intertheater transfer to Germany from Vietnam can expect to spend 24 to 36 months there before attending the Advanced Course.

CIVILIAN EDUCATION LEVEL

The accompanying chart shows statistics comparing the civilian education levels of Armor officers with the levels of all officers Army-wide. The figures in parentheses show the number of officers in each category. The goal of every Armor officer should be the attainment of a bachelors degree if that level of education has not yet been achieved. However, don't underestimate the value of continuing your education beyond the bachelors concurrently with your professional development. Armor Branch, although below the Army average in advanced degrees, is presently meeting its requirements for

officers with advanced degrees. The point to remember however, is that the correct degree affords you the opportunity to be considered for assignments which specify a bachelors, masters, or higher degree. These are often choice assignments.

COUNSELING vs EVALUATION

During the past few months we have noticed an increase in the indicators which point to a lack of counseling by commanders and raters. Counseling is one of the keystones of the officer efficiency reporting system. Without proper counseling, some of our officers will never achieve their full potential.

Consider these comments of an officer in a recent letter to Armor Branch:

"The report in question, as well as the reports for the past three years, were neither shown to me, nor was I counseled in any fashion or form. This is a great disappointment to me as knowledge of the poor evaluation would have started corrective action last September."

The point is that if, as a rater, you do not counsel your officers they may never profit from their mistakes. Efficiency reports on file in Washington can do little for an individual's personal development if he doesn't know what his shortcomings or strengths are. You in the field are the keymen in leader development.

I would suggest that all of us review periodically our counseling techniques. Reread the reference material, AR 623-105 and DA Pamphlet 601-4. You may well be amazed at what a successful counseling session will do for you, your subordinates, and the efficiency of your command. Above all, remember that counseling must precede evaluation or the actual writing of an efficiency report in order to provide the rated officer or noncommissioned officer an opportunity to overcome his shortcomings. This is especially important in training and developing our junior leaders and commanders.

EDUCATION LEVEL

Doctorate Degree
Professional Degree
Masters Degree
Postgraduate Credits—less
than Postgraduate Degree
Baccalaureate Degree
2 or more years college—less
than a degree
Some College—less than 2 years
High School Diploma
Non High School

ALL OFFICERS ARMOR OFFICERS

0.54% 0.30%
8.68% 0.46%
9.95% 7.13%
1.99% 1.22%
51.18% 59.90%
12.64% 12.42%
7.81% 8.97%
7.18% 9.59%
0.03% 0.01%



NEWS NOTES



The Mobile Arm Reorganizes

The recent past has seen a number of organizational changes affecting Armor units from company to division. Some of these are routine adjustments resulting from overall Army changes in response to the winding down of direct US participation in Vietnam. Others more far reaching are related to changing American defense philosophies as well as new perceptions of how the US Army should operate on future battlefields.

By far the most arresting change was the 5 May 1971 formation of the 1st Cavalry Division TRICAP at Fort Hood, Texas. The TRICAP (Triple Capability) division is an experimental division focused on testing a new organization for the future. It consists of a newly conceived air cavalry combat brigade, an armored brigade, and an airmobile infantry brigade together with combat support and combat service support elements. This is the first new US Army division organization since the 11th Air Assault Division took shape in 1963. Some see formation of the TRICAP division as a development in organization of similar magnitude to the

formation of the 1st and 2d Armored Divisions in 1940.

The 1st Cavalry Division, less the 3d Brigade which remained in Vietnam, was transferred to Fort Hood from Vietnam. Some 1st Armored Division elements and many Old Ironsides people also went to fill out the new cavalry division, whose last service in the United States in 1943 was also in Texas shortly after horses had been its primary mobility means.

The 1st Armored Division designation and colors were transferred to Germany where, on 10 May, these replaced those of the 4th Armored Division which was once again inactivated. At the same time Major General James V. Galloway assumed command of the renamed division. To compensate for former 1st Armored Division elements retained at Fort Hood for the 1st Cavalry Division, many 4th Armored Division maneuver battalions remained active and were transferred to the 1st Armored Division.

Back at Fort Hood, the 2d Armored Division on 20 May gained the 8th Battalion (Chaparral/Vulcan)(SP), 60th Artillery which had earlier been activated at Fort Bliss and trained for the Hell on Wheels Division.

On the other side of the world the 2d Infantry Division in Korea inactivated the 2d Battalion, 72d Armor and acquired the 1st Battalion, 73d Armor from the inactivated 7th Infantry Division.

The item in the May-June 1971 *ARMOR* which stated that the 3d Squadron, 3d Armored Cavalry Regiment was inactivated was incorrect. The 2d Squadron was inactivated, leaving the 1st and 3d Squadrons plus headquarters elements to constitute the active portion of the Regiment of Mounted Riflemen.

PALMER THEATER DEDICATED

The month of May saw Fort Hood's newest theater dedicated to the memory of the late Brigadier General

BG Willard Webb, an Armor Association Honorary Vice President and his partner Mr. William C. Stratton, display the Association coat of arms carved and recently presented by them. The heraldic plaque now hangs in the Association office. In the background is General Webb's studio at Clifton, Virginia.



1st CAVALRY DIVISION (TRICAP)

Division Headquarters and Headquarters Company
545th Military Police Company
8th Engineer Battalion
13th Signal Battalion
230th Aviation Battalion
Headquarters and Headquarters Company, 1st Brigade (Armor)
1st Battalion, 13th Armor
1st Battalion, 81st Armor
2d Battalion, 12th Cavalry (Mock Inf)
Headquarters and Headquarters Company, 2d Brigade (Air Cavalry Combat)
3d Squadron, 1st Cavalry
2d Battalion, 13th Armor
4th Squadron, 9th Cavalry (Air)
Headquarters and Headquarters Company, 4th Brigade (Airmobile)
1st Battalion, 5th Cavalry (Airmobile)
2d Battalion, 7th Cavalry (Airmobile)
1st Battalion, 8th Cavalry (Airmobile)
Headquarters and Headquarters Battery, Division Artillery
1st Battalion, 6th Field Artillery
1st Battalion, 77th Field Artillery
Headquarters, Headquarters Company, Division Support Command and Band
15th Adjutant General Company (DS)
15th Finance Company (DS)
15th Data Processing Unit
27th Maintenance Battalion
15th Medical Battalion
15th Supply and Transportation Battalion
315th Combat Support Battalion

1st ARMORED DIVISION

Division Headquarters and Headquarters Company
501st Administration Company
501st Military Police Company
Headquarters and Headquarters Company, 1st Brigade
Headquarters and Headquarters Company, 2d Brigade
Headquarters and Headquarters Company, 3d Brigade
2d Squadron, 4th Cavalry
16th Engineer Battalion
141st Signal Battalion
1st Battalion, 35th Armor
3d Battalion, 35th Armor
4th Battalion, 35th Armor
1st Battalion, 37th Armor
2d Battalion, 37th Armor
3d Battalion, 37th Armor
2d Battalion, 46th Infantry
1st Battalion, 51st Infantry
2d Battalion, 51st Infantry
2d Battalion, 52d Infantry
1st Battalion, 54th Infantry
Headquarters and Headquarters Battery, Division Artillery
2d Battalion, 14th Field Artillery
2d Battalion, 16th Field Artillery
1st Battalion, 22d Field Artillery
2d Battalion, 78th Field Artillery
1st Battalion, 94th Field Artillery
2d Battalion, 59th AD Artillery
Headquarters and Headquarters Company, Division Support Command and Band
123d Maintenance Battalion
47th Medical Battalion
501st Supply and Transport Battalion

Bruce Palmer, father of General Bruce Palmer Jr., the Vice Chief of Staff of the Army and an Armor Association vice president. Major General Wendell J. Coats, 2d Armored Division Commanding General, assisted by Mr. Robert E. Quick, Chief of the Army and Air Force Motion Picture Service, unveiled the dedication plaque.

General Coats paid tribute to the elder General Palmer saying, "His restless and innovative spirit contributed so greatly to the development of the modern armor concept."

General Bruce Palmer, the son of a Medal of Honor winner, was born at Fort Wallace, Kansas, on 27 July 1878. Following two years enlisted service, he was discharged as a sergeant in 1900 to accept a commission as a Cavalry second lieutenant. Prior to World War I he served as a platoon leader and troop commander in the 10th and 15th Cavalry Regiments in the United

States and in the Philippines. During World War I, he won the Distinguished Service Medal for his attainments as a member of General Pershing's headquarters in France. Following service from 1924 to 1928 in the Office of the Chief of Cavalry, where he took a great interest in mechanization, then Colonel Palmer attended the Quartermaster Motor Transport School at Fort Holabird. While a student he built the first practical American armored reconnaissance vehicle.

From 1929 to 1934 he was assistant commandant of the Cavalry School. Assisted by a sergeant of the Post Ordnance Shop, he built experimental light armored cars for the Scout Car Troop (Provisional), 2d Cavalry, which was then part of the school troops.

He then assumed command of the newly mechanized 1st Cavalry Regiment at Fort Knox. Later, he became commander of the 7th Cavalry Brigade (Mechanized).

In 1942, while on a tour of civilian components duty, General Palmer was retired, having reached the statutory retirement age of 64. Characteristically he remained alert and active until his death at the age of 80 in 1958.

General Bruce Palmer was truly one of the pioneers of modern armor. Unfortunately, age and the operation of the retirement laws forced his retirement early in World War II and denied him the full recognition he so rightly deserved. The naming of a theater at Fort Hood for him seems most appropriate.

BLACKHORSE ANNUAL CONFERENCE

The Blackhorse Association held its second Annual Conference and Reunion at Fort Knox on 15 May.

During the business meeting the following were elected to the National Council: Brigadier General George S. Patton, President; Colonel John W. McEnery, Major Robert A. Wagg, Jr. and Command Sergeant Major Paul W. Squires, vice-presidents; and Colonel Robert L. Bradley, Lieutenant Colonel Grail L. Brookshire, Captain Max P. Bailey, Command Sergeant Major Daniel J. Mulcahey, and Command Sergeant Major George C. Scott, members.

Brigadier General Donn A. Starry, former regimental commander, was the guest speaker at the business meeting. He presented an interesting address on the proposed personnel force level for the Army, management problems within the Army, and the change to an all volunteer Army.

Honored guest of the Blackhorse Association at its evening program was Mrs. Jerry Wickam, widow of the late Corporal Wickam, who served with "F" Troop, 11th Armored Cavalry Regiment and was the first Medal

of Honor winner of the regiment during the Vietnam War. Mrs. Wickam was presented a scholarship for her son Michael.

In his remarks, General Patton stressed that the primary mission of the Association was to provide assistance and scholarships to the children of Blackhorse troopers who gave their lives in service to the country and regiment. A minimum of one scholarship will be presented annually.

Additional information on the Blackhorse Association can be gotten from the Secretary, Blackhorse Association, Post Office Box 11, Fort Knox, Kentucky 40121.

OCTOFOIL ASSOCIATION

The 9th Infantry Division Octofoil Association has now been reactivated to foster a spirit of comradeship and fraternity among division veterans and to perpetuate the history of the division. Planned activities are a division history, quarterly newsletters and annual reunions. National president is Major General William B. Fulton. Details are available from The Octofoil Association, PO Box 416, Fort Belvoir, Virginia 22060.

The Tarpaulin

TAKE COMMAND

LTG George P. Senneff, III Corps . . . LTG Alexander D. Surles Jr., Sixth US Army . . . LTG Welborn G. Dolvin, XXIV Corps . . . MG William W. Cobb, US Comd Berlin . . . MG James V. Galloway, 1st Armd Div . . . MG Marshall G. Garth, 3d Inf Div . . . BG Harold H. Dunwoody, 1st Bde, 5th Inf Div . . . BG Thomas O. Lawson, 40th Armd Bde, Calif ARNG . . . BG George S. Patton, Asst Comdt, USA Armor Sch . . . BG Charles J. Simmons, 1st Inf Div (FWD), Germany . . . COL Thomas D. Ayers, Inf, 3d Bde, 1st Cav Div . . . COL Egbert B. Clark III, 14th Armd Cav Regt . . . COL Edward P. Davis, 101st Avn Gp, 101st Abn Div . . . COL James W. Dingeman, Inf, 4th Bde, USATCA . . . COL Jack V. Dunham, 1st Rctg Dist, Ft. Meade . . . COL John C. Faith, 1st Bde, 1st Cav Div . . . COL Kurtz J. Miller, DISCOM, 1st Armd Div . . . COL T.L. Morgan, 3d BCT Bde, USATC Ft. Ord . . . COL E.M. Rhoads, USA Arctic Test Cen . . . LTC Milton K. Brandt Jr., 104th Armd Cav Regt PaARNG . . . LTC Lee D. Brown, 2d Bn, 33d Armor, 3d Armd Div . . . LTC Franklin J. Casey, Inf, 2d Bn, 50th Inf, 2d Armd Div . . . LTC Edward H. Day Jr., 3d Bn, 5th CST Bde, USATC, Ft. Leonard Wood . . . LTC Thomas C. Hahn, 3d Sqdn, 104th Armd Cav Regt NJARNG . . . LTC Vernon E. James, 2d Sqdn, 104th Armd Cav Regt PaARNG . . . LTC Thomas L. Lamb, SC, 142d Sig Bn, 2d Armd Div . . . LTC John Mason, 5th Bn, 68th Armor, 8th Inf Div . . . LTC Joseph P. McCullough, 1st Sqdn, 104th Armd Cav Regt, PaARNG . . . LTC Paul B. Minton Jr., FA, 1st Bn, 22d Arty, 1st Armd Div . . . LTC J.H. Patterson, 4th Sqdn, 9th Cav, 1st Cav Div, Ft. Hood . . . LTC Lawson M. Safley, 3d Bde, 30th Armd Div, TennARNG . . . LTC Lewis M. Tuggle, 2d Sqdn, 14th Armd Cav Regt . . . LTC Ray A. Young, 230th Avn Bn, 1st Cav

GENERAL OFFICER NOMINATIONS

Major General AUS:

Cantlay, George	1
Haig, Alexander M., Jr.	23
St. John, Adrian II	4

Brigadier General AUS

Bartley, Hugh J.	50
Baer, Robert J.	35
Buckingham, Clay T.	61
Gannon, Vincent deP., Jr.	39
Gerrity, John L.	32
Long, Homer S., Jr.	62
Webb, William L., Jr.	38

numerals are sequence numbers

Div . . . MAJ Austin F. Deller, 3d Bn, 103d Armor, PaARNG . . . MAJ Howard L. Griffin, 1st Sqdn, 230th Cav, 30th Armd Div, TennARNG.

ASSIGNED

LTG James W. Sutherland, CofS, USEUCOM . . . MG Morgan G. Roseborough, Dep Ch, Off Res Comps, Hq DA . . . MG George M. Seignious II, Dep Asst Sec Def (ISA) for Mil Assist and Sales . . . MG William E. Shedd III, DCSOPS, USAREUR and Seventh Army . . . BG John C. Burney, Jr., Exec to SACEUR, SHAPE . . . BG Sherman J. Gage, VtARNG, ADC, 50th Armd Div . . . BG Howard G. Garrison, NYARNG, ADC, 50th Armd Div . . . BG Charles A. Jackson, ADC, 2d Armd Div . . . COL Robert L. Freeland, G3, XXIV Corps . . . COL (BG Desig) Vincent deP. Gannon, ADC, 4th Inf Div . . . COL John B. Noll, Hq USAG, Presidio of San Francisco . . . COL (BG Desig) Wilton B. Persons Jr., JAGC, SJA, Hq USAREUR and Seventh Army . . . COL Richard G. Trofry, FA, CofS, 1st Cav Div . . . COL Hollis B. Williams, HHD, TennARNG . . . LTC Melvin H. Geiger, Dir, Soc Sci Dpt, Psy Ops Sch, USA Inst for Mil Asst, Ft. Bragg . . . LTC Robert J. Washer, G3, 4th Inf Div . . . CSM Joseph Foglio, 108th MI Gp, Ft. Devens . . . CSM Richard E. Warnick, 4th Bn, 64th Armor, 3d Inf Div.

VICTORIOUS

Among 30 Army National Guard and Army Reserve units receiving Department of Defense domestic action awards was New Jersey's 50th Armored Division Support Command for assisting the city of Newark to remove more than 1000 abandoned cars from the

streets, thus enhancing safety and making the city a pleasanter place in which to live . . . Distinguished Graduate of Armor Officer Advanced Course 1-71 was CPT Wallace E. Walker. Honor Graduates were CPTs Leonard D. Holder Jr., David W. Pearson, Peter M. Elson and Bradley W. Peterson. Armor Association writing awards went to CPTs David F. Barth, Charles F. Moler, Patrick J. Donaldson and Carl B. Marshall, whose articles appear in this issue . . . AOB Distinguished Honor Graduates: 12-71, 2LT Timothy L. Cook; 13-71, 2LT George F. Bishop; 14-71, 2LT Richard V. Giddings . . . 1970 USAREUR Aviator of the Year is MAJ Robert C. Stack Jr., Inf, Troop D, 2d Sqdn, 4th Cav, 1st (formerly 4th) Armd Div . . . 1970 USAREUR Aviation Soldier of the Year is SP6 Robert M. Guthrie, Troop D, 3d Sqdn, 12th Cav, 3d Armd Div.

AND SO FORTH

The two Judge Advocate General's Corps officers recently selected for promotion to brigadier general, COLS Wilton B. Persons and Lawrence H. Williams are both Armor Association members and have been helpful in giving the Association legal advice. COL Persons was formerly an Armor officer . . . The term MASSTER is no longer preceded by Project. The acronym now stands for Modern Army Selected Systems Test Evaluation and Review. MASSTER is now headed by a commanding general and deputy CG rather than by a director and deputy director . . . LT Joseph E. Aldrich was transferred from Troop A 2d Sqdn, 1st Cav, 2d Armd Div, Ft. Hood to Troop A of the 1st Sqdn, 1st Cav, 23d Inf Div, Vietnam. Once a Dragoon? . . . Three Leopard tank crews of the Bundeswehr 64th Panzer Battalion joined the 3d Bn, 32d Armor (LTC William M. Jewell Jr.) in its annual tank gunnery training at Grafenwoehr.

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FROM THE BOOKSHELF

HISTORY OF THE SECOND WORLD WAR

By B. H. Liddell Hart. Putnam's. 768 pages. 1971. \$12.50.

Captain Sir Basil Liddell Hart was, before his death last year, the leading military thinker and historian in the world. This is no offhand compliment, but rather the well-advised opinion of most of us who work in this field. A prolific writer, journalist, adviser to members of the British government, Sir Basil was, above all, a unique figure by virtue of his knowledge and experience, which were devoted to analyzing and interpreting military affairs in the 20th century. No one was more qualified to undertake a history of the global struggle that remains the most massive event of our times.

Those of us who studied under him—informally, of course—who read his work, who sought to digest his theories, and who benefited from his interest and advice owe him an immense debt. No one has ever been more kind to the young and aspiring; no one has helped them more.

Yet his role in the world of letters, large as it was, was subsidiary to his function as a teacher. The Israelis called him the captain who teaches generals. His place in the history of military thought is great and enduring.

Sir Basil was one of the very few individuals to grasp at a very early time the importance of mechanization and motorization, more specifically, the new part that the tank would play in warfare. He understood and explained better than anyone the role of armor in warfare, and he did so immediately after World War I, when few appreciated the impact that tanks, when combined with motorized infantry, self-propelled artillery, and close support aircraft would have on military doctrine. It was his concept of the "expanding torrent," the method of gaining a breakthrough that could be exploited into a pursuit, that led the Germans, above all Guderian, to their formulation and successful practice of blitzkrieg. It was his perception that foresaw in its essential outlines the way World War II would develop.

Having studied the war even while it was unfold-

ing, Sir Basil continued to probe the stuff and the substance, the methodology and the meaning of that global conflict. He was in personal contact with many of the important Allied figures, both military and civilian, and immediately afterwards he interviewed many high-ranking Germans. He read extensively and discussed at length the theories and theses of the leading military historians. During the last years of his life, he was the chief consultant for Purnell's *History of the Second World War*, a thoroughly excellent and fantastically successful periodical publication of all aspects of the conflict; in that capacity, he saw the work of military experts in many countries.

All this gave him a marvelous opportunity to know the war and to see its ramifications, its personalities and trends, in their proper proportions. He came very close, I believe, to completing this volume before his death. The book was, I think, essentially finished. Yet it lacked the final touches of the author. For example, the bibliographical data are surprisingly deficient.

Despite the posthumous publication of the volume, it is the work of a master. It is, in its most fundamental aspects, an analysis of the operations of World War II, and a superb job. Many historians have described the war or segments of it, but no one has sought to understand it in quite the fashion of Sir Basil. The overall comprehension of the events that mark this study, the authority of the author, comes from a special intelligence that is the product of a lifetime of rumination and reading, as well as direct contact with the problems of prosecuting war and with the people who conduct it.

The problems of dealing with a war of this size and complexity, with matters of technology, and command, politics and strategy—to mention only a few of the elements—are awesome. How can one present simultaneous developments in a global struggle so that all the parts fit into a natural and undistorted view? How can one show the relationship of the

Pacific to the affairs in the Mediterranean and at the same time make comprehensible the occurrences on the Russian front? How can one describe air and naval doctrine, together with methods of ground warfare, so that the whole story meshes together into a single, logical outlook? How can one treat satisfactorily the happenings on the far-flung fronts that, in the final analysis, constituted the play-out and pay-off of the strategy that led to Allied victory? How can one compare and contrast the Allied and Axis courses of action and ascribe to each an understandable motivation, then show their interrelationship?

These questions serve to underscore Sir Basil's magnificent achievement. He has analyzed, clearly and simply—yet without oversimplification—the great issues, the great turning points, the great people, and the great events of those critical years. He has discussed them in terms of the context of their times; he has also looked at them with a postwar perspective.

One can fault the final product on a variety of grounds, as one can any large-scale endeavor. Perhaps the Eastern front deserves more space; perhaps the naval aspects require more attention; perhaps the attitude of the author is inimitably British rather than international or omniscient; perhaps the tone of the writing remains on a rather even level, expository rather than dramatic; perhaps Sir Basil expected too much from the reader in the way of knowledge.

Whatever the shortcomings, and they are minor, *The History Of The Second World War* is the best account to date of the operations of the global struggle. It is strong on the campaigns, strong on the developing and opposing doctrines, strong on the combat leaders, strong on the strategy, tactics and logistics of the conflict.

What distinguishes this distinguished addition to the literature of World War II is the comprehensive authority of the writer. There was only one Liddell Hart, and his view of the global conflict is uniquely intelligent and perceptive. The book encompasses the latest scholarship. It is fresh and new. It is, at one and the same time, concise and discursive. It is, in short, a masterpiece. LTC MARTIN BLUMENSON, USAR.

The reviewer, a prominent military historian, now a visiting professor at the US Naval War College, is the author of the official US Army World War II histories Salerno To Cassino and Breakout And Pursuit as well as the unofficial Kasserine Pass and numerous scholarly articles.

THE FIELDS OF BAMBOO

by Brigadier General S. L. A. Marshall. Dial Press. New York. 242 pages. Sketches and glossary. 1971. \$6.95

General Marshall has again vividly demonstrated his unique ability to portray for the reader the sound and fury of land combat in all its detail. His chronicle of the individual and small unit actions of the 1st Cavalry Division (Airmobile) units engaged in operations *Nathan Hale* and *Thayer-Irving* in 1966 in South Vietnam is certainly one of the classics written on this large-scale guerrilla war which has involved our nation for the better part of a decade.

General Marshall brings to light all the fundamental problems and uncertainties inherent in any war—but especially those of the Vietnam conflict. His concentration on three battles—Dong Tre, Trung Luong, and Hoa Hoi—enables him to rebuild the battle scenes as they actually existed. The difficulties associated with obtaining accurate and timely intelligence, the lack of experience caused by the rapid rotation of the critical junior leadership, and the ever increasing pressures of war are all included in this totally absorbing book. Perhaps General Marshall's insight concerning the very nature of the Vietnamese conflict is best illustrated by some of his own words in addressing the vagaries of modern war, "The superabundant mobility of the Americans had enabled them to come up swiftly, and in some cases too fast. Most of their grief came of engaging precipitately while reconnoitering indifferently. The NVA and VC, on the other hand, were so intent on rigging ambushes that all else they did in battle was managed miserably." Above all, his book underscores the old and respected saying that victory goes to the Army that wins the majority of the small unit actions.

The book is a tribute both to the men who fought these desperate actions, and to the author who so accurately and professionally described and reported on them. This book is a must for those who have been there as well as for those who wish to learn from others hard come by experience. COL JOHN O. BATISTE, USAWC.

ROOTS OF INVOLVEMENT:

The U.S. in Asia 1784-1971

by Marvin Kalb and Elie Abel. W. W. Norton & Company. 1971. 317 pages. \$8.95

The authors record American involvement in Southeast Asia from the early days of the nineteenth

century. In two introductory chapters they present a brief survey of American "imperialism" in the Pacific up to the close of World War II. Unfortunately, the authors scatter randomly among these opening chapters their conclusions concerning matters that have little if any discernible relationship to the historical events of the period. This practice breaks the flow of an otherwise reasonable, if somewhat superficial, treatment of the American westward expansion.

For example, while relating the arrival of the Americans on the coast of California, the authors recall that Dean Rusk had argued that the United States was a two-ocean country with two-ocean commitments and therefore had a right to become involved in Indochina. They challenge this on the grounds that by applying the same logic, Japan could have argued that she had every right to land troops in Hawaii. The recording of 19th Century American history would have been more coherent had the authors saved non-sequiturs of this kind for their chapters on the mid-20th Century.

It is unusual to find a history book without footnotes. This book has only three or four. The authors acknowledge the use of the "recollections" of a number of American officials whose intimate connection with United States policy in Indochina is self-evident. These include Dean Rusk, General Westmoreland, Ambassador William Sullivan, and Dr. Henry Kissinger, to name just a few.

Reliance on the interview technique for writing history, however, should neither relieve the authors' responsibility for getting the facts straight, nor for citing the authority for data.

The authors do considerable violence to the modern history of Vietnam. Writing about World War II, the authors say,

Indochina had been a French colony from the expansionist 1880s until the Japanese conquest in World War II. With the French gone, the flag of resistance to Japanese rule was raised by a group of Vietnamese Communists and nationalists. In May, 1941, they had met on Chinese territory, in the little town of Chingsi, Kwangsi Province, under the chairmanship of a Communist refugee leader named Nguyen Ai Quoc, who later changed his name to Ho Chi Minh (he who enlightens) . . . In 1944, Ho boldly moved his headquarters from South China into Tonkin "to intensify the struggle" against the Japanese.

This is far from an accurate summary of the World War II period in Vietnam. In the first place, the French did not leave with the arrival of the Japanese in September 1940; rather, the Vichy-French regime was determined to hold on to its Indochina domain. French administration, armed forces, and police continued to function exactly as before. After the liberation of France, General DeGaulle's new government in Paris declared war against Japan and the Japanese reacted on 9 March 1945 with a *coup de force* that toppled the French. In less than 24 hours the major part of the French armed forces throughout Indochina was put out of action. The Japanese purpose, of course, was to eliminate the threat of a hostile French force in their rear in case of an allied invasion of Indochina.

Furthermore, the May 1941 conference of the Indochina Communist Party's executive committee convened at Pac Bo in Cao Bang Province, near the Chinese frontier rather than on Chinese territory as described by the authors. This was the first conference held under the chairmanship of Ho Chi Minh on Vietnamese soil and it resulted in the creation of the Vietminh front.

If the reader relies on the Kalb-Abel description of this event, he might conclude that this marked the beginning of the independence and Communist movements in Vietnam. This, of course, was not the case. There were independence movements in Vietnam in the late 19th Century, a protest movement in 1908, other mutinies and anticolonial activities organized by the Vietnamese Nationalist Party, and a major revolutionary movement from February 1930 to September 1931 organized by the Communist Party (ICP). By September 1931 the French had effectively destroyed nearly all traces of the Party, and Ho Chi Minh himself was under arrest in Hong Kong. The ICP began to regroup in late 1934 and held its first National Party Congress in Macao in March of 1935. This marked the beginning of the Popular Front period which lasted until 1939. The French again destroyed the ICP and it seemed that by late 1940 the Party had suffered a fatal blow.

Although the child of the Indochina Communist Party, the Vietminh front was not a party in the usual sense. It issued a rallying cry to all Vietnamese nationalists to resist the Japanese and the Vichy-French. Despite the credit the authors imply, Vietminh activities against the Japanese and the French had not come to much by March 1944. Virtually all Vietminh preparation for insurrection took place during the five-month interlude between the Japanese *coup* and the August 1945 Vietminh "revolution."

In other words, the Japanese elimination of the French forces and the French administration was crucial to the success of the August revolution. By the time of the Japanese surrender, the Vietminh were ready to assume control.

Regrettably, this book suffers throughout its length from the inadequacies and inaccuracies borne of an unsuccessful attempt to reduce complex, inter-related historical events to brief assertions, and to present them as fact, in order to support or lend credence to conclusions apparently reached by the authors long before they began their investigation of these events.

The authors relate with characteristic superficiality the French defeat culminating in the siege of Dien Bien Phu. They then sketch the proceedings and results of the Geneva Conference in post-Geneva Vietnam. They dispute the legality of Diem's authority in South Vietnam because "the people of South Vietnam had never been consulted." They mention no such bar to "legality" concerning the dictatorship in the North. In fact, they appear to regard the government of North Vietnam to be a genuine grass-roots democracy.

There is one particularly well-researched, scholarly book about American early involvement in Indochina. It is Melvin Gurtov's *The First Vietnam Crisis* (Columbia University Press, 1967). Gurtov also provides an excellent account of Vietminh and ICP activities during this decade. He clearly demonstrates that the war that started in December of 1946 had motivations much more profound than those of nationalism and anticolonialism, as attributed by Kalb and Abel. For example, while the latter treat with scorn the concern expressed by the Eisenhower Administration over the threat posed by Communist China in the Far East, Gurtov carefully documents the confluence of Chinese and Vietminh ambitions in Indochina. Kalb and Abel virtually ignore the fact that without material Chinese assistance, in the form of bases as well as all kinds of military supplies, the Vietminh could not have beaten the French.

The authors treat the Johnson Administration's handling of the war in three lengthy chapters. Most of the story appears to be based on the "educated guesses," particularly in the many instances where the inner thoughts and emotions of the principal actors are revealed. Any reader who happened to be intimately involved in Vietnam affairs in Washington or Saigon during this period will find reasons to cringe over the inaccuracies, half-truths, and omissions.

Mr. Kalb and Mr. Abel were privy to the same background information supplied by the Pentagon relative to the reinforcements following the 1968 Tet offensive as was Mr. Lloyd Norman of *Newsweek*. Mr. Norman wrote a straightforward, systematic and generally accurate account of this episode which was published in the April 1971 issue of *Army*. On the other hand, Kalb and Abel distort the picture, omit important facts, and succeed in leaving the reader with the impression that official Washington panicked after the Tet offensive and goaded General Westmoreland into requesting a reinforcement of 206,000 troops. The facts of the Wheeler-Westmoreland exchange are quite different, relatively simple, and contain none of the conspiratorial or disingenuous elements implied by the authors.

The Communist offensive at Tet was interpreted in Saigon as one manifestation of a shift in Hanoi's strategy. This strategy included heavy reinforcements of North Vietnamese forces in South Vietnam and a possible major, concerted attack on US and ARVN installations and cities in northern First Corps. General Westmoreland also recognized the severe damage inflicted on South Vietnam's army and the fact that Allied plans for 1968 would require major revision. Furthermore, he saw opportunities to strike heavy blows at the seriously decimated enemy units in South Vietnam. In response to the threat in First Corps he planned the deployment of elements of the 101st Airborne Division and other US units to the north, thereby accepting serious risks in the Third Corps Tactical Zone.

Together with General Wheeler, he developed an outline plan to protect South Vietnam against the expected continuation of the North Vietnamese offensive while ARVN was in the process of recovering from the Tet onslaught, and to exploit the weakness of the North Vietnamese that would be sure to follow the failure of their expected major attacks. This plan was a new strategy and it was understood that it would depend upon the acceptance in Washington of a greater US commitment, including further mobilization of reserves. At no time did General Westmoreland request the deployment of 206,000 new troops. When it became apparent that the new strategy would not be adopted in Washington and that the expected second phase of the North Vietnamese offensive would not materialize, the actual deployment requested amounted to only slightly more than the already authorized troop strength of 525,000.

One of the many interesting questions about Vietnam that can never be answered is what would have been the result had President Johnson approved the new strategy and permitted the employment of sizeable US ground combat units against Communist installations and forces in the Laos panhandle?

It is pertinent also to recall that in November 1967 General Westmoreland said that "it is conceivable to me that within two years or less, it will be possible for us to phase down our level of commitment and turn more of the burden of the war over to the Vietnamese Armed Forces who are improving and who, I believe, will be prepared to assume this greater burden." General Westmoreland reiterated this belief in an interview in Saigon on 20 February 1968: "I envision that, as the Vietnamese Army completes its modernization and develops its potential capability, it will be able to carry a greater share of the war, and to that extent the level of our commitment can be reduced." In this regard, the first American forces left Vietnam and were sent back to Fort Lewis at the end of 1969, two years almost to the day of General Westmoreland's 1967 statement.

This book contains many other insinuations, innuendos and misinterpretations that, in sum, create a specious view of the American involvement in Indochina. Here are some of the more flagrant examples. The authors say that in 1964, "Taylor kept recommending air strikes against the north. General Westmoreland kept agreeing." The fact is that General Westmoreland was the last member of the Mission Council to agree to a systematic bombing program against the North. Rather, General Westmoreland in 1964 had recommended only "tit-for-tat" missions in retaliation for North Vietnamese and VC attacks on populated areas and US bases. He was concerned at the time over the likelihood of North Vietnamese responses to bombing that would be dangerous to South Vietnamese troops. Further, he recognized the weakness of United States air defense capabilities in South Vietnam and the vulnerability of US bases to North Vietnamese or Chinese air attack.

The authors write of General Westmoreland's "pressure" to get Marines ashore in South Vietnam and how he "urged the President to allow an impressive amphibious assault, Normandy-style, on the beaches near Da Nang." As a matter of fact, General Westmoreland did recognize a serious security risk to US bases in First Corps, and he needed US troops to protect against possible North Vietnamese ground attacks against these bases.

Never did he urge an "impressive amphibious assault." Only two battalions were involved, flower-girls met them on the beach, and US advisers were on the air field waiting for the Marines as they came in. Furthermore, General Westmoreland had no personal contact with the President during this period. In fact, he had no personal contact with President Johnson from the time he went to Vietnam in January 1964 until their Honolulu conference in 1966.

With regard to the change-of-command in Vietnam in 1968, the authors imply that General Westmoreland was "surprised" and say that he was "deeply disappointed." This is not the way it happened. General Westmoreland, after serving in Vietnam for over four years, knew well in advance that he was going to be given a new job. His disappointment was not over this but rather over the rejection in Washington of his plan for additional forces to be used to exploit the losses suffered by the VC and the North Vietnamese Army during the Tet offensive. General Wheeler's trip to Clarke Air Force Base in March was made to give General Westmoreland the background of the discussions and decisions in Washington that led up to the rejection of the new strategy.

The authors remind us of the power of the press in shaping opinion and public policy in the United States. They cite the example of Hearst's involvement in the US decision to go to war against Spain in '98 and of the influence Henry Luce exerted, with *Time*, *Life* and *Fortune*, upon the US adoption of Chiang Kai-Shek as the man worthy of United States support in the 1940s. The reader might well wonder about the objectives held by Kalb and Abel and whether or not this book is a medium for shaping opinion and public policy in the direction of their objectives. This book is very persuasive journalism. It is very poor history.

COLONEL W. E. LEGRO, USAWC.

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ARMOR

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ON THE COVER . . .

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a lesson in hieroglyphics

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MEDAL OF HONOR



The President of the United States of America, authorized by Act of Congress, March 3, 1863, has posthumously awarded in the name of The Congress the Medal of Honor to

FIRST LIEUTENANT ROBERT L. POXON
UNITED STATES ARMY

for conspicuous gallantry and intrepidity in action at the risk of his life above and beyond the call of duty.

First Lieutenant Robert L. Poxon, Armor, Troop B, 1st Squadron, 9th Cavalry, 1st Cavalry Division, distinguished himself on 2 June 1969 while serving as a platoon leader on a reconnaissance mission in Tay Ninh Province, Republic of Vietnam. Landing by helicopter in an area suspected of being occupied by the enemy, the platoon came under intense fire from enemy soldiers in concealed positions and fortifications around the landing zone. A soldier fell, hit by the first burst of fire. Lieutenant Poxon dashed to his aid, drawing the majority of the enemy fire as he crossed 20 meters of open ground. The fallen soldier was beyond help and Lieutenant Poxon was seriously and painfully wounded. Lieutenant Poxon, with indomitable courage, refused medical aid and evacuation and turned his attention to seizing the initiative from the enemy. With sure instinct he marked a central enemy bunker as the key to success. Quickly instructing his men to concentrate their fire on the bunker, and in spite of his wound, Lieutenant Poxon crawled toward the bunker, readied a hand grenade and charged. He was hit again but continued his assault. After succeeding in silencing the enemy guns in the bunker he was struck once again by enemy fire and fell, mortally wounded. Lieutenant Poxon's comrades followed their leader, pressed the attack and drove the enemy from their positions. First Lieutenant Poxon's gallantry, indomitable will and courage are in keeping with the highest traditions of the military service and reflect great credit upon himself, his unit, and the United States Army.



First Lieutenant Robert L. Poxon received his commission in 1967 through the Armor Officer Candidate School at Fort Knox, Kentucky, after having attended St. Louis University. The Detroit native was assigned to a basic combat training company at Fort Leonard Wood, Missouri, until ordered to Vietnam in 1968. There he served with Headquarters and Headquarters Troop, 1st Squadron, 9th Cavalry Regiment, 1st Cavalry Division, and Troop B of the same unit. Besides the Medal of Honor, which was awarded posthumously in March, Lieutenant Poxon held the Bronze Star Medal, the Air Medal and the Purple Heart.



An account of a large-scale, month-long, armor operation in the jungle of the Republic of Vietnam which provides a dynamic example of armor mobility. Montana Raider may also provide an insight into warfare on isolated battlefields of the future.

MONTANA RAIDER:

**—Mobility in the jungle
—Classroom for tomorrow?**

by Colonel James H. Leach
Lieutenant Colonel James L. Dozier
Lieutenant Colonel Glenn G. Finkbiner
with assistance from
Lieutenant General George I. Forsythe

Most articles written about the employment of armor units in the Republic of Vietnam either deal with the peculiarities of operations in the jungle or discuss the question: Can armor units exercise their full mobile warfare potential in such an environment? The answer to the question is of course, yes—if they are employed with VIB (variety, imagination, boldness) and in accordance with armor doctrine. However, the success of armor units (which include ground and air cavalry, tank, mechanized and associated artillery units) in an isolated jungle environment should generate thought on the future application of what we have learned (and relearned) in combat operations in Indochina. What follows is a brief account of a large-scale mobile operation conducted in the Republic of Vietnam by the 11th Armored Cavalry Regiment which illustrates:

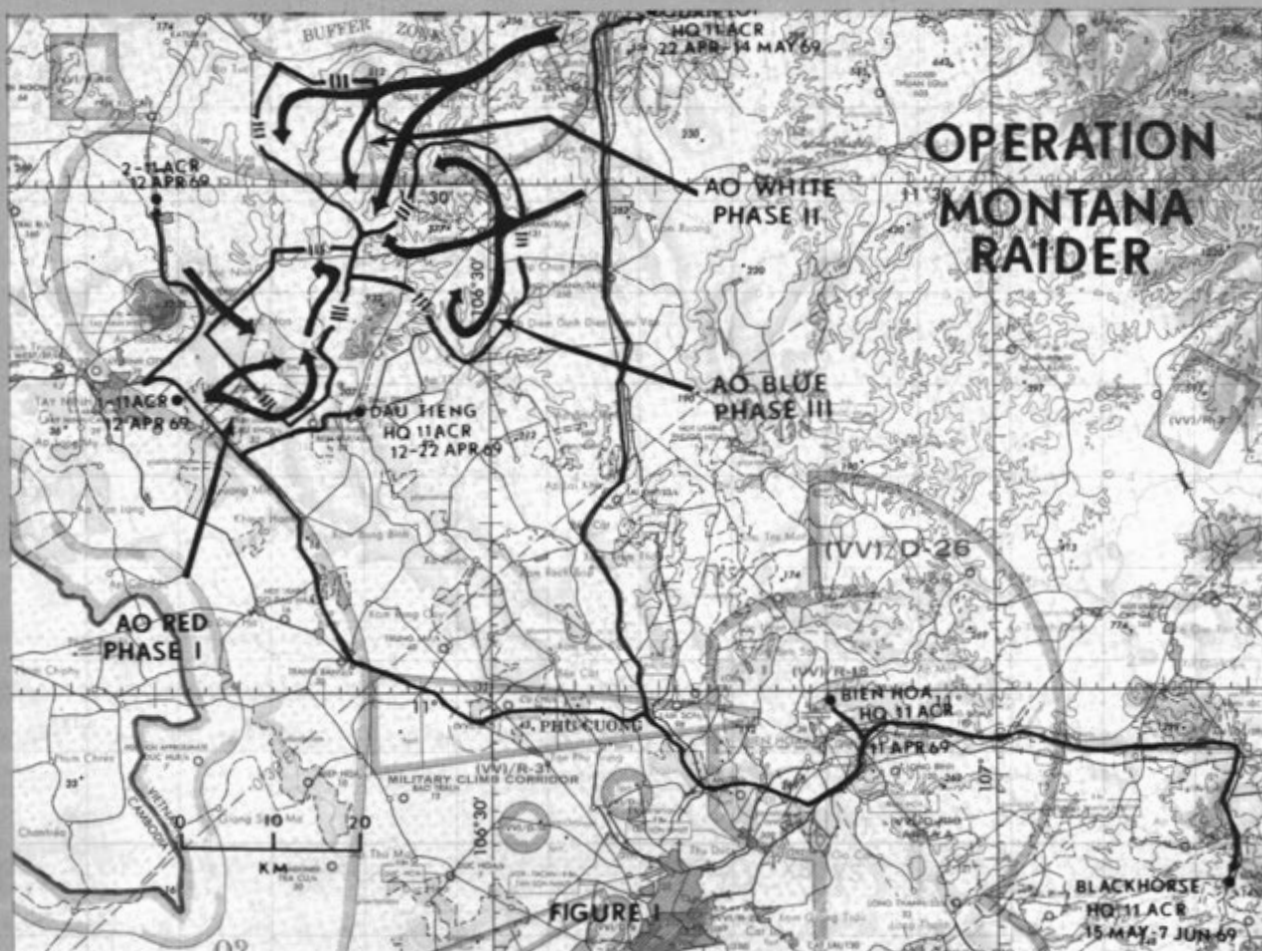
- The versatility of a large, aggressively employed armor unit in an isolated jungle environment when its full mobility potential is exercised.
- That armor doctrine can be successfully applied in such an environment.
- That in this operation, as has been the case in the past and undoubtedly will be the case in the

future, logistics problems were the most significant constraints placed upon the commander.

- The operation was perhaps a microcosm of future (nuclear?) conflicts on isolated battlefields.

Operation Montana Raider was a three-phase divisional Reconnaissance in Force (RIF) operation conducted in War Zone C by then Major General George I. Forsythe's 1st Cavalry Division (Air-mobile)—The First Team. The 11th Armored Cavalry Regiment (minus the 3d Squadron), under the operational control (OPCON) of the division, was the major striking force employed. The Blackhorse provided the nucleus around which the operation was planned and conducted.

The physical characteristics of War Zone C are generally well known and need little elaboration. In essence it is an area of scrub bamboo jungle, sometimes thickening to triple canopy along the numerous streams which break up the trafficable terrain (abundant in the dry season—roughly February through June) into numerous compartments. Armored units had operated in the area on several previous occasions.



From here on certain participants in the operation will each tell their own part of the story.

GENERAL FORSYTHE: When the regiment was placed under the OPCON of the 1st Cavalry Division, I decided to conduct a major operation into an extremely heavily fortified and important North Vietnamese Army base area known as the Crescent. The Crescent lies astride a main avenue of approach that runs from Cambodia north of Nui Ba Den Base . . . and thence into the Michelin Plantation and the Viet Cong base area known as the Citadel. Elements of the 1st Air Cavalry Division had conducted countless operations in the Crescent, but owing to the lack of armor churn-up and destruction of the thousands of bunkers, had been unable to destroy the base.

The concept of the operation called for "The 11th ACR (-) reinforced by elements of the 1st Cavalry Division (Ambl)" to conduct "Reconnaissance in Force (RIF) and area reconnaissance operations in three known enemy sanctuaries . . . employing two armor-heavy and one airmobile infantry-heavy task forces, with the Regimental Air Cavalry Troop in direct support and the 1/9th Air Cavalry Squadron in general support." The Headquarters of Lieutenant Colonel John H. Mitchell's 8th Battalion, 6th Artillery (1st Infantry Division) provided a "direct support control headquarters for all 11th ACR artillery fires."

The Blackhorse received its warning order for Montana Raider on 9 April 1969 and planning immediately began for execution of Phase I on 13 April. As previously mentioned, it soon became apparent that the prime constraints imposed upon the 40th Blackhorse commander, Colonel James H. Leach (who had assumed command of the Blackhorse 3 days prior to receipt of the warning order), were logistical considerations.

COLONEL LEACH: Much of the planning being done was a matter of routine; but after looking at the area of operation (AO), we concluded that although the terrain was trafficable for all of our combat vehicles, resupplying combat units overland was obviously unfeasible and we would have to rely heavily on aerial resupply. Accordingly, my S4, Lieutenant Colonel Glenn Finkbiner and my S3 (then) Major James Dozier focused their attention on locating the Regimental CP and logistic support site forward to minimize flight time for *Chinook* (CH-47) helicopters. In addition Major Robert Foley, Blackhorse S2, prepared a cover and deception plan to be implemented in conjunction with

preliminary reconnaissance by Major James Bradin's Air Cavalry Troop. While planning progressed, Regimental Command Sergeant Major Paul W. Squires, who extended his tour for 30 days to assist me, made his rounds in preparation for the forthcoming operation.

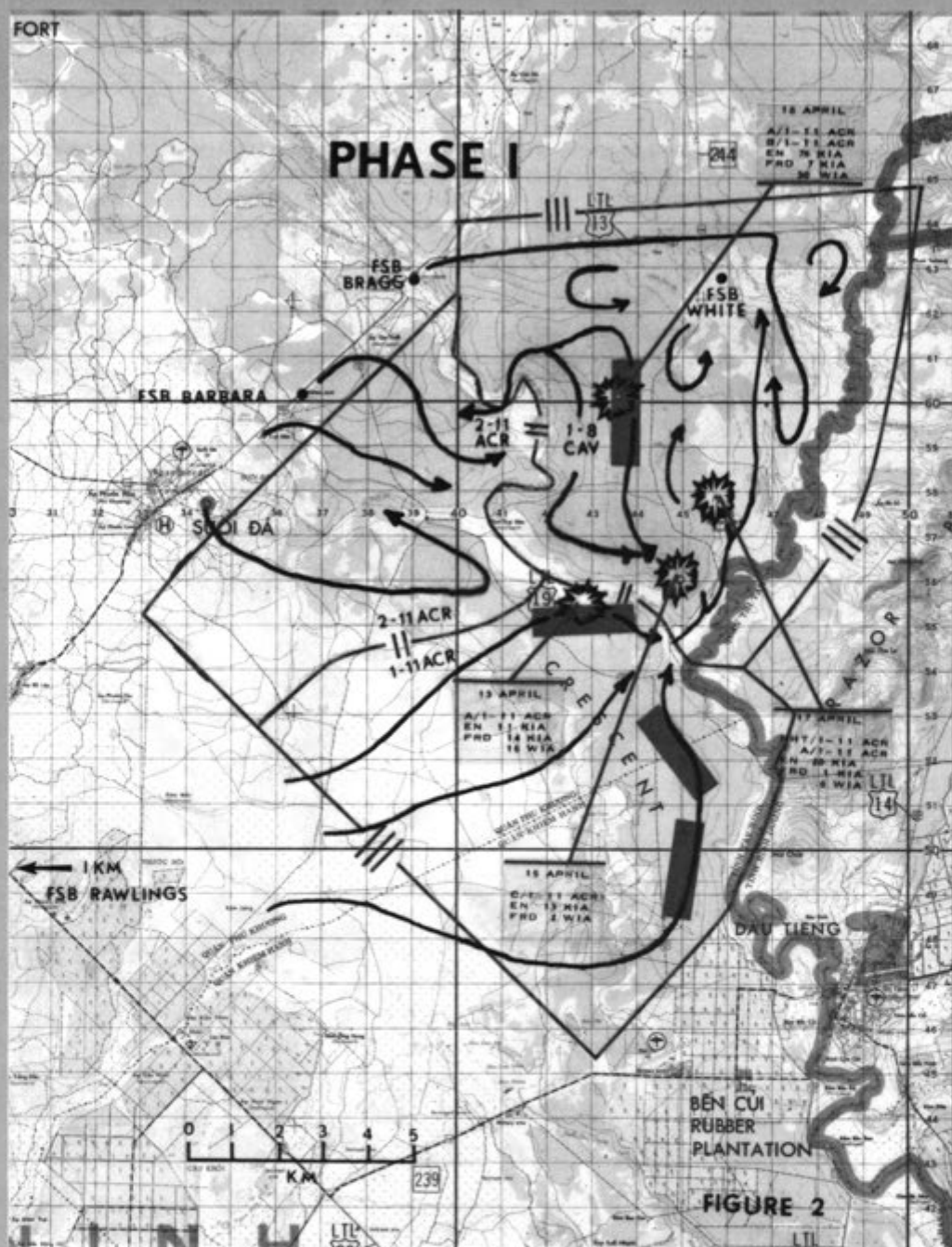
PHASE I: 13 - 20 APRIL 1969

LIEUTENANT COLONEL FINKBINER: Possible bases of operation from which the regiment's support elements could operate were quickly identified based on the planning guidance provided by the regimental commander. Liaison visits to each possible support site (Quan Loi, Dau Tieng and Lai Khe) were conducted to evaluate the facilities and type and amount of logistic support which could be provided.

First Logistic Command, Saigon Support Command and the 29th General Support Group were brought into the planning because of the major impact this operation would have on convoy scheduling and the overall plan for logistic support for III Corps.

A major consideration in our logistic plan was maintenance support. None of the sites under consideration had ever supported a mechanized force the size of the regiment and, consequently, adequate maintenance facilities were not available. After discussing this problem with the regiment's back-up support maintenance organization, the mobile maintenance team then supporting the regiment was enlarged. Enlarging the team meant more mechanics, and for the first time major assemblies and selected repair parts were to be stocked by the team. Additionally, a special *M551 Sheridan* contact team was organized and assigned to the mobile maintenance team. It was envisioned that the mobile maintenance team would be capable of providing 85 percent of the regiment's maintenance support. The remainder would be accomplished by evacuating vehicles and equipment to Long Binh where more elaborate facilities and additional skills were available. Dau Tieng was selected as the initial base of operations because of its proximity to the initial AO and quartering parties were immediately flown there to begin work.

Since the regiment would have to operate its own ammunition supply point (ASP), elements of the regiment's engineer company, under the command of Captain Bernard Reilly, were dispatched to Dau Tieng to begin construction. Tank, *Sheridan* and



155mm howitzer ammunition began moving by truck convoy almost immediately. A separate facility, adjacent to the Dau Tieng helicopter refueling area, was constructed by the engineer company to accommodate the ammunition for the Air Cavalry Troop.

Dau Tieng had limited Class III (POL) storage facilities. This problem was overcome by increasing the number of 1st Logistic Command 5000-gallon fuel tankers in each convoy bound for Dau Tieng. Fuel from their trucks was transferred to the regiment's fuel tankers which were then dispersed to prevent destruction during indirect fire attacks.

LIEUTENANT COLONEL DOZIER: Once Dau Tieng was selected as the location for both the CP and forward logistic support base for Phase I, I moved ahead with tactical planning. We ultimately decided to employ three Task Forces in the separate AOs shown on the accompanying map. In an attempt to deceive the enemy as to our exact area of interest (the general area could not be disguised), the cover and deception plan (developed by the regimental commander and regimental S2 and approved by General Forsythe) was implemented. It involved reconnaissance of our intended AOs by

our air cavalry, plus considerable time spent over areas farther to the west. The 1/9th Air Cavalry of the 1st Cavalry Division (which was already operating in the area) was relied upon for last-minute reconnaissance of our actual objective areas. In addition, we decided to move our ground elements to initial locations well west of our Phase I AOs—as though we intended to operate north of Tay Ninh City, rather than to the east. The Air Cavalry Troop “lost” a fake Operations Order directing the Blackhorse to move to the area north of Tay Ninh.

GENERAL FORSYTHE: In asking Colonel Leach for his recommendations as to the movement of a large armored command from the Xuan Loc/Bien Hoa area to the objective area, he presented us with a brilliantly conceived movement plan which would optimize the cover and deception of the real intent of such a massive movement of armor. Upon arrival, the execution of his plan was carried out in the most minute detail, including aspects involving the “loss” of an operation order which led the enemy to believe that the 11th Armored Cavalry Regiment was moving to an area northwest of Tay Ninh.

The skillful timing of his 180 degree change in direction of movement under cover of darkness to appear on the fringes of the Crescent at daylight on D-day was a principal factor in catching the enemy napping. An air assault operation placed along the enemy's escape routes successfully bottled up a large NVA force which, during the next seven days, was annihilated by the 11th Armored Cavalry Regiment.

COLONEL LEACH: On 12 April, at 0800 hours,

the operational control of the 11th Armored Cavalry Regiment (-) passed from Major General Orwin C. Talbott's 1st Infantry Division to the 1st Cavalry Division (Ambl). The 1st and 2d Squadrons and the Regimental Headquarters moved from the Lamson and Bien Hoa areas to the vicinity of Dau Tieng. The movement to this location, 98 kilometers from Bien Hoa, was accomplished in eight hours. The road march took the Blackhorse from Bien Hoa to Phu Cuong, across the Saigon River to Cu Chi, along Highway 1 to Trang Bang, and finally to Dau Tieng.

When Lieutenant Colonel Lee E. Duke's (later Lieutenant Colonel James Aarestad's) 2d Squadron was 10 kilometers west of Dau Tieng, it was joined by A/1/8th Cavalry at Fire Support Base (FSB) Barbara. Lieutenant Colonel Merrite W. Ireland's (later Major John C. Bahnsen's) 1st Squadron linked up with C/1/8th Cavalry at FSB Rawlings, while Regimental Headquarters and all rear elements moved into Dau Tieng. While the units were moving in convoy, 3d Tactical Fighter Wing Forward Air Controllers (FACs) flew overhead, giving constant cover and providing radio links to 1st Cavalry Division headquarters at Phuoc Vinh. Later, during the final march from Trang Bang to Dau Tieng, the Air Cavalry Troop provided additional cover as the convoy passed through a potentially dangerous area where ambushes frequently occurred. This massive movement of armor was completed without incident, and by 1700 hours, the Regimental CP was completely operational.

On 13 April, the Regiment took OPCON of Lieutenant Colonel Todd Graham's 1st Battalion,



8th Cavalry at LZ White and began RIF operations. TF 1/11th ACR left FSB Rawlings and deployed its three teams into its AO, slicing the area in a northeasterly direction. Following the orders in the cover and deception plan, 2/11th ACR ended its feint, turned from its initial direction of march and raced back over the previous day's route—achieving the needed element of surprise. The 2d Squadron of the Blackhorse positioned its CP and Howitzer Battery at FSB Bragg, and then deployed teams into its AO.

LTC DOZIER: Figure 2 portrays Phase I with the most significant contacts identified. Also shown are the B52 strikes which were used to support the Blackhorse scheme of maneuver. Each Task Force had sufficient tank assets to facilitate "jungle busting" operations. Although tanks are not the primary killing tool in the jungle, they are absolutely necessary in order to break a path through the dense vegetation for other vehicles. In the Blackhorse, "Scouts Out" meant M48 tanks and Air Cavalry Troop forward.

In addition, the armored vehicular launched bridges (AVLB) proved to be absolutely essential, because of the numerous small streams encountered. The AVLBs facilitated cross-reinforcement and allowed freedom of movement in that pile-on tactics were employed and task organization and direction of movement changed daily.

LTC FINKBINER: When tactical operations began in Phase I, nearly all resupply was accomplished by air. What we were faced with was an isolated battlefield! No land lines of communications (LOC) existed! No vehicles left the battle area until the termination of Phase I. Inoperative and combat damaged vehicles were evacuated to central troop-level maintenance locations in the battle area, where repairs (including replacement of major assemblies) were accomplished by the mobile maintenance teams. As the fighting tempo increased, the number of vehicles suffering combat damage and routine breakdowns increased proportionately. The heli-borne mobile maintenance teams were able to maintain a large percentage of the combat vehicles in an operational status as long as major assemblies were available.

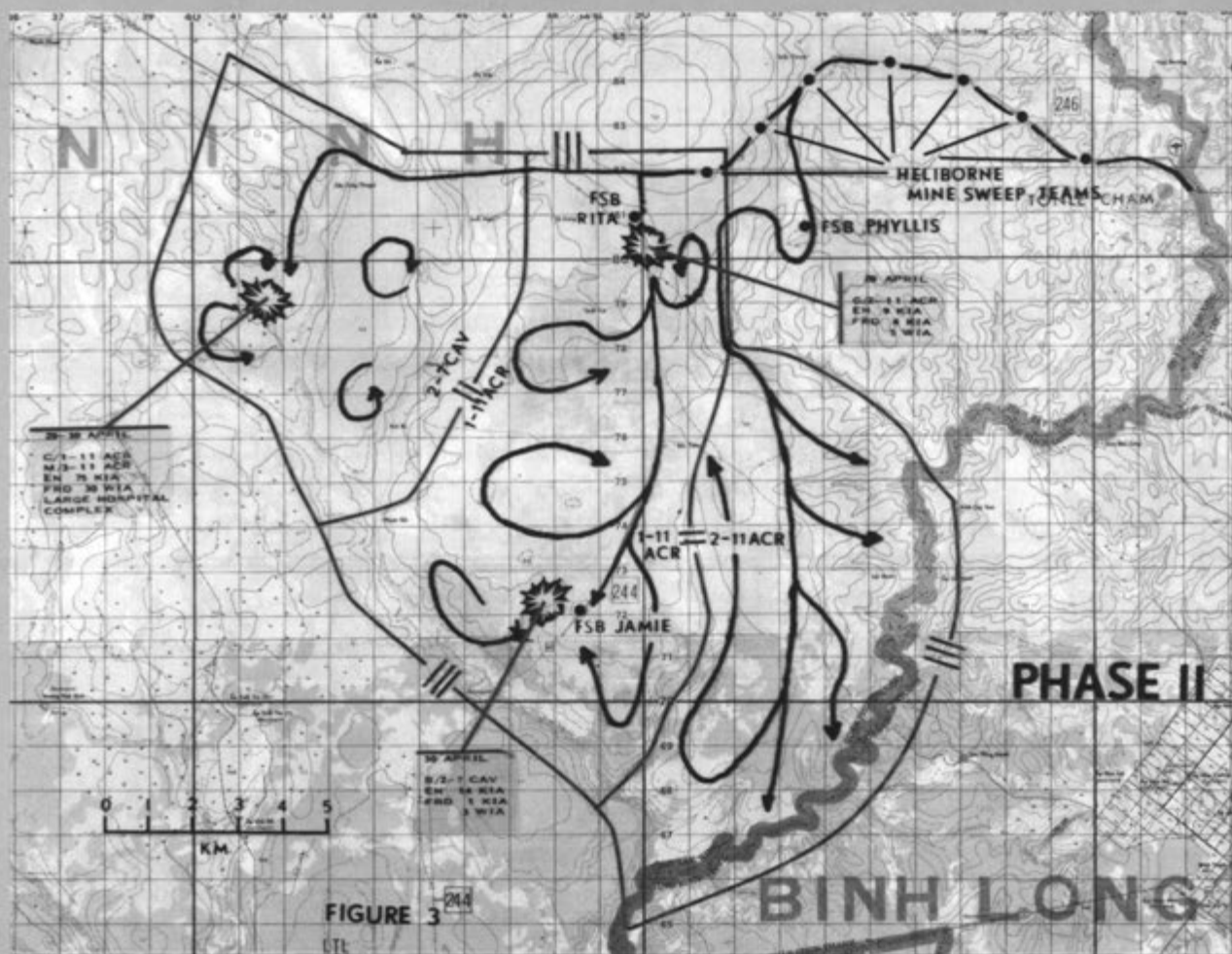
LTC DOZIER: A major problem and one never completely solved, was the expeditious evacuation of combat vehicles from the location of breakdown or combat damage to a troop maintenance location. Usually a disabled vehicle had to be pulled by

another combat vehicle—and this cost combat power. Although recovery vehicles were available, they required an escort because no route or trail was secure. In essence, the light and heavy recovery vehicles were too valuable to be exposed to mines and rocket-propelled grenades (RPGs). Since we were conducting an area reconnaissance, we wanted each team to remain in the combat area and be resupplied on the spot rather than return to some central location. Thus the diversion of combat vehicle resources to the evacuation task was something we closely monitored. Since experience had shown that the "stay-time" of vehicles involved in constant jungle busting was about a week (due to maintenance limitations), we made a concerted effort in all three phases to simultaneously saturate all AOs with (troop/company) teams in order to rapidly develop the situation. We would subsequently concentrate our forces in the most lucrative areas to do as much damage to the enemy as possible during the week-long period.

PHASE II 24 APRIL - 2 MAY 1969

COLONEL LEACH: By 19 April it was apparent that we had accomplished our mission in Phase I. Intelligence indicated that the enemy units in the Phase I AO had relocated into our Phase II area. Prior to moving on to Phase II, however, the Black-





horse needed a day or two for concentrated maintenance. In addition, in order to support Phase II operations we would have to move our CP and forward support site. We chose Quan Loi (as the Phase II operating base) even though this would involve a 149 kilometer road march by all Blackhorse combat and support elements. On 20 April all Blackhorse elements were assembled in the vicinity of Dau Tieng for the maintenance standdown which had been granted by Major General Forsythe.

On 22 April we departed Dau Tieng. The Air Cavalry Troop moved its base elements from Bien Hoa to Phu Cuong, joining a convoy composed of 1st and 2nd Squadrons and Regimental Headquarters coming southeast from Dau Tieng. The convoy pushed northward on Highway 13 to Quan Loi without incident, completing the 149 kilometer march in about 12 hours. At Ben Cat the very tired tankers and tanks of D/1/11th ACR were replaced by those of M/3/11th ACR. As in earlier moves of this type, FACs from the 3d TFW and the Blackhorse Air Cavalry Troop provided cover. The 1st Squadron linked up with B/2/7th Cavalry at Quan

Loi and 2/11th ACR rejoined A/1/8th Cavalry at An Loc.

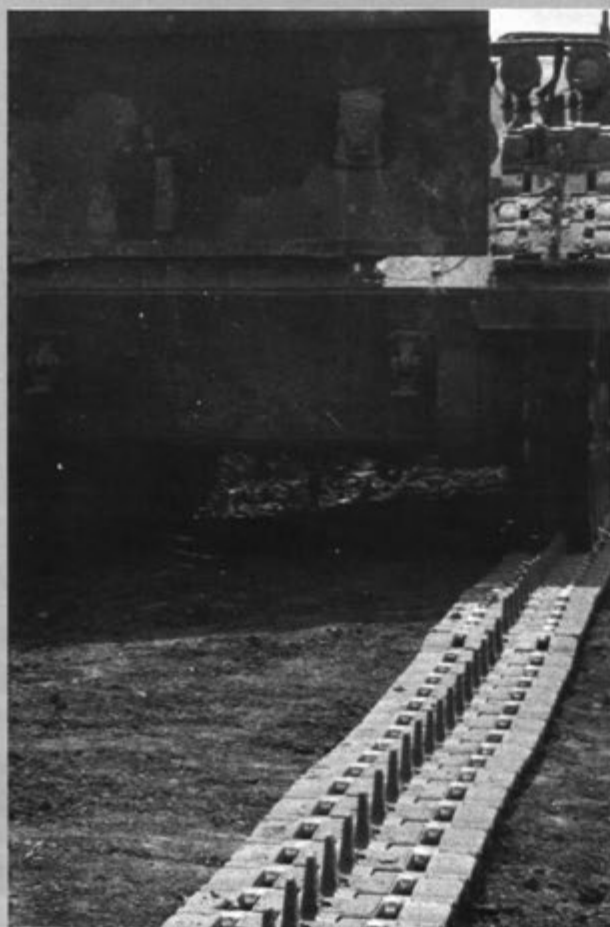
LTC FINKBINER: Dau Tieng was quickly closed out, with nearly all logistic elements moving with the main body to Quan Loi. Small squadron maintenance teams and part of the regiment's mobile maintenance team remained behind to complete the repair and evacuation of disabled vehicles. The final close out of Dau Tieng was delayed by a shortage of *M15A2* tank transporters for the evacuation of combat damaged vehicles.

COLONEL LEACH: On 23 April all elements spent the day completing their maintenance operations and preparing for Phase II. On 24 April Phase II began as TF 1/11th ACR and 2/11th ACR pushed southwest from An Loc along Route 246 through Tong Le Chon. To speed the movement, elements of the 919th Engineers flew into the Tong Le Chon Special Forces Camp and sent mine sweep teams northeastward along the road to meet the column. During their movement, the engineers were provided security by the Civilian Irregular Defense Group (CIDG) forces from Tong Le Chon. TF

1/11th ACR laagered for the night (north of LZ Rita). To the south, TF 2/11th ACR stayed at LZ Phyllis. How/2/11th ACR remained there that night and throughout Phase II.

On 25 April Lieutenant Colonel Godwin Ordway's 2d Battalion, 7th Cavalry began construction of LZ Jamie and was placed under the OPCON of the Blackhorse. TF 1/11th ACR arrived at LZ Jamie before darkness on 25 April where they also established their headquarters. In TF 2/11th ACR, the CP and the Howitzer Battery remained at LZ Phyllis, while the rest of the task force thrust cross-country into its AO. As this element entered the AO, it began pushing south along the western edge of the area. At predetermined locations, individual cavalry troops turned east and sped out to their own AOs. TF 2/11th ACR was able to quickly cover its area of operation by this tactic, but only limited enemy contact was gained. Thus, priority of resources shifted to TF 1/11th ACR and 2/7th Cavalry who were in almost continuous contact.

LTC DOZIER: Phase II of Montana Raider was, in essence, a repetition of Phase I. The enemy was there, we found him and destroyed his supplies and facilities.



LTC FINKBINER: During Phase II, supply and maintenance problems were compounded by the extended distance between Quan Loi and the regiment's AO and by limited cargo helicopter support. Again, there was no land LOC because of the expense of security involved. With each squadron requiring 125,000 pounds of food, fuel and ammunition daily, and sortie flying time increased to 40 minutes as compared to 20 minutes for Phase I, careful planning and efficient use of allocated helicopter support was required. Combat damaged vehicles and vehicles disabled as a result of jungle busting were handled as in Phase I—pulled behind operational vehicles until they could be deposited in secure areas. Repair of these vehicles during this phase was often delayed because needed major assemblies were not always available at Quan Loi. From Quan Loi the assembly was flown to the inoperative vehicle and the repair completed or, in the case of *M113s*, evacuated by flying crane (*CH54*) helicopters to Quan Loi.

COLONEL LEACH: By 1 May we were ready to terminate Phase II and begin preparation for Phase III. Again, a maintenance standdown was required, but no relocation of the CP and logistic elements was necessary. Accordingly, on 2 May we began moving 1/11th and 2/11th ACR east of the Saigon River back through Tong Le Chon. The withdrawal retraced the route of original entry into the area at the beginning of Phase II. The move back to Quan Loi was tedious and slow. The terrain was very difficult and a number of antitank mines slowed the progress even more, so the complete move required 20 hours. To speed the withdrawal, the 919th Engineers constructed a ford across the Saigon River at Tong Le Chon. Mine sweep teams from the 919th, each secured by either the Air Cavalry Troop's Aero Rifle Platoon or by a platoon from D/2/7th Cavalry, were air assaulted in advance of the main withdrawing column. These units, using helicopters, then leapfrogged ahead of the column. By concurrently sweeping several short sections of the route, movement of the column was expedited. When TF 1/11th ACR and TF 2/11th ACR moved into the An Loc/Quan Loi area, Phase II was completed and a four-day maintenance standdown began.

PHASE III: 7 - 14 MAY 1969

LTC DOZIER: Phase III was somewhat anticlimactic as far as combat was concerned, when

compared to the previous two phases. Intelligence indicated that major enemy units had withdrawn from the Phase III AO; however, we were not certain of this and the intelligence had to be verified. The 1st Infantry Division, using Lieutenant Colonel John McEnery's 3/11th ACR (which had remained under its OPCON), had initiated an operation in the nearby Michelin Plantation and our activities would complement theirs. The map shows our movements and actions during Phase III. In concert with Lieutenant Colonel Thomas F. Healy's 5/7th CAV, we gave the area a thorough going over, and although few enemy contacts developed, logistic problems remained essentially the same.

COLONEL LEACH: We terminated our Phase III operations on 13 May. On 14 May all Blackhorse elements began the move toward their former area of operations (north of Bien Hoa). Such was not to be the case, however, since while enroute the Blackhorse received a new mission which required us to move to the vicinity of Xuan Loc, 179 kilometers southeast of Quan Loi.

REFLECTIONS

Montana Raider was a tactical success. Although the enemy, in general, refused to do major battle, the Blackhorse along with the First Team, dislocated



the enemy from his established areas and disrupted his supply system. The Blackhorse Regiment, employed in a completely mobile role—rapidly moving major elements over long distances—exercising its full mobility potential, once again displayed its versatility and flexibility, even in a jungle environment. Although tactical innovations (peculiar to the jungle environment) were often called for and utilized, the operation was conducted in accordance with armor doctrine. Of prime importance when thinking of the future, however, is the fact that tactical elements operated in an isolated battle area: no front lines, no ground LOCs and no adjacent units. Here, small unit meeting engagements, rapidly reinforced overland and by air, were commonplace. Mission-type orders were routine. Task organizations were constantly changing to meet tactical needs. Finally, logistic considerations were a prime constraint. Nevertheless, a large armor unit did operate successfully, completely independent of a ground tactical LOC for an extended period.

Was Montana Raider perhaps a forerunner of the type of operations that other armor units will conduct in future (perhaps nuclear) conflicts? It's indeed food for thought.



LIEUTENANT GENERAL GEORGE I. FORSYTHE, now in charge of the Army's effort to develop the Modern Volunteer Army, was commanding general of the 1st Cavalry Division, to which the 11th Armored Cavalry Regiment was attached for operations.

COLONEL JAMES H. LEACH, now chief of Armor Branch, was commander of the 11th Armored Cavalry Regiment when the actions described herein took place.

LIEUTENANT COLONEL JAMES L. DOZIER, now executive officer of the 1st Brigade, 1st Armored Division, was operations officer of the 11th Armored Cavalry Regiment.

LIEUTENANT COLONEL GLENN G. FINKBINER, now commander of the 1st Battalion, 35th Armor, 1st Armored Division was logistics officer of the 11th Armored Cavalry Regiment.

... In effect, this movement from the Crescent near Dau Tieng to War Zone C, west of An Loc, amounts to the distance between the Normandy Beaches and the environs of Paris. The significance is that such a march was achieved shortly after a sharp and bitter fight which had been preceded by a lengthy march from one flank of the III Corps tactical zone to the other. Translated in World War II terms, such maneuvering ability of a combat unit was indeed brilliant.

Lieutenant General George I. Forsythe

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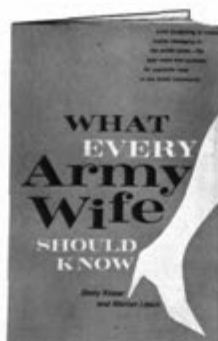
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vickers falcon

a new
self-propelled
antiaircraft gun



by richard m. ogorkiewicz

After years of neglect, there has been a significant revival of interest in mobile antiaircraft weapons. This has resulted in the development of several ground-to-air missile systems mounted on armored vehicles and self-propelled automatic antiaircraft guns. All the recently developed systems have, however, proved costly. This has led to the design in England of a new and less expensive antiaircraft vehicle, the *Falcon*.

The *Falcon* has been developed by the Armament Division of Vickers Ltd. in collaboration with the British Manufacture and Research Co., one-time subsidiary of the Swiss Hispano-Suiza Company. In essence the *Falcon* consists of a turret with two Hispano-Suiza 831L 30mm automatic guns mounted on a chassis similar to that of the *Abbot* 105mm self-propelled gun which Vickers has been producing for the British Army. The two 30mm guns have a

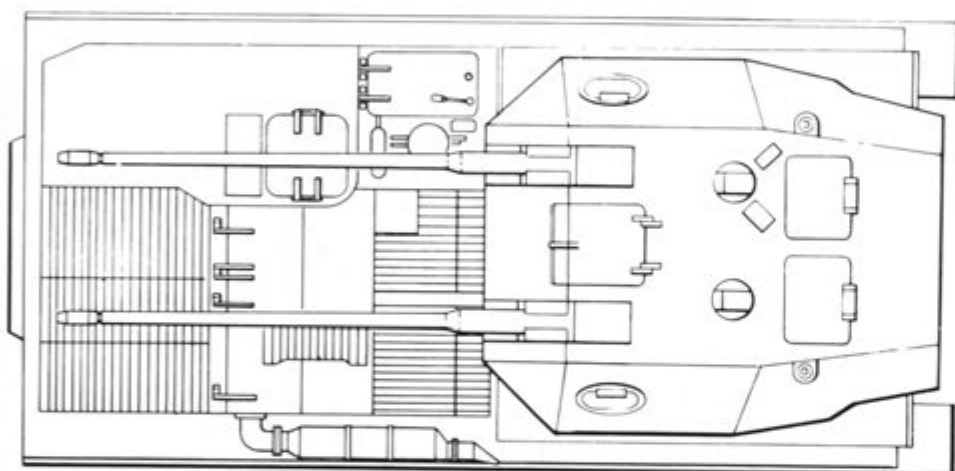
combined rate of fire of 1300 rounds per minute. They are coupled to a simple computer which feeds into the gunner's sight the correct lead angle based on the speed of tracking of the target. A more elaborate electronic fire control system has not been considered cost-effective against low-level air attack under clear weather conditions for which vehicles like the *Falcon* are primarily required.

A costly and vulnerable electronic fire control system would also have made the *Falcon* less suitable for use against ground targets such as light hostile armored vehicles. In such employment, the gunner would normally make use of the provision for single shot fire, instead of firing bursts in order to conserve the ammunition which is inevitably limited in any armored vehicle. It is noteworthy that the *Falcon* carries 620 rounds which represents a good supply of

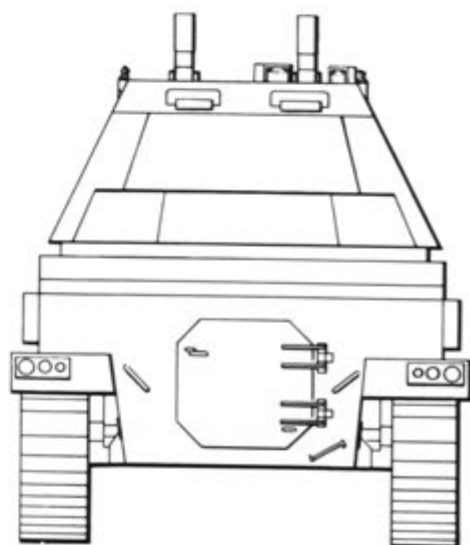
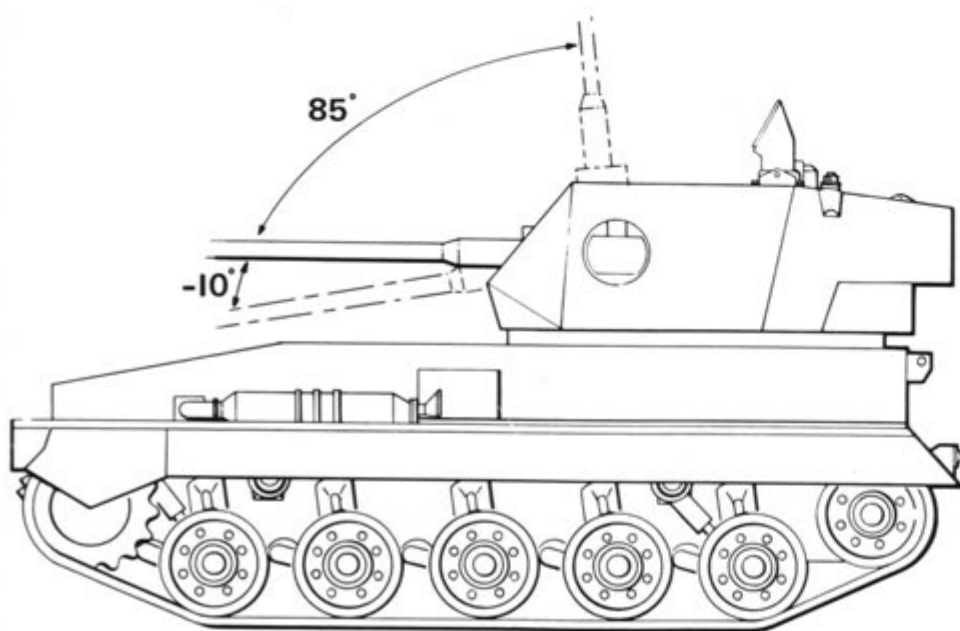
ammunition in relation to its size. Moreover, the ammunition is in two boxes, one for each gun, which can be quickly replaced through a door in the rear hull plate.

The turret traverse and gun elevation are both powered by an all-electric, metadyne system which is different from those generally employed in armored vehicles but which is similar to that used in the British *Chieftain* and *Vickers* main battle tanks. The system was developed by Britain's biggest electrical group, the GEC-AEI (Electronics) Ltd. It enables the turret to be traversed and the guns to be elevated very rapidly. Thus, the maximum speeds in traverse and elevation are 80 and 40 degrees per second, respectively.

The traverse and elevation system includes a two-motion joystick by means of which the gunner can



Multiview drawing showing the top, left side and back of the *Falcon*.



track the target and a similar joystick, which can override the gunner's, for the commander. Signals from the joysticks are compared with outputs from rate gyro units mounted on the gun cradle, the resultant error being processed in an amplifier to optimize the response and to convert it into a suitable signal for controlling the rotating amplifiers, or metadynes. The metadyne outputs, in turn, control servo motors which drive the turret and the guns through gearboxes. There is also an emergency manual drive which enables the gunner to elevate the guns and the commander to traverse the turret.

The turret is welded from steel armor thick enough to provide protection against rifle caliber bullets and shell fragments. The commander and gunner sit side-by-side at the back of the turret. Their compartment is sealed off from the gun and ammunition which ensures an atmosphere free from fumes and reduces the noise when the guns are fired.

The turret is mounted over the rear portion of the hull, which is also welded from steel armor plates. The front portion of the hull is shared by the driver's compartment and the engine-transmission assembly. The engine is a Rolls-Royce *K60*, a water-cooled, six-cylinder, opposed-piston, two-stroke diesel which was developed specially for light armored vehicles to meet a British Army requirement. Among the inherent advantages of this type engine is that it dispenses with the valves, valve gear, cylinder heads and gaskets of more conventional engines. This reduces routine maintenance requirements. The engine is also relatively narrow which facilitates installation in armored vehicle hulls. Other advantages of the *K60* include a good power-to-volume ratio. Thus, out of a total swept volume of 401cu in, it produces 212bhp net.

The *K60* engine is coupled to an Allison *TX-200* transmission which is basically the same as that used in the US family of *M113* armored personnel carriers but is manufactured in England by Rolls-Royce under license from the General Motors Corporation. The transmission, in turn, is connected to a Rolls-Royce made steering unit which is of the controlled differential or Cletrac type.

In keeping with current practice, the tracks of the *Falcon* are of the rubber-bushed, single-pin type with rubber padded links. The tracks are 13.5in wide which results in a nominal ground pressure of 11.6psi. The length of each track in contact with the ground is 112in and the distance between the track center lines is 86in which gives an L:C ratio of 1.3:1 that makes for good maneuverability.

The suspension of the *Falcon* includes five wheels per side, located on trailing arms and sprung by single, transverse torsion bars. The front and rear wheels on each side are fitted with shock absorbers. There is a manually-operated hydraulic suspension lock-out to provide, when required, a very stable gun platform.

Like other armored vehicles, the *Falcon* can wade without preparation in water up to 44in deep. If required, it can also be fitted with the same type collapsible flotation screen as that of the *Abbot* self-propelled gun. The screen is permanently carried on the vehicle and is erectable by its crew in about 13 minutes. When erected it enables the vehicle to swim across water obstacles, propelling itself by means of its tracks at about 4mph.

The *Falcon* represents a highly mobile and effective weapon system. As such, it can accompany tanks and other armored vehicles over all types of terrain and protect them against the growing threat of attack by low-flying aircraft and helicopters.

Vickers Falcon Characteristics

Guns, number	2
model	Hispano-Suiza 831L
caliber	30mm
ammunition	620 rds
Weight, combat loaded	35,000lbs
Length, overall	210in
Width, overall	104in
Height, to turret roof	99in
Ground clearance	16in
Track width	13.5in
Nominal ground pressure . . .	11.6psi
Track length to center distance.	1.3:1
Engine, make	Rolls-Royce
model	K60 diesel
gross horse power	240
Maximum road speed	30mph
Range, on roads	240mi
Crew	3

RICHARD M. OGORKIEWICZ, Senior Lecturer in Mechanical Engineering at the Imperial College of Science and Technology in London, continues to be *ARMOR*'s most frequently published writer, this being his 55th article. A world authority on armored fighting vehicles and lifetime honorary member of the United States Armor Association, Mr. Ogorkiewicz's books, *Armoured Forces* and the *Design and Development of Fighting Vehicles*, are widely recognized as unique references in the field.

Cavalry in Thailand

by Major Philip B. Entrekin

The guard at the main gate gives a snappy salute with his saber. Horses are grazing in the lush grass adjacent to the parade ground and beside the road to the headquarters building. At 0800 the bugler sounds work call and the troopers start their busy day of cleaning stalls, mending harnesses, and exercising their cavalry mounts. It is the start of a routine day for the 1st Squadron, First Cavalry Regiment of the Royal Thai Army Cavalry Division, a division which bridges the gap of history, a modern army operating on horseback and from helicopters.

The history of the division, now headquartered in Bangkok, dates back to 1890 when King Chulachomklao organized the Cavalry Service. In 1902 it was redesignated the First Cavalry Regiment and in 1907, the First Cavalry Regiment, King's Guard. It was expanded to brigade size in 1952 and comprised the First and Second Cavalry Regiments. The present designation of Cavalry Division came in 1955 with a reorganization to include the First and

Second Cavalry Regiments, the 21st Infantry Regiment Combat Team, plus combat support and combat service support units.

The division has never had the opportunity to operate as a full division and has, historically, been fragmented with the regiments serving independently or under operational control of one of the Army headquarters or of another division. Consequently, the organization of each regiment is unique and is based primarily on its current mission.

The First Cavalry Regiment (King's Guard) consists of the 1st Squadron (Horse), the 3d Squadron and the 11th Squadron. The Regimental Headquarters, 1st and 3d Squadrons are located in Bangkok and the 11th Squadron is located in Saraburi, 108 kilometers to the north.

The First Regiment is part of the Royal Thai Army general reserve. Its yearly training cycle is very similar to that of an American cavalry regiment located in the United States. In addition to



this training, the 11th Squadron provides school troops for the Cavalry School located at Saraburi.

The Regimental Headquarters, 3d and 11th Squadrons are Military Assistance Program (MAP) supported and their organizations strongly resemble that of a United States cavalry squadron, with one exception. At present there are no tanks and 75mm recoilless rifles are issued in lieu thereof. The 1st Squadron has a unique TOE. This includes a horse troop and two armored car troops. One armored car troop is equipped with *M8* armored cars and the other with *Staghound* armored cars.

The horse troop presently has 134 horses. The Squadron Commander, Colonel Assni, has recently returned from New Zealand where he purchased 43 more. All of the horses come from either New Zealand or Australia. The average height of the horses is 16 hands and the average weight 1200 pounds. The horse troop is used primarily for ceremonial purposes, but the personnel from the squadron do train in conventional cavalry tactics as well as ceremonial procedures. Most of the officers in the First Regiment have at one time or another served in the 1st Squadron and they still take every available opportunity to maintain their equestrian skills.

The Second Cavalry Regiment was a pack horse unit until 1969 when it was reorganized. The three squadrons are now basically dismounted infantry organizations. All three squadrons are committed to a counterinsurgency role in Nan Province in northern Thailand. Each squadron has its own tactical area of operations within the province which is bordered on the east and north by Laos. The Communist terrorists, or CT as they are known in Thailand, are continually trying to infiltrate the border and establish a foothold in Nan Province. The Second Cavalry Regiment is actively engaged in counterinsurgency operations to stop the Communist threat within this area.

The 21st Infantry Regimental Combat Team, also an element of the Cavalry Division, is located 100 kilometers south of Bangkok at Chonburi. It is also part of the Royal Thai Army general reserve. In addition to their normal training activities, the RCT annually trains and sends one company to Korea. This company, an element of the United Nations Forces, has been in Korea since 1950.

Esprit de corps and morale are extremely high within the division and its traditions are as deeply rooted as our own. This stems partly from the fact that most of the officers and men assigned to the division tend to stay there. Major General Somsack,

the Commanding General, has served most of his career within units of the division, holding every command position from platoon leader to division commander. Special Colonel Surintr, equivalent in the US Army to a brigadier general and Commanding Officer of the First Regiment, is known as the "Grandfather of the First Regiment," having spent all his 25 years of service within the regiment.

The future of the Cavalry Division looks extremely bright and progressive. Plans are being made to form an additional cavalry regiment in the future and the other units are being modernized with new equipment as it becomes available.

The cavalry branch annually sends several officers to the Armor Officer Advanced Course at Fort Knox. They are then assigned to the Cavalry School upon their return. This permits continuous updating of instruction at the school. The division has a great many officers and non-commissioned officers who have served with the cavalry squadron of the Black Leopard Division in Vietnam. These men are assigned to command and staff positions throughout the division. Their wealth of experience has greatly enhanced the division's combat readiness posture.

From his ability to ride a cavalry mount to his ability to fire the *M16* rifle, the Thai cavalryman has shown that he has the skills to meet any challenge which may confront him. In Korea, Vietnam and Thailand he has proven himself to be a worthy ally and a true cavalryman in the finest tradition.



MAJOR PHILIP B. ENTREKIN, Armor, was commissioned from the Infantry Officer Candidate School in 1963. He was assigned to the 2d Squadron, 1st Cavalry (First Dragoons) at Fort Hood, Texas, where he served as platoon leader and troop executive officer. In 1965 he was reassigned to Vietnam as an advisor and in 1966 he attended the Armor Officer Advanced Course. He was subsequently assigned to the 1st Squadron, 6th Cavalry Regiment where he served as a troop commander and squadron S3. In 1969 he graduated from the University of Nebraska at Omaha and is presently serving as the advisor to the First Cavalry Regiment of the Royal Thai Army Cavalry Division.

The Elusive Concept of Honor

by Captain Wesley K. Clark

Perhaps no ideal evokes such impassioned discussion among officers as the concept of honor. It is both an intensely personal subject and one with the most profound implications for the Army and the nation as a whole. It has abstract principles to which all officers ascribe, yet in specific situations few agree on its application. Officers from the most junior lieutenant to the Chief of Staff express concern for honor. But for all the discussions of its importance, the Army has done little to define what it means by *honor*. Our profession has not composed a precise list of permissible actions; no rules committee exists to legislate honor. But lack of codification cannot excuse a failure to understand honor. Our commitments to the national service and our personal ideals demand that we analyze the concept of honor in the Army today. We must define not only the principles of honor but also the meaning of honor in our everyday lives.

In previous centuries, military honor was closely associated with the pursuit of glory. For example, a regiment would make a glorious advance against hopeless odds to preserve its honor; men might attain individual honor in a glorious death against the enemy. But today we do not glorify war; war is a dirty business in which we engage because of allegiance to our country. Our actions on the battlefield are guided not by the pursuit of glory but by devotion to duty.



ARMOR OFFICER ADVANCED COURSE 501-71

Honor today is associated more closely with the ethics of the individual soldier than with any rewards or glory derived from soldierly tasks. If we consider honor as a code of ethics, we first think of the concept of chivalry. We imagine the proverbial knight in shining armor. Perhaps we envision an ideal brotherhood of such sterling gentlemen and bemoan its passing. But, while chivalry once entailed a precise code of ethics, it has no specific meaning today and provides no guide for our behavior.

A more realistic concept of honor is introduced to officers prior to commissioning. The honor systems in officer candidate school and the various military academies are built around honor codes which forbid both certain forms of behavior—lying, cheating, and stealing—and the toleration of that behavior by others. This concept of honor is familiar even to those officers whose precommissioning training did not include life under a rigid honor system. The very durability of these codes is strong evidence that they are meaningful for cadets and officer candidates.



However, our concept of honor in the military is not a strict carryover of this training. Situations involving honor in the Active Army are seldom so clearcut as they were in training. For example, "adjusting" marksmanship scores is not strictly comparable to copying answers from another during an examination. On active duty there is no honor committee to agree on rules defining honor or to determine what constitutes an honor violation. Also, the demands on the individual differ. In training, an officer need consider only himself; on active duty he becomes responsible for the welfare of his men.

He is responsible for the accomplishment of the mission in addition to the maintenance of honor. In short, the increased complexities of service life mitigate against the carryover of the simple, precise code which the officer has been taught.

In a sort of desperation some would seek a meaning of honor in a formalized set of rules. If the simple code of neither lying, cheating, nor stealing is not precise enough, perhaps something more specific would be applicable. But a brief consideration of this legalistic approach is enough to discredit it. The range of alternatives which such a comprehensive code would have to cover is appalling. Under such general offenses as theft or false statement, we would have to consider the merits of innumerable petty actions. For example, is it wrong to falsify the signature of an individual who is no longer in the unit in order to correct administrative forms prior to inspections? Is it wrong to pad a mess hall headcount? Is it wrong to write personal correspondence with a government ball-point pen? Not only would such a codification prove an insuperable task, but also the burdens upon officers to learn and enforce it would prove unbearable.

Even if such a code could be developed and enforced, something of what we mean by honor would still be lacking. Honor is simply more than a legalistic adherence to certain standards of behavior. Honor also requires the desire to adhere to these standards in the absence of enforcement, inspection, or even codification. Honor is a standard of behavior plus an inner motivation to be honorable. For example, consider the company pay officer who has excess funds at the end of the pay line. By returning these funds to the finance office he does not violate laws against theft. But if his action was motivated by a fear of being caught rather than a desire to be honorable, we can hardly term him an honorable man. We might call him prudent or cautious instead.

If honor is neither the absolute adherence to a strict code of abstractions, nor the mere conformity to a precise extrapolation of these abstractions, what is it? Our concept of honor in the military consists

of two components: first, honor has certain core values governing behavior; second, honor requires judgment in applying these values to everyday life.

The core values of honor are ethical concepts derived from the experiences of the past. Because they are core values they are necessarily abstractions, divorced from specific situations. These basic ethical concepts include three ideals: truthfulness in every word and action; honesty in the use of property; and adherence to certain standards of fair play. These three particular ideals have developed and must be considered core values by the officer because they are so essential to the military.

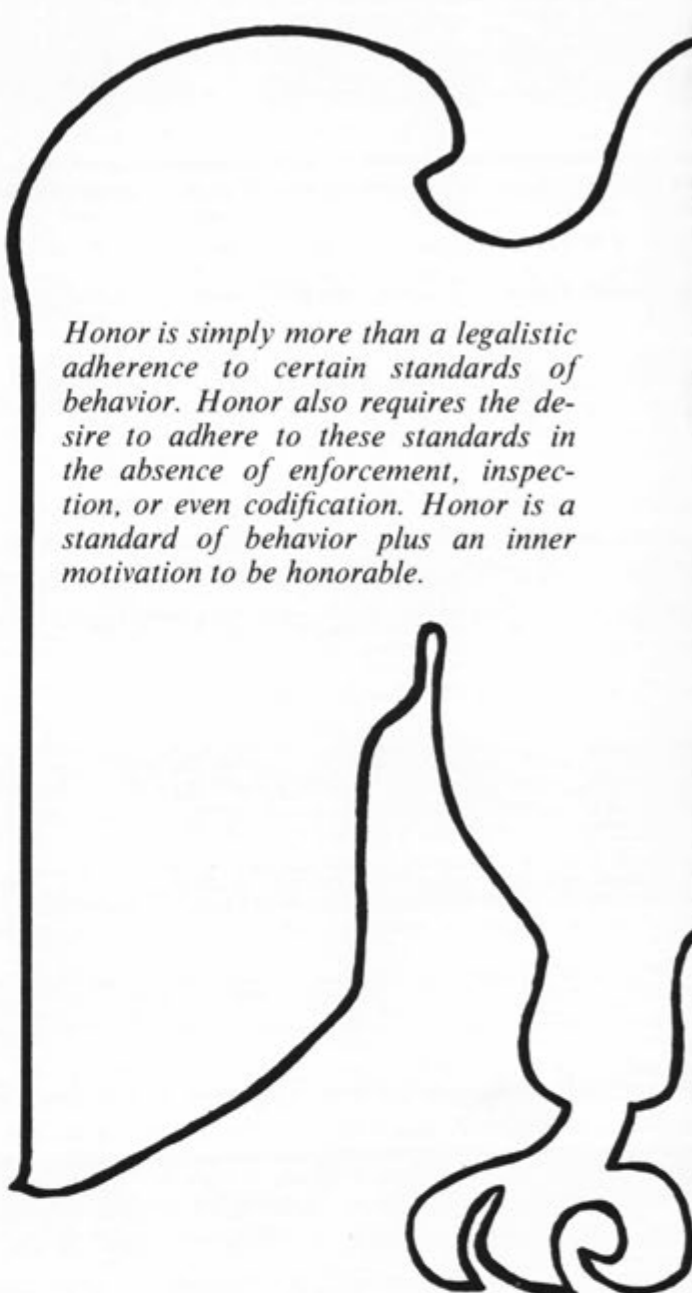
The absolute, unquestionable truth of an officer's word is a necessity first on the battlefield. Higher level decisions are made, men live and die, battles are won or lost, based on the unverifiable statements of subordinates. In peacetime this value simplifies the Army by reducing the need to inspect and check reports and establishes a basis of trust and respect among the officer corps.

Complete honesty in handling property or other resources and items of value is no less necessary.

An organization dependent upon billions of dollars of property must have this honesty in order to function. Despite the most efficient inspection procedures, the opportunities for graft and corruption which could destroy the Army are everywhere. The only effective guards against such practices are our own consciences.

Finally, certain rules of the game based on standards of justice or fair play are essential. In war these rules relate to the treatment of prisoners and civilians. An officer commands not by law but by moral force. Mistreatment of civilians, for example, may destroy the moral bond of leadership. In peace the standards of fair play maintain orderliness and self-respect in our profession by forbidding some to take unfair advantage of others. It is an absolute rule that one does not make private profit for his public service, nor, in a school environment does an officer take unfair advantage of others by cheating.

But these core values are useless unless the officer has the judgment to discern how to apply them in everyday life. An officer must first have the insight to detect the honorable course of action in a given situation. Consider the familiar case of padding the headcount in the company mess hall. Certainly if the count is padded the men will have more food, and taking care of the men is a very important principle of leadership. Padding the count is probably the easiest way to obtain more food. In addition there is little risk of embarrassment in



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such an action because it is frequently done and difficult to detect. But it violates the core value of complete truthfulness. It casts doubt on the trustworthiness of the officer himself and reduces the common bond of shared values so essential to the Army.

However, it is not enough merely to discern the honorable course of action in a given case. The core values of honor often conflict with other values, and the officer must use his judgment to resolve this conflict. In applying his judgment he must hold the core values of honor as his highest values. These values are necessary to the profession in general; they form a common standard of behavior on which all military performance must be based. In many

Our commitments to the national service and our personal ideals demand that we analyze the concept of honor in the Army today.

The Army needs honorable men . . . will we measure up?

instances personal interest or expediency may favor a half-truth or a small dishonesty, as with padding the mess hall headcount. But we expect nothing less than adherence to the core values of honor as absolute standards. As with our company pay officer, if one must consider the consequences in order to determine one's action, he is not honorable.

But sometimes the core values of honor conflict not with personal interest or expediency but with concepts at the heart of our profession, such as the notion of duty. At this time the officer must evaluate the consequences of applying the core values of honor in an absolute manner. Consider a military operation which may not succeed because of a lack of fuel. Is it right for the commander to expropriate

fuel marked for other units in order to accomplish his own mission? In certain instances such action, contrary to the core values of honor, might be justified. But there are no universal standards to guide the officer in such circumstances; no simple rules can be developed. Taking into account the extreme importance of the core values of honor and the advantages and disadvantages of applying these values, the officer must rely wholly on his good judgment to make a difficult decision. Without good judgment in their application, the core values of honor become only dogmatic constraints on responsible action.

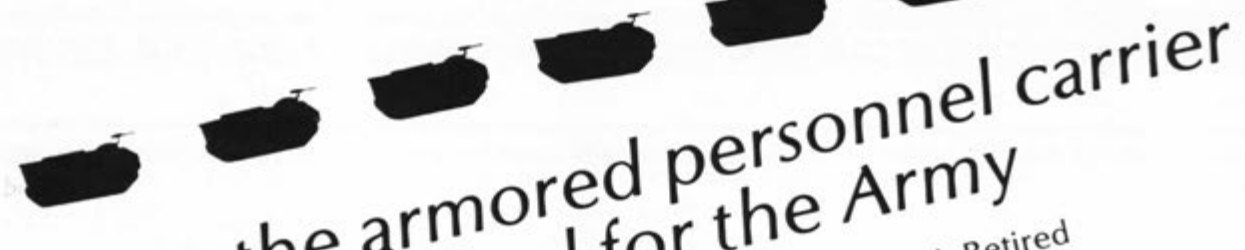
Surely, the concept of honor is elusive. We say that honor is too complicated to be simply a cadet's code of neither lying, cheating, nor stealing, but we nevertheless hold similar abstract values at the core of honor. We say that these abstract values of honor are absolute, but we tell the officer that he may have to overrule them in particular situations. We admit that honor is far too intricate for our best legal minds to codify, but we demand no less than that the officer always make the right decision.

The Army needs honorable men. It needs them on the battlefield, where an officer's word is unquestioned. It needs them in peacetime to manage a large and costly organization. The Army needs honorable men to set the example both within the Army and to the nation.

Will we measure up?



CAPTAIN WESLEY K. CLARK, Armor, was commissioned in 1966 from the United States Military Academy at West Point. After completing graduate study as a Rhodes Scholar at Oxford University in 1968, he attended the Armor Officer Basic Course and Ranger School. He was next assigned to the 1st Battalion, 63d Armor at Fort Riley, where he served as a company commander. In 1969, he was reassigned to the 1st Infantry Division in Vietnam to command a mechanized infantry company. Returning to Fort Knox in 1970, he served as company commander in the 6th Battalion, 32d Armor. A June 1971 graduate of Armor Officer Advanced Course 501-71, Captain Clark is currently assigned to the United States Military Academy.



When the armored personnel carrier was saved for the Army

by General Bruce C. Clarke, USA-Retired

In the spring of 1952, the 1st Armored Division (Old Ironsides) had been reactivated for a year under my command at Fort Hood, Texas. At that time, the units were completing their divisional training cycle and were getting ready for maneuvers to be known as *Exercise Longhorn*. The exercise was to be held on the reservation of Fort Hood and on nearby land for which maneuvers rights had been obtained. Opposing forces were to include the 1st Armored Division on one side and the 82d Airborne Division and an Army National Guard infantry division on the other. The "enemy" infantry-airborne forces were reinforced with a couple of tank battalions.

Prior to the maneuver, an Assistant Secretary of the Army visited the 1st Armored Division. Among other things, he told me of an alarming decision being made at that moment in the Pentagon that would do away with the armored personnel carrier. He stated that it was too expensive, noisy, hot on the inside and was given to vibration. He said that it was difficult for a squad to disembark quickly in case of an emergency. Challenged by all this, I set up a demonstration to convince him that the last objection was not true at all.

After the secretary had left, I wrote concerning this disturbing news to the Chief of Staff of the Army

telling him that in an armored division without armored personnel carriers, the tanks would slow down to the speed of walking infantrymen, and that the original concept of the armored division's agility would disappear. I asked him to make no decision until after he had visited the 1st Armored Division and observed its operations in *Exercise Longhorn*.

The Chief of Staff arrived one day toward the end of the exercise. After lunch, we went to visit one of the combat commands which was about to begin a tactical mission. I told him that I hoped he would go along, riding in an armored personnel carrier with an armored infantry squad.

This he did. He rode in the carrier for over two hours without a stop. When it finally halted near the starting point, I was waiting for the Chief of Staff. As the back doors opened, he and the infantry squad got out. They were hot and dusty. It was obvious that they had not talked to each other very much during the trip. The Chief of Staff, apparently a bit shaken and bored by his long ride across country, called the squad leader and said, "Sergeant, doesn't the heat, noise, darkness, vibration and dust inside of the carrier bother you and your men?" To which the Sergeant answered, "Yes sir, but not as much as walking, sir!"

The question of the armored personnel carrier was not discussed further with the Chief of Staff. That evening he took off for Washington and we heard nothing further about losing the armored personnel carriers from the famous 1st Armored Division or any other.

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With Charity for All, With Firmness in the Right

by Captain Wayne W. Eagle



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The dull rat-tat-tat of small arms and the sharper clatter of machineguns had become a resonant echo in the ears of the few remaining members of the platoon. It seemed impossible that the enemy could continue resisting, yet for every body found and POW taken, it seemed that a replacement had been put on line. The battle dragged endlessly on. Something had to break soon, for the whole company was taking heavy casualties, and already the platoon was down to 60 per cent strength.

For months there had been no contact with the enemy, yet they knew he was there. Everyday the dustoff choppers medevaced another booby trap casualty or sniper victim. When the battalion made contact yesterday, everyone thought they were up against a company sized enemy force. By nightfall, Alpha and Bravo Companies had advanced 500 meters, and had accounted for enough enemy dead and POWs that the S2 now estimated the opposing unit to be a battalion. During the night, enemy probes into the friendly perimeter had accounted for nine dead and 14 wounded. At daylight, the enemy launched a vicious counterattack, and a pitched battle ensued. Now it was 1500 hours, and the harried platoon leader was beginning to wonder how much more his men could take.

The lieutenant felt something poking him in the back. Rolling over, he saw that it was his RTO with the radio handset held out to him. It was the Old Man. Bravo Company, on the right, was encountering lessened enemy resistance, and it looked like the enemy were trying to break contact. His platoon was to move out immediately.

The lieutenant passed the word. First and second squads were to take the high ground to the front; third and weapons squads remain in position and support by fire.

They were moving now, and had almost reached the crest of the small hill. An enemy soldier stood up and fell over lifelessly, clutching his middle. Six more black clad figures rose. Two of them had their arms in the air, another supported himself against a tree. None of them had weapons. The lieutenant held up his arm and the firing stopped. For what seemed an eternity, the opposing combatants stood staring at each other. Suddenly, the lieutenant's platoon opened fire. Helplessly, he watched the six enemy soldiers doubling over, stumbling backwards, falling insensibly to the ground.

There are some stark realities in the preceding hypothetical situation. What would provoke a platoon into opening fire on a group of apparently subdued enemy soldiers? Could it be a mistaken enemy provocation, battle fatigue, or forgetting something called charity?

The burden of magnanimity has a special meaning for the man in uniform. The battlefield presents a new dimension of human relations for a soldier. The enemy is killed and destroyed one minute, but next he is someone who must be safeguarded and cared for as he becomes a prisoner of war. The psychological pressures presented by this kind of situation have yet to be fathomed as the victor makes this transition from slayer to protector. It is one of the most difficult strains on human emotions that can ever be endured. Occasionally the change is not made successfully, and understandably so.

Most men are not natural killers, nor are they taught to be in the military. They are trained to accomplish a mission such as gaining intelligence about the enemy, destroying his equipment, or seizing a piece of enemy held terrain. The soldier learns, ultimately, to win wars. The fact that he must kill an enemy becomes his sad and doleful plight as he strives to accomplish his assigned mission. Prior to battle, he mentally prepares himself for combat, and realizes he must kill or be killed. Moreover, certain feelings of hate may surface because he recalls a few days ago when a good buddy was medevaced with his legs blown off or his middle rent asunder. In this state of mind, he sets out on his mission, with mixed emotions of self-protection and possibly revenge. A battle may end abruptly, and suddenly there is an enemy who no longer has the will or means to fight. How difficult to make an immediate shift from a determined, mission oriented soldier who was shooting at that enemy a moment ago, to the role of paladin. How onerous to recall a sense of charity at such a time. Retrospectively, to what extent should a soldier be made to answer for failing to retain this sense of placability.

Throughout the trial of anyone accused of a war crime, most of us are apprehensive of a guilty verdict because of what is being admitted by such a finding. The ultimate proof positive then becomes an undeniable, cold and hard fact—that an atrocity has indeed occurred. A twinge of conscience may surface in some veterans because of certain incidents they would prefer to have remain just a private memory. Usually, most concern stems from the public admission that results from the individuals being found guilty. It is an admission that one of ours, trained,

tested, and sent into battle, was unable to retain a sense of charity.

The fact that the army of a nation undefeated in war can try its own members for crimes committed against the enemy speaks well for the state of our society. The historian will be severely tried to find a parallelism of recent trials in the chronicles of the past. It causes one to ponder that perhaps we are a step closer to that elusive form of commonwealth that man has been in search of since the day he developed the herding instinct. Conceivably, it is possible for human beings to live in perfect harmony with one another, albeit there is little in our history to demonstrate that we are capable of doing so.

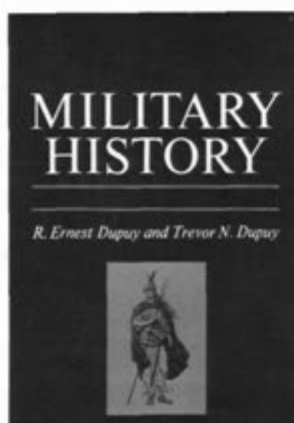
In the years since we expanded our views on foreign affairs, the United States has been a world leader in seeking and asserting personal, individual rights. These rights are freedom and the pursuit of happiness within the laws formulated and supported by the bulk of society. To sustain them, everyone must develop a sense of clemency, for without it our culture would deteriorate to an anarchism. Further, it is incumbent upon all of us to insure that those who fail to maintain a sense of clemency are dealt with accordingly. If we fail to try those who commit a war crime, we are denying many of the accomplishments of those who have died defending personal rights.

It is imperative that every soldier retain a strong sense of charity. The conscious thought of it may be unsavory during a tough battle, nonetheless its

urgency is compounded by the misfortune a soldier experiences in finding the lives of others in his hands. One's only gratification for remembering may be conciliation of the inner self, but much will be said for failing to remember.



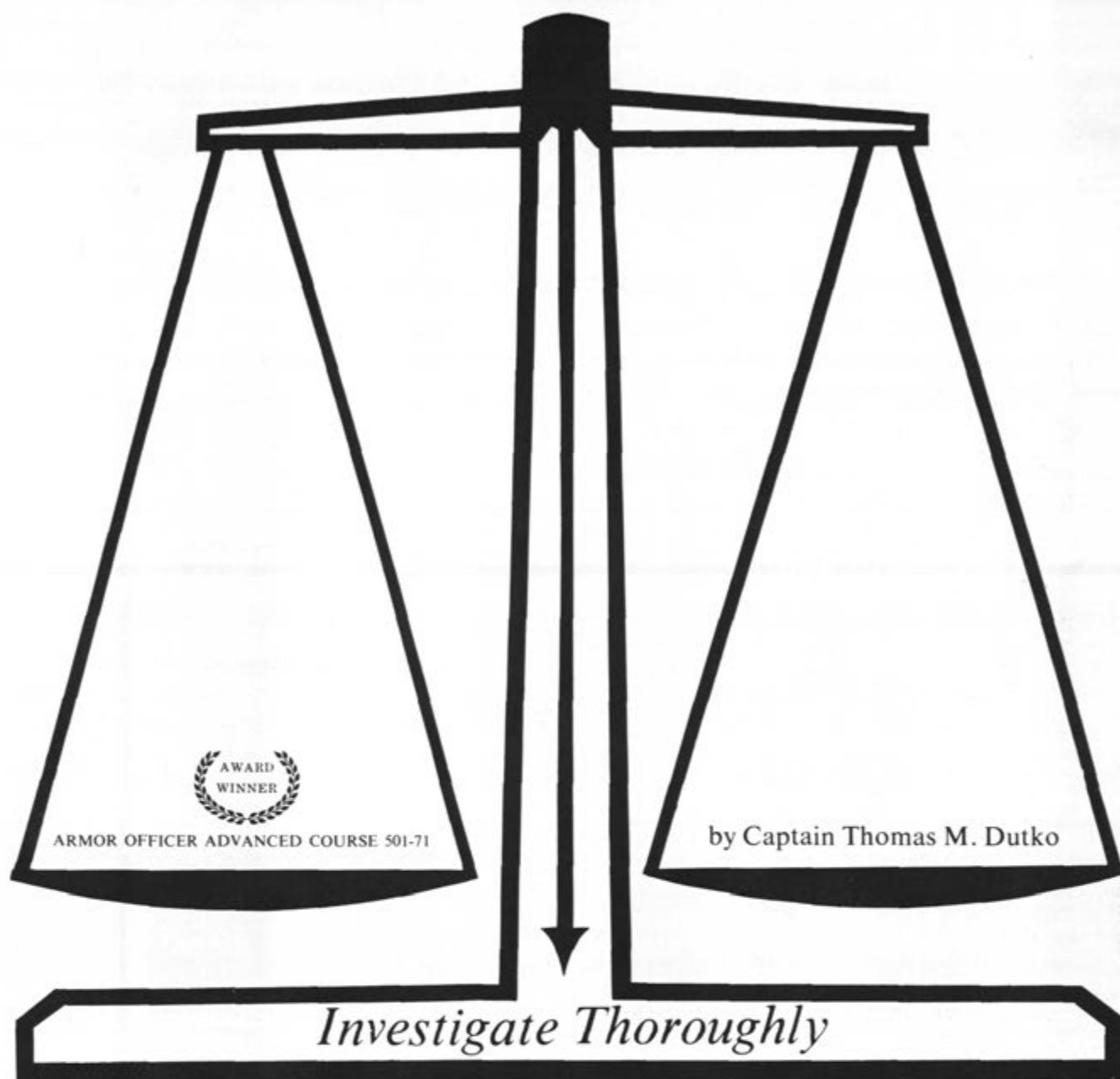
CAPTAIN WAYNE W. EAGLE, Infantry, was commissioned in 1966 from Officer Candidate School at Fort Benning. Upon completion of the Heavy Mortar and Airborne Courses, he was assigned to the 9th Infantry Division at Fort Riley. Subsequently, he was deployed with that division to Vietnam where he served as a platoon leader and company commander. In 1968, he became company commander of a basic training company at Fort Ord. In 1969, he completed the Rotary Wing Aviator Course. Returning to Vietnam, he served as an executive officer of an assault helicopter company and an assistant S3 of an aviation battalion. He is a June 1971 graduate of Armor Officer Advanced Course 501-71, and is currently assigned to Headquarters, Sixth US Army, Presidio of San Francisco.



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An important duty of the company commander is to insure that serious incidents which occur within his command are properly investigated. The ideal course is to have a professional investigation by the CID, but this is not always possible.

The ultimate goal of the investigation is to ensure that fair, prompt and efficient legal or administrative action is taken. If a haphazard or incomplete inquiry is used as a basis for legal action in the form of a trial by court martial, the results will surely be that of wasted time and effort by all individuals concerned.

During my career, I have had the opportunity to command various administrative and tactical units for a total period of approximately 20 months. Additionally, I have been detailed for duty as defense counsel in trials by special courts martial for approximately 10 months. This experience does not qualify me as an expert in the field of pre-trial investigations.

However, I have learned to be very cautious and thorough before preferring formal charges for any type of disciplinary action. I can almost guarantee that an incomplete investigation will cause improper charges to be preferred or will result in lack of proof for any charges which might be preferred. An in-court

acquittal of a person who has committed a serious offense will have a detrimental effect on the image of the commander and on the morale of his unit. Hopefully, the contents of this article will help company commanders avoid such embarrassing situations.

In order to simplify my discussion of pre-trial investigations, I have divided incidents into two general types. The first type are those incidents to which the company commander is not a witness. The second are those in which the company commander is a witness or perhaps a participant. Now let us first consider those incidents to which the company commander is not a witness.

The first step is to find the ranking man who is a knowledgeable witness, and ask him for a general description of the incident. From this interview, you should be able to determine who was actually involved, including the names of other key witnesses. Next interview the person or persons who caused the trouble.

When an accused or any person suspected of an offense is interviewed, they first must be informed of the nature of the accusation against them. Then advise them as follows:

Before I ask you any questions, you must understand your rights.

- You have the right to remain silent.
- Any statement you make may be used as evidence against you in a criminal trial or administrative proceedings.
- You have the right to consult with a lawyer before being asked any questions and to have the lawyer present with you during questioning. You may hire a civilian lawyer at no cost to the Government or a military lawyer will be detailed for you at no cost to you. In addition, the detailed military lawyer may be a military lawyer of your own selection if he is reasonably available.

An accused or suspect not subject to the UCMJ should be told:

- You have the right to consult with a lawyer before being asked any questions and to have the lawyer present with you during questioning. If you cannot afford a lawyer and want one, a lawyer will be appointed for you.
- Even if you decide to answer questions now without having a lawyer present, you may stop answering questions at any time, or stop answering questions until you consult with a lawyer.

After this advice has been given, it should be ascertained whether the accused or suspect understands his rights and whether he wishes to exercise them or freely, knowingly, and intelligently waive them. If the interviewer is satisfied that he understands his rights, then specifically ask him these two questions:

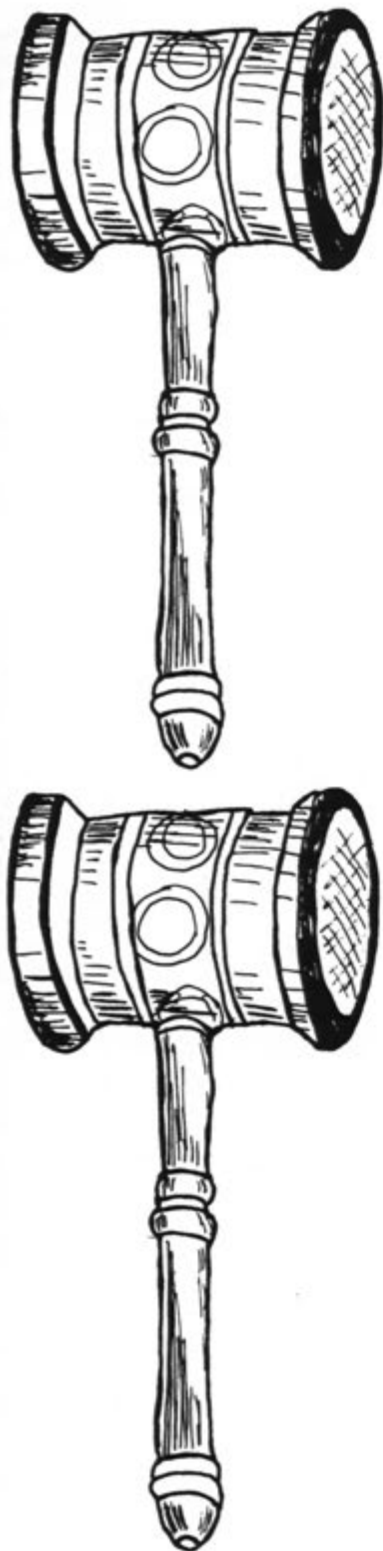
- Do you want a lawyer?
- Do you want to answer any questions or make a statement?

If the accused or suspect indicates that he wishes to consult with a lawyer, do not question him until a lawyer has been obtained. Likewise, if the accused or suspect indicates he does not wish to be questioned, do not question him.

During these meetings, I highly recommend that a senior NCO, or officer, be present. They just might be needed in a court martial to verify that a proper questioning technique was used.

Obtain written statements from other witnesses who have pertinent information. These statements need only be hand-written at this stage of the investigation. The point is to have the incident recorded as soon as possible. This will ensure that important details and the chronological description of the situation will be accurate.

Once you have this written information, the statements should be studied carefully. Try to visualize the incident as though you were a witness for the entire event. If you find this difficult, recall any witnesses who can clarify any missing or vague information. Once you are sure that you have a clear picture of the incident, it is time to use your *Manual for Courts-Martial, United States, 1969*,



(Revised edition). Study the various punitive articles, the format for written charges and the required proof of charges which might be applicable to your case. At this point, you would be well advised to consult with your Judge Advocate. Professional legal advice can be the key to a successful investigation. You should now be ready to prefer formal charges.

What should a company commander do if he is a witness to a serious incident occurring in his company? First and foremost, remain cool. To take a phrase from the obsolete general orders—"Observe everything within sight or hearing." If at all possible, use NCOs to restore order. Finally, record your observations as soon as possible. If you are required to take control of the situation, be sure to identify yourself as the commanding officer. This also applies when you are in uniform and the principal offenders are fully cognizant of the fact that you are their commanding officer. There is always a possibility the situation might worsen to a point where you are involved in assault and battery. A person who strikes his commanding officer has committed a serious offense, when he is aware the person he struck is his commander who was in the execution of his duty. It is also a serious offense to disobey a direct order of your commanding officer. In any event, once peace has been restored, immediately record your observations. Now continue the investigation as outlined in the case where you were not a witness.

One important aspect of conducting the investigation is to adhere to acceptable procedures in chain of custody cases. This is especially important in those incidents which involve narcotics or weapons. I will not address the matter of chain of custody in this article. The subject is quite detailed and somewhat complicated. I do recommend that all junior officers and senior NCOs in your command be given a class on this particular subject. This class would be of great value to anyone involved in the search or seizure of drugs. Arrangements for such a class can be made with your Judge Advocate or CID unit.

The reader is now probably wondering about how to conduct an investigation when time is at a premium. For example, under combat or field training conditions, the company commander could very well find that it is impossible, or extremely difficult, to initiate investigative procedures promptly. Under these circumstances, you might have to rely on the ability of your executive officer to accomplish this task. For this reason, it is imperative that all junior officers in your command be familiar with some type of logical and methodical technique for studying serious incidents. Your subordinate officers should know how to use the *Manual for Courts-Martial*. Only you can help your officers in becoming capable fact-finders.

There cannot be one set procedure for conducting investigations since there are too many variables involved. However, it is mandatory that investigations are initiated promptly, conducted logically and recorded accurately. In other words, investigate thoroughly.



CAPTAIN THOMAS M. DUTKO, Infantry, was commissioned in 1964 from Washington and Jefferson College. His assignments included tours with the 194th Armored Brigade, 1st Infantry Division, and the 9th Infantry Division while performing the functions of a platoon leader, company commander and an assistant G3. Following a second tour in Vietnam, he attended the Armor Officer Advanced Course in 1970. Captain Dutko is currently on ROTC duty at General Douglas MacArthur Military Academy in Mt. Freedom, New Jersey.



The background of the entire page is a black and white grid pattern. The grid lines are not perfectly horizontal and vertical; they are slightly curved, creating a sense of depth and perspective. In the center of the page, there is a large, white, horizontally-oriented oval shape. The text 'UGS' is printed in a bold, black, sans-serif font within this oval.

UGS

An Acronym for Success



ARMOR OFFICER ADVANCED COURSE 501-71

Emphasis on intelligence has resulted in the development of a wide range of surveillance, target acquisition and night observation (STANO) devices designed to locate the enemy. One part of this effort is the unattended ground sensor (UGS) program which uses seismic, acoustic, magnetic and infrared devices to obtain information concerning enemy ground activity.

UGSs have been used extensively in Vietnam. Nonetheless, there are those who contend that the system simply does not work, and others who say it does not enhance our surveillance or intelligence gathering capabilities. Others claim the devices are not worth the high cost.

Having recently returned from Vietnam, and having had the responsibility for the UGS program in the 25th Infantry Division from July 1969 to July 1970, I feel that these assertions are unsupported by fact. I believe the system does work and does increase our intelligence capabilities. It is my opinion that a lack of understanding and experience with the equipment and over-exaggerated examples of misuse of the devices has caused critics to look at the program with a jaundiced eye.

There are four primary areas of concern with the UGS which deserve consideration. These are management and control, uses, value and potential.

Initially, some commanders in Vietnam did not realize that UGS management is a command responsibility. Proper organization, management and control of the UGS program is essential for successful use of sensor equipment. The UGS system, if properly organized and controlled, is able to develop accurate and timely information at the level where reaction forces can be readily employed to take full advantage of it.

Currently, with the integration of UGSs into the individual services, and a lack of a TOE (*MTOES are currently being staffed at Department of the Army, Editor*), there is a question concerning the level of control for UGS employment. Management and control should be centralized at division. Centralization allows the division commander the flexibility to employ UGSs throughout the entire division area of operation. It also gives the commander the capability to decentralize when the tactical situation requires.

In Vietnam, UGS operations must be coordinated closely with higher, lower and adjacent units in order to integrate sensor capabilities with overall maneuver planning and fire support. In addition, the close coordination between joint and combined staffs required in UGS operations easily can be accomplished through centralized control. Thus maximum benefit from UGS operations by all the services and by host country forces can be attained.

Although I support a division level organization, control of sensor operations, where possible, should be given to those unit commanders who are responsible for operational reaction to sensor activations. In most cases this responsibility will be that of a maneuver battalion commander.

When used properly, unattended ground sensors give the commander valuable information. UGSs have been used in many ways in Vietnam. Generally their uses fall into three main categories: surveillance and intelligence; security and early warning; and target acquisition.

As an intelligence gathering aid, UGSs can be used for border surveillance and monitoring enemy water crossings, base areas, routes of infiltration, reoccupation of bunker and tunnel complexes and former cache site locations. In its security or early warning role, UGS fields may be emplaced along avenues of approach to assist in alerting friendly positions against surprise attacks. UGS fields can also provide early warning of impending rocket or mortar attacks. In the target acquisition role, UGSs are used primarily to detect enemy movement, which can then be interdicted immediately by using the most responsive means available.

Problems arise from a lack of understanding and misuse of these devices. Sensor emplacement, for example, must be based on detailed studies, rather than on any random or guesswork form of site selection. Trail studies, agent reports, radar contacts and other intelligence indicators (available at division, brigade and battalion) should be used in determining the probable enemy pattern of movement within an area. Sensor emplacement sites should then be selected to monitor most effectively this movement and to form the basis for carefully planned and thoroughly executed reaction.

A misunderstanding of the capabilities of UGSs has also caused confusion about whether the UGS can determine when to react. More specifically, can an unattended ground sensor distinguish between man and animal? The sensor itself cannot make the distinction, but with the sophisticated readout equipment that is currently in the program, a trained

monitor is capable of discriminating between man, animal, artillery, helicopter gunships and B52 strikes.

He is able to accomplish this by being familiar with the basic output characteristics of the UGS to be monitored. Also, he learns how the sensors were deployed, and through continued monitoring of the UGS fields, he acquires a feel for the characteristics of each sensor. The equipment and the training of sensor operators enable the commander to be informed only of those targets which are, in fact, valid.

While it is possible to tell the difference between man and animal, is it possible to distinguish between man and man—that is between friendly and enemy personnel? This is not easily accomplished and has caused some problems in the past. However, by maintaining close coordination with ground units, and monitoring only during specific hours, enemy targets can be quickly verified. This problem, however, is not in itself related to the UGS, since the sensor has alerted us that someone is there. We must then only confirm whether enemy or friendly troops are in the area.

Once the commander has determined that there is a valid enemy target, reaction must be timely and appropriate. In far too many cases, commanders have used UGSs solely for target acquisition, and have limited their reaction to the delivery of artillery fires.

Sensors must be recognized for what they are—sources of information—and, as such, reaction to their activations may take many forms. Ambushes, combat patrols, snipers, and specially equipped night-flying aircraft are but a few of the operational means or techniques that can, and must, be employed (singularly or in various combinations) to constitute the truly effective response.

The UGS program has been misused and often misunderstood. Nevertheless, unattended ground sensors in Vietnam have proven to be of unquestionable value. The UGS used effectively in the intelligence, target acquisition, or early warning roles have become an invaluable tool for the commander. While aiding in the elimination of the enemy, UGSs have also given commanders the ability to detect enemy presence in remote areas not accessible to other surveillance means. In the defense, UGSs have been successful in giving timely warning of enemy actions against fire support bases, patrol bases and night defensive positions. Enemy mine laying teams have been detected and either eliminated or driven off. As a consequence, mining incidents along critical roads have been reduced.

Intrusion devices have also provided the com-

mander with the ability to search out the enemy. UGS-produced knowledge of enemy movement or lack thereof, along with other intelligence sources, enables the commander to deploy troops in appropriate areas. UGSs also complement other surveillance means and enhance the intelligence gathering process during periods of darkness and reduced visibility. Sensors have been used effectively in conjunction with radar to provide coverage of dead spots, acquire targets outside the primary scan, or as a means of verifying radar sightings.

But what about the future of the UGS? Unattended ground sensors emplaced along trails to acquire targets, provide intelligence or give early warning will continue to be adaptable to many tactical applications. One use, however, that will doubtless become more prevalent in the future, will be in the economy of force role. Sensors have not been used extensively in this role in the past. But they can be expected to play an increasingly important part in maintaining surveillance of areas that cannot be operated in on a regular basis.

Technically and operationally, the UGS will work. Vietnam has proven that. The future will bring continuing advancements in technology which will greatly increase the system's effectiveness by eliminating equipment limitations of the past. UGSs have far-reaching potential uses limited only by the ingenuity and enthusiasm of the commander employing them.



CAPTAIN ELLIOT I. TEPPER, Armor, was commissioned from Hofstra University and graduated from the Armor Officer Basic and Airborne Courses in 1965. He was assigned to the 3d Squadron, 11th Armored Cavalry Regiment at Fort Meade, and deployed with that unit to Vietnam. There he served as platoon leader, squadron staff officer and troop commander. In 1967, he was assigned to the 1st Squadron, 17th Cavalry, 82d Airborne Division, where he served as a squadron staff officer and troop commander. In 1969, he returned to Vietnam and was assigned to the 25th Infantry Division as an assistant G2. Captain Tepper, a June 1971 graduate of Armor Officer Advanced Course 501-71, is currently aide-de-camp to the CG, Combat Developments Command.



Junior Officer Presentations at the 82d Annual Meeting

Introduction

by Major General William R. Desobry
Commanding General
US Army Armor Center

During a trip to Fort Knox in November 1970, General Pattison, Armor Association president, suggested that the 1971 Armor Association Conference include presentations by junior officers. As a result of this suggestion, the Leadership and Educational Development Department was given the mission of organizing and supervising a Junior Officers' Leadership Committee. This committee was asked to present the junior officer's view of leadership problems in the areas of race relations, drug abuse, and junior officer retention, and actions that should be considered to solve these problems.

Officers attending Armor Officer Advanced Course 2-71 were offered the opportunity to volunteer for this project as the first semester of their elective program. Ten officers were selected and assigned to subject areas as follows: race relations—Captains Julius T. Crouch, Jouni Keravuori and John B. Whitehead III; drug abuse—Captains Edson G. Brock, Dana B. Dillion and Thomas E. C. Margrave; junior officer retention—Captains George L. Brown, Dennis R. Oechsner, Christopher Pixton and Roger L. Rucker.

The committee developed and sent out questionnaires to various US Army units and installations in CONUS and overseas, canvassing the views of junior officers in the subject areas. A total of 851 junior officers and 73 senior officers completed the questionnaires. To supplement these questionnaires, 200 junior officers at Fort Knox were also interviewed.

With the information obtained from the questionnaires and interviews, the committee members were able to determine the views of junior officers concerning leadership problems in the areas of race relations, drug abuse, and junior officer retention, and some general actions that should be considered to solve these problems. These views were presented to the 82d Annual Meeting on 14 May 1971. The following is the text of the presentation by the students.

Race Relations

Captain Julius T. Crouch
Captain Jouni Keravuori
Captain John B. Whitehead III

CAPTAIN KERAUVUORI

We found through our research that racial tension is a very natural phenomenon in our society. And perhaps more pessimistically, we found from our survey that only 47 per cent of junior officers responding see a possible solution to the problem.

Perhaps this sociological equation can simplify the complex events of today's racial unrest.

Racial Tension

White Nation + Black Nation = American Nation

The goal, obviously, is social homogeneity, or an "American Nation." But until we reach that, the energy exchanged between races will be tension.

The Army, as a melting pot, has a concentration of conflicting values, ideas and attitudes. Therefore, we can expect to find a consistently higher level of racial tension here. On one hand, extremely different behavior patterns and attitudes are forced to coexist in the same unit; on the other hand, the continual influx of people into each unit breaks down any burgeoning coexistence.

Since it appears that tension between races is unavoidable in contemporary society, we concluded that it is not for the individual junior officer to solve the whole racial problem in the Army. Rather, his immediate aim should be to keep racial tension within controllable limits. Acting on this, he has a two-fold responsibility: (1) to understand the sociological impact of the conflict on the rest of the country, and using that, (2) to avoid being recycled into prejudice.

Our surveys indicate six areas of major difficulty as perceived by junior officers.

(1) The junior officer does not have the education or the experience to cope with today's black militants on their terms.

(2) The junior officer lives and chafes in the "credibility gap" between lofty policies "designed to relieve tension" and the lack of means to implement these at this level.

(3) The black junior officer faces the dilemma of trying to walk on neutral ground between white hostility and black alienation. The white junior officer has his corollary dilemma in developing this neutral environment for black NCOs.

(4) The junior officer is not equipped to handle the new expression of black anger and hostility erupting with the "black movement," which is not to be confused with the radical black militancy. Until recently, these feelings remained latent, suppressed by white society's power. Now the stored-up anger in blacks is finding frighteningly volatile release.

(5) White and black junior officers alike find it difficult to appear fair and impartial when the Army confounds them by giving special consideration, overreacting, and overcompensating for black grievances in unregulated fashion.

(6) The junior officer, especially in Europe, finds particular difficulty in cooling down the white "gut reaction" to black soldiers dating white women.

CAPTAIN CROUCH

The junior officer is not equipped to handle black militants as a group, which he usually attempts to do. He often becomes afraid of these individuals and ends up ignoring them. By doing this, he compounds the problem, loses his effectiveness as a leader and adds to the intensity of the problem.

Let's talk about the credibility gap. Of the officers polled, 64 per cent felt that officers were saying one thing but doing another as far as this problem is concerned. Another factor was incidents of racial prejudice. Of the

junior officers polled, 57 per cent had seen a few racial incidents, 13 per cent had seen many, and 4 per cent had seen very many. However, only 26 per cent had seen none. These factors show a definite gap between what is being said and what is being done concerning race relations in the military. (Army regulations and policies themselves are not discriminatory; their implementations, however, sometimes are.)

A point mentioned by the majority of black officers interviewed was the lack of black senior officers in high positions of responsibility, such as division chief of staff or brigade or higher commanders.

The black junior officer walks a tightrope today. He is being watched closely by both the white soldiers and black soldiers. For example, if a black officer gives both a white soldier and a black soldier Article 15s, but gives the white soldier more punishment, the whites then think that he is prejudiced against them and is showing black favoritism. If, in another instance, he gives a black soldier more punishment, the blacks call him an "oreo" or an Uncle Tom. In neither situation was it considered that the soldier who received the additional punishment previously had been counseled by either the first sergeant or company commander. This same situation applies to the white officer but to a much lesser extent.

There is also a degree of latent anger and hostility in blacks. In our survey, 57 per cent of junior officers polled said black soldiers were racially prejudiced. Thus, prejudice in the military is not simply white against black but also black against white. Another question asked was, "Are you racially prejudiced?" Sixty-two per cent of the junior officers said they were prejudiced sometimes. In reality, it would only take one instance of prejudice to turn all the blacks in that unit against the commander, thus

causing polarization.

The black officers interviewed felt that the black togetherness, black culture and black pride movement was misinterpreted by the white officer as black prejudice. They also felt this was due to a lack of familiarity with black culture.

Another point is that policies and programs instituted at DA level are publicized but are not instituted by local commanders. For example, in 1970 at Fort Riley, a local commander said all hair styles would be military in nature, and no Afros were allowed despite a DA policy allowing them.

The names used to refer to blacks can also produce hostility. Names such as "boy," "son" and "nigger" usually produce an immediate and sometimes violent reaction because blacks consider these names to be derogatory and demeaning. Names such as "colored" or "negro," which are no longer acceptable to many blacks, arouse an underlying hostility or bring about a vocal confrontation where the black explains he does not wish to be called by these names. Many white officers are not aware of this and produce hostility by using these names in their units.

On the other hand, many whites feel that the black soldier today is being pampered or that he is getting a more than even break. Two specific examples which were stated were promotion of blacks by percentage and lack of punishment for dissent by blacks. In one unit in Europe, an order was sent to subordinates that a certain percentage of blacks would be promoted on each list. In another instance, it was noted that in some units, blacks were not punished for dissent although white soldiers were. These instances made the whites feel that they were on the receiving end of racial prejudice.

During the survey, we asked how are black officers wives treated in the officers wives club. Sixty per cent of white officers felt that they were treated the same as white wives. However, through interviews it was found that most black officers felt their wives were treated worse than white wives. The black officers stated that their wives were often given special attention by the commander's or executive officer's wife, and they felt this was so that the unit could have black representation at female functions or



so that the commander's wife could say, "Yes, we have one in our unit."

Interracial dating has also caused concern. This is a problem primarily in Europe, but is not limited to that area. During our survey it was discovered that 40 per cent of those polled were against interracial marriage. Our group felt that if they were against interracial marriage, they would also be against interracial dating. This same situation exists to some extent among officers in the states. There is usually no problem between the white officer and the black officer during the hours of 0800 to 1700, or when all the "guys" are together at a "happy hour." However, when the white officer is with his wife or date, the situation often becomes strained or difficult. These are the areas which lead to increased intensity of the race problem.

CAPTAIN WHITEHEAD

In the field of race relations, solutions are extremely difficult. But I will give you the views of the junior officers and some of their proposed solutions and recommendations.

Junior officers have been handicapped in dealing with groups of black militants partially because inadequate

guidance was available from the Army at the outset on what to do when confronted by an angry mob. It is also compounded because the lieutenant or captain is trained and accustomed to handling a group instead of an individual.

Our recommendation is to handle the problem by approaching each individual of an angry mob as a person, instead of arguing or bickering with the group. This technique was used effectively in the European theater in 1970, and mobs broke up when they were handled this way. For example, if a lieutenant or a captain is approached by a group of militants, he should let them see the company or battalion commander on an individual basis to air their grievances.

As for the credibility gap, it exists because the commander either gives only lip-service to the regulations and policies on race relations, or he privately does not believe in it and therefore does not convey it to his junior officers. These feelings are often betrayed at a happy hour when a few too many drinks might cause a snide remark by the senior commander. This type of leadership will cause a break in the "chain of credibility." There should be detailed

guidance on how to implement these regulations and the necessary follow-up action to ensure their effectiveness.

As we said previously, the black officer, NCO or section leader must walk a tightrope nowadays. Briefly it is an attempt to avoid becoming an Uncle Tom and still enforce discipline, lead his men and satisfy his commander. Unequivocally, the problem must be brought into the open. Perhaps close talks with the senior commander and fellow officers might alleviate the problem. The problem must be met head-on for silence will solve nothing.

Unless an overt act is committed, prejudice is extremely difficult to prove. The problem must be solved on an individual basis. If cases are brought up where overt acts are discovered, justice must be rendered swiftly. This prejudice works both ways. In our interviews, it was found that 57 per cent of whites believed the blacks to be prejudiced as well as the opposite.

The problem of latent anger seems to be one of the most difficult of all in race relations. It incorporates the ignorance of the whites to understand why the blacks do not want to be called colored, negro, boy and son. It also involves the distrust harbored by the blacks toward the whites. In our interviews, it was noted that blacks find it much harder to trust the whites than vice versa.

Racial seminars at battalion level and above were thought to be unsatisfactory by 80 per cent of junior officers polled. However, race relations councils at company level were thought to be effective by 90 per cent of officers questioned. All commented that it was a positive educational experience for



general rule did not seem to object to this unless violence ensued. If the color barrier is to be broken, the obvious prejudice must be erased.

One general solution to several of the aforementioned problems would be to conduct classes at battalion level, for example, in a post theater in which black soldiers could present their views on terminology, black pride and history of their race.

The following are some of the ques-

*We fight together and we work together.
Can we get together?*

all the participants. Army educational centers conducting black history classes were considered effective by both blacks and whites.

The last problem is that of interracial dating, especially in Europe. Many white soldiers object to this. However, the native population as a

tions in our survey and the statistics gathered from them.

1. How likely is it that the racial problem in the Army will be solved within the next 20 years?

47%—Likely to be solved.
53%—Unlikely to be solved.

2. How do senior officers in your unit feel toward blacks?

46%—Have a good deal of respect for them.
49%—Have a fair amount of respect for them.
5%—Do not have any respect for them.

3. How many actual incidents of racial prejudice have you witnessed since you have been in the Army?

57%—A few.
26%—None.
13%—Many.
4%—Very many.
4. Are you racially prejudiced?
59%—Sometimes.
38%—No.
3%—Most of the time.

5. Overall, would you say that your opinion of blacks and members of minority races has gone up or down since you have been in the Army?

23%—It has gone down.
27%—It has gone up.
50%—Hasn't changed.

These problems make me wonder. We fight together and we work together. Can we get together?

Drug Abuse



Captain Edson G. Brock
Captain Dana B. Dillion
Captain Thomas E. C. Margrave

CAPTAIN DILLION

The purpose of our committee was to obtain the junior officer's views on drug abuse in the Army. Our portion of the questionnaire was divided into three parts: Is there a drug problem in the Army today? What are the causes? What are the solutions suggested by the junior officer?

When we asked the junior officer to describe the magnitude of the drug problem in the Army today, these were the answers we received:

- 51%—It is a major problem in the Army today.
- 13%—It is a major problem in the Army but not in my unit.
- 15%—The drug problem is greatly overestimated.
- 8%—There is a drug problem but it is minor.
- 2%—Drugs are a fad, the problem will probably cure itself.

We then polled the junior officer on where he had noticed the highest incidence of drug abuse. The four highest areas were rear echelon support in Vietnam, units actively engaged in combat, basic and advanced individual training units, and garrison support units.

Between the years 1960-1967, juvenile arrests involving the use of drugs rose by almost 800 per cent. Half of those arrested for the illegal use of drugs were under 20 years of age. In responding to our question concerning the age group most drug offenders were found, the junior officer answered in the following manner.

- 53%—17 to 20 years old
- 28%—21 to 25 years old
- 19%—I have noticed no drug abuse.

The sharp increase in drug offenders

and the low age group indicates that drug abuse was probably not a serious disciplinary problem to commanders five years ago. Of the senior officers sampled, only one had tried marijuana. (He stated that he experimented with it in 1948.)

In our survey, 25 per cent of all the junior officers said they had tried drugs and 53 per cent do not oppose the legalization of marijuana. Additionally, WO1s, WO2s and lieutenants were the largest group of officer drug offenders. In the enlisted grades, E4s and below were listed as the group with the highest number of drug offenders.

When asked to what extent is drug abuse impairing the effectiveness of the Army as a whole, the following responses were given.

- 17%—Strongly impairing
- 34%—Somewhat impairing
- 24%—Mildly impairing
- 6%—Not impairing
- 16%—I don't know

In summary, the junior officers felt that the Army does have a drug problem.

CAPTAIN MARGRAVE

The Army is a mirror of American society. The nature of military life either mitigates or intensifies the problem on the civilian sector. This relationship is certainly the case in the area of the military's use of illicit drugs.

The ability of the commander to control and influence his troops through a system of supervisors extending to the fire team level gives that officer power a civilian authority cannot usually approach. Counterbalancing this advantage is the intensification of emotional stress in his troops produced or compounded by isolation, privation, separation from loved ones, and the hazards inherent in military

duty. The performance of duty places yet another constraint on the commander. Performance of the operational mission is paramount and cannot be jeopardized by an overzealous drug prevention program.

Our group attempted to discover the when, where and why of drug abuse by asking our respondents, both junior and senior officers, to base their answers on the majority of cases. Further, we recognized that few Army officers are professionally qualified to diagnose the underlying causes of drug use and abuse. Therefore, we asked them for the fruit of their experience in counselling drug users in their units. The percentages shown indicate a frequency of response to a question and not a percentage of total unit personnel in that category.

The majority of respondents indicated that the foreign duty station with the stresses on a combat environment, such as in the case of Vietnam, is the primary area in which soldiers begin using drugs.

	Responses of	
	Jr officers	Sr officers
Southeast Asia Overseas	23%	29%
(Except SEA)	9%	7%

However, these soldiers do not begin their use in an experience vacuum. On the contrary, the recruit of today enters the service from an age group closely entwined with acid rock and the young drug culture. As a result of this acculturation process, the survey reveals the greatest incidence of soldier initial use began before entry into the service.

	Responses of	
	Jr officers	Sr officers
Prior to entrance on active duty	43%	34%

Finally, a small percentage of soldiers begin use during individual training or after assignment to a CONUS unit.

	Responses of	
	Jr officers	Sr officers
Basic or advanced individual training	1%	3%
Permanent duty station in CONUS	3%	1%

The reasons a man begins the use of drugs is properly the problem of the sociologist and the psychiatrist. The reasons are vitally important to the Army officer because they alert him to situations of potentially intensified drug use. Generally, we discover that initial use is directly tied to unit activity. The old saying, "For Satan finds some mischief still for idle hands to do" is not entirely irrelevant. In citing the major reasons why soldiers begin using drugs, the lack of meaningful activity greatly influenced first use in many cases.

	Responses of Jr officers	Sr officers
To relieve boredom	12%	17%
To escape something	9%	7%
To experiment	20%	14%

We found that the peer group users capitalized on their opportunity to make converts in this type of atmosphere.

	Responses of Jr officers	Sr officers
To get along with friends or other members of the unit	32%	39%

Continued use of drugs by soldiers can seriously effect the unit mission. Responses to our question on continued drug use indicated that only in a small percentage of junior officers and senior officers experience are soldiers continuing use solely because they began before entering the service.

	Responses of Jr officers	Sr officers
Continued from civilian use	7%	7%

The desire to get high, to relax and escape from the stresses of the military situation were cited as the primary cases of continued use in the experience of a significant portion of our respondents.

	Responses of Jr officers	Sr officers
To relax	7%	7%
To relieve boredom	10%	13%
To get high	11%	13%
To escape something	18%	20%

The soldier comrades who are turned on to drugs exercise a great influence to keep a man on drugs.

	Responses of Jr officers	Sr officers
To get along with friends or other members of the unit (peer pressure)	28%	25%

The case now appears to be that when the platoon sergeant goes to the club to unwind with whiskey, an increasing number of his men seclude themselves to do so with pot.

The role of peer group users in the continuing military drug problem is borne out by junior officer and senior officer experience in illicit drug sources. The major source of drugs is available on post through a fellow soldier or faithful hoochmaid.

	Responses of Jr officers	Sr officers
From fellow soldiers	20%	16%
From indigenous personnel (civilians) in garrison/on post	22%	32%

For many others, drugs are as near as the surrounding civilian community.

	Responses of Jr officers	Sr officers
From nearby civilian communities	31%	26%

Finally, a small group is supplied by medical personnel.

	Responses of Jr officers	Sr officers
From medical personnel	1%	1%

Commanders must be aware, more than ever before, that meaningful work and individual belief in the mission will lower the temptation of drugs. Efficient personal services and an open channel for problems help the soldier to relieve his anxieties. He doesn't have to escape problems with drugs. Unit drug users can and will bring others into their web. They thrive in a situation of reduced supervision and monotonous tedium. They must be identified and rehabilitated, or dropped from the service and

referred to an appropriate civilian facility. They cannot be given a free rein.

CAPTAIN BROCK

Gentlemen, I would be a fool to stand here today and say to you that this group of three junior officers has discovered the solution to the drug problem. We have, however, studied the problem in depth and, by combining information gained through our own research with that acquired by a number of other authorities, hope to present some realistic suggestions. In so doing, we prescribe with confidence a direction which Army leaders can take.

First, let me point out that in discussing solutions, it becomes necessary to distinguish between those drugs which cause physical and mental dependency—such as the barbiturates and heroin—and those which cause only mental dependency—such as the amphetamines or "speed," LSD, and in some cases, marijuana.

The preventive techniques which we discuss will apply to both categories. However, rehabilitative treatment must be based upon the specific drugs used and the underlying reasons for their use.

I think it is appropriate to mention that 72 per cent of the officers polled felt the Army could do more to control drug abuse. We asked for opinions on the scare approach—that approach which openly threatens the soldier with swift prosecution followed by harsh penalties. Results indicated 25 per cent were for it, 66% against, with the remainder apparently undecided. In the words of Dr. Sidney Cohen of the National Institute of Mental Health, "The hope that a decree will abolish undesirable conduct in a democratic society is just as naive as the expectation that a chemical potion will magically change character." If punitiveness helped, everyone would have been helped a long time ago.

Fifty-nine per cent of those who responded did not feel that the present Army mass media program concerning drugs was effective. Perhaps the most encouraging indicator was that 56 per cent of the officers queried supported educational programs dealing with the dangerous aspects of drugs. Assuming then, that these figures indicate widespread support of Army partici-



pation in drug control through educational programs, we can at least begin to fix our point of departure. All we need now is direction. What kind of an educational program is going to produce the desired results?

Even high school students are extremely sophisticated about drugs. With the present incidence of marijuana use, many young GIs have experienced or observed first hand the effects of this drug. They know psychosis or other grave consequences are not an inevitable result of smoking one marijuana cigarette.

Information supplied by "official sources" is viewed with suspicion because many young people question the relevance of major societal values and institutions. If we are to solve the problem of drug abuse, it is critical for us to focus on and try to solve the root causes through development of innovative approaches to bridge the intergenerational gap.

Education and information programs then will probably prove most effective when conducted by small unit leaders through informal discussion groups. Unit programs using the "why it's dangerous to use drugs" approach are oftentimes more detrimental than helpful. Exaggeration, sensationalism and moralizing kill the effect and discrepancies are quickly noted.

Junior officers in daily contact with young potential drug users can have considerable influence on their decision to take or continue to take drugs. Frequently, in the absence of his parents, the young soldier will confide in his platoon leader or company commander. The junior officer should present factual information through frank discussion of the entire spectrum of drugs. These encounters can take place at any time, day or night, in the unit day room, the barracks, the mess hall, or even in a bunker on a perimeter in Vietnam. Drug abuse education in this form moves toward encouraging communication between young people and adults, and in doing so, strikes at the core of the problem—that of providing the soldier with alternate routes to attain his valid goals.

We have placed the brunt of solving the drug problem upon the only people who, in our opinion, can solve it—the junior officers. Throughout our survey and personal interviews, however, we know that many officers do not have

the necessary knowledge, insights, attitudes and skills to accomplish this task successfully. They are going to need some help, and this help should be in the form of education.

We must increase junior officers knowledge on drugs and give them the ability to recognize personality problems related to drug abuse. Through development of more sympathetic attitudes towards youth, increased skill in encouraging wise decision making, and increased ability to propose rewarding alternatives to drug abuse, we can provide the junior officer with the tools he will require.

Last, and probably most important, we should encourage all officers to decide whether, because of their personal convictions or lack of knowledge, they might do a greater service to the young soldier by not assuming the role of drug mentor. However, although many officers know very little about drugs, they can in many cases accomplish much just by listening.

That is our case for prevention. Now I would like to address the equally difficult problem of rehabilitation of the individual who, through regular abuse of one or more drugs, has become physically or mentally dependent upon them.

In considering solutions, we must look at both long and short term effectiveness of rehabilitation programs as well as the availability of trained personnel. We must also decide whether the Army really bears any obligation to attempt rehabilitative efforts, and probably most important, we must consider the abuser himself—an individual who, through some chain of events, becomes the subject of this rehabilitation.

Again, let us go to our survey for insight in answering these questions. When asked whether drug abusers should be rehabilitated and then discharged, 64 per cent of the respondents answered no. However, 59 per cent did not feel that drug abusers should be discharged without any attempt to treat their problem. I think the key to the problem lies in the fact that rehabilitation and retention in service was supported by 62 per cent of the junior officers polled.

Expanding upon these opinions, we learned through personal interviews and written comments that these views are usually offered with certain reser-

vations. First, the individual must voluntarily submit to or request rehabilitation, and second, he must genuinely want help in discontinuing his use of drugs.

It appears then that most officers feel he is not only justified, but in some cases, obligated to engage in rehabilitative efforts. However, cases must be taken on their individual merit.

Again, it appears that the junior officer will be most instrumental in enhancing the rehabilitative environment. The most difficult state of treatment begins after the user has undergone detoxification. Doctors can get him off the drug and help to restore his health, but then he needs help to keep from resuming his old habit. Rehabilitation means physical, mental, emotional, social and vocational rebuilding. With most abusers, it can take all of these efforts combined to keep their lives from being wasted.

Speaking realistically, there will be a certain percentage of these abusers who will not be helped by any amount of treatment. We must be prepared for such discouragement. In other words, gentlemen, when we speak of rehabilitation we are speaking of a program in which former drug abusers will return to units throughout the Army where, in many cases, they will encounter the same pressures which drove them to abuse in the first place.

The junior officer can no doubt play an extremely important role in this process by helping drug abusers contend with the anxiety and emotional conflict related to addiction. It may even be beneficial to employ ex-addicts to assist in follow-up programs, but only under the supervision of trained medical personnel. Success may well depend upon whether addicts have a personality healthy enough to make a fresh start in life and to enjoy normal pleasures.

In the long run, those of us who are critical of drug abuse must demonstrate that there are better and more lasting ways to experience the fullness, the depth, the variety and the richness of life than that of ingesting psychoactive chemicals. And we can perhaps, in our own lives and by our own examples, suggest that moral courage, a critical awareness of the defects of our society, a capacity for intense experience, and the ability to relate genuinely to other people are not the exclusive possessions of the drug users.

Junior Officer Retention

Captain George L. Brown
Captain Dennis R. Oechsner

Captain Christopher Pixton
Captain Roger L. Rucker

CAPTAIN PIXTON

In the past 13 years, the junior officer retention problems have not been solved but have been intensified in our rapidly changing environment and society. Gone are the days of isolation and of the small regular Army as found between the two World Wars and the infancy of the Nuclear Age. Today's Army is dependent on the increased technological complexities of modern weapons system and has an urgent requirement for highly trained and experienced personnel.

The Army is not just a job. To a significant degree, joining the Army involves a commitment to a distinct subculture within the larger American culture. For most soldiers, the decision to enter or to remain in the service is the result of a complex judgment about the Army as a whole, and about their own role within it.

The data based for the junior officer retention portion of this presentation was obtained from Human Resources Research Organization studies, the Franklin Institute Report, the previously mentioned questionnaire and interviews here at Fort Knox.

This chart obtained from Armor Branch shows the per cent of the officers extending on active duty.

OFFICERS EXTENDING ON ACTIVE DUTY

FY 66	25.5%
FY 67	22.0%
FY 68	24.2%
FY 69*	27.7%
FY 70	18.6%
FY 71	Not Available

*Percent increased due to OCS output

However it does not show the number of regular officers leaving the Army. In order to keep the year groups filled, 29 per cent of the non-regular officers must extend on active duty.

Today's junior officer is an over-supervised, frustrated individual who feels the personal and professional standards of the officer corps are being eroded.

CAPTAIN BROWN

The survey procedure, especially personal interviews, indicated one common overriding characteristic of

cal sampling and interviews, that the lack of job satisfaction was a major cause of poor junior officer retention. A feeling of frustration resulted from a lack of mission orders and of delegated authority. The junior officer, especially the company commander, felt that he had a vital ability to contribute to the accomplishment of his mission, but that he did not have the authority or faith of his superiors to influence his unit. A typical comment by a captain was, "I entered the Army in 1965 to command and lead. The system dictates that I must only administer."

We are losing responsible young officers and we try to tell ourselves it is because of a lack of material rewards. We busy ourselves formulating new pay plans . . . and ignore our failure to give the young officers the important nonmaterial rewards of trust and responsibility.

ARMY June 1958

all junior officers: an intense frustration. When asked to explain his emotion, phrases such as "fighting city hall" and "overriding bureaucracy" were used. Probing on the part of the interviewer often resulted in the junior officer stating that he felt little control over his own professional environment—that he was part of a bureaucracy that he could not change or influence. He stated that he could talk to his superiors concerning his feelings and problems, but that the centralized power lay so far above him, he had no influence on it.

Junior officers indicated by statisti-

The decrease in esteem by the American public has had an adverse effect on the junior officer, especially the new lieutenant. He feels that he is blamed for a war he did not start, murder he did not commit and graft that he did not participate in. This feeling is often expressed as frustration over attitudes directed toward his family and received from his friends. A representative statement by a captain was, "You cannot pick up a magazine, read a newspaper or listen to the news at night without the Army being severely criticized. When will it all stop?"



The junior officer's superior was often cited as contributing to the feeling of frustration. The officer felt that his judgment was not respected or solicited. In addition, the junior officer felt his superior was so influenced by outside forces such as congressionals, personal advancement and statistics, that he, the junior officer, had no influence on general policy. A typical statement by a captain was, "All the battalion commander cares about are statistics and what the brigade commander says. Until he cares about the situation here, we really can't do the job."

All junior officers interviewed and asked to discuss VOLAR, addressed the program with qualifications or reservations.

Junior officers did not cite pay as a major problem, although it was mentioned by many lieutenants. Fringe benefits also were not cited, however many felt that the present retirement policy was not competitive with current civilian plans. Junior officers did appear frustrated at the service rendered their dependents. They felt that medical and commissary services to their dependents were inadequate. A typical comment by a captain was, "The present medical and PX service system degrades the officer's family."

CAPTAIN RUCKER

The officers were given a list of policies, benefits and characteristics of the Army.

OFFICERS LEAVING

Most Aggravating

- 42% Red tape
- 33% Personal freedom
- 32% Job assignment policies

Most Attractive

- 56% Retirement plan
- 55% Medical benefits
- 31% Personal freedom

These officers were split in their opinions on the aspect of personal freedom with 31 per cent indicating it is one of the most attractive aspects and 33 per cent indicating lack of personal freedom as one of the most aggravating aspects.

OFFICERS UNDECIDED

Most Aggravating

- 52% Red tape
- 32% Civilian attitude
- 29% Physical dangers

Most Attractive

- 60% Retirement plan
- 49% Medical benefits
- 37% Personal freedom

OFFICERS REMAINING

Most Aggravating

- 49% Red tape
- 48% Civilian attitude
- 27% Working hours

Most Attractive

- 67% Retirement plan
- 44% Personal freedom
- 43% Medical benefits

LIST OF POLICIES, BENEFITS AND CHARACTERISTICS

Retirement plan	Job security
New policies for treatment of enlisted men	Army social environment
Physical dangers	Pay
Family life	Serving my countrymen
Promotion policies	Personal freedom
Quality of superior officers	Red tape
Job assignment policies	Commissary and PX
Working hours	Medical benefits
	Civilian attitude toward the Army

They were then asked to indicate which three aspects of the Army were the most attractive and which three were the most aggravating.

The officers who indicated they are leaving the Army answered as shown.

The majority of officers in all groups—including a group of senior officers—chose retirement plan, medical benefits and personal freedom as the most attractive aspects of the Army. Red tape was listed as the most aggravating

aspect by a majority of officers in all groups.

The officers were then asked, "To what extent have changes in Army traditions influenced your decision to stay in or get out of the Army?" The majority of those officers leaving and those remaining said these changes had no effect. Changes in Army traditions have had the most effect on the junior officer who is still undecided with 60 per cent indicating they have had some influence.

The officers indicated that the officers and men in today's Army have a lack of knowledge of the history and traditions of their units and this has an adverse effect on a man's pride in his unit. The officers also indicated that the attitude of the civilian population toward the military has a great effect on a soldier's pride and morale.

We all know how important an officer's wife can be to his career. To find out how important her opinion is to the officer's decision on a military career, the officers were first asked, "How does your wife feel about your decision on a military career?"

Of those married officers leaving the Army, 65 per cent indicated their wives agree with their decision, 11 per cent said their wives are undecided, and 24 per cent responded their wives do not agree with their choice to leave. Of those married officers who are still undecided, 38 per cent indicated their wives would agree with any decision they made, 38 per cent said their wives are undecided, and 24 per cent said their wives do not want them to remain in the service. Those married officers remaining answered that 77 per cent of theirs agreed with the decision, 7 per cent are undecided and 6 per cent do not want their husbands to remain in the service.

The officers were then asked, "How much influence has your wife's opinion had on your decision?" Those leaving indicated 78 per cent of their wives had some influence on their choice. Of those remaining, 80 per cent said their wives had some influence on their decision. The wife's opinion has the most influence on the officer who is undecided with 90 per cent indicating their wife's opinion will have some influence on their decision.

Eighty-seven per cent of all officers indicated their wife agreed with their choice and 83 per cent of all officers

answered their wife's opinion had some influence on their decision. The 1968 Franklin Institute Study and the HumRRO study also indicated the wife's opinion had a great influence on an officer's decision to make a career of the military service.

The officers were also asked, "How much influence has Army red tape had on your thinking?" Sixty-nine per cent of those leaving said red tape had some influence, and 59 per cent of those remaining indicated Army red tape had an adverse effect on their decision. Red tape has had the most influence on officers in the undecided category with 74 per cent responding it has had an adverse effect.

CAPTAIN OECHSNER

Next we would like to present possible courses of action to diminish these problems. I am not saying that these are the solutions or that they will work, but the junior officers we have interviewed feel they merit consideration. I will concentrate on four areas in particular: job satisfaction, public opinion, prestige and the Modern Volunteer Army.

Rewards can be internal or external. Job satisfaction is an internal reward. No amount of money can buy job satisfaction. Some methods that we feel can enhance job satisfaction are very simple and many commanders both know and use them regularly.

Give more mission type orders. The average officer today is a very intelligent person. He should be given credit for his intelligence and deserves a chance to prove himself.

Don't over supervise. Although we all know the importance of supervision, over supervision stifles initiative. Give the man a chance to make or break it on his own. If he succeeds, and most will, he'll have a feeling of accomplishment.

Communicate with subordinates. Solicit the advice and opinions of junior officers. Keep him as informed as possible and it will make him feel integral to the organization.

Don't overreact to public opinion. We recognize this problem to be of such great magnitude that there is little that we, as junior officers, can do about it at the present time. We do feel, however, that there is one thing the Army as a whole can do: Avoid overreaction to public pressure.

Don't place officers on active duty.

With the exception of war or a state of national emergency, don't force officers on to active duty. After the basic course, assign them directly to reserve units unless they specifically ask to be placed on active duty. If placed on active duty, review their files after one year to determine if they should be retained.

Eliminate the non-productive officer. Certain undesirable officers can have adverse effects on many junior officers. Along this same line, one of our general officers expressed the opinion that we must return to the era of the professional, rather than of the career officer. He added that today's junior

individual training units.

We feel support in this area not only from the unit cadre but also from the trainees themselves. It is interesting to note that the first group of basic trainees to complete a full cycle under the VOLAR program felt that basic training had not been hard enough.

The committee feels that the Volunteer Army program has not been adequately explained to the junior officer and both the junior and senior NCO, the men who must live with the program. This has led the underserved use of VOLAR as a scapegoat for everything that requires a scapegoat.

The decrease in esteem by the American public has had an adverse effect on the junior officer, especially the new lieutenant. He feels that he is blamed for a war he did not start, murder he did not commit, and graft that he did not participate in.

officer cannot afford to make a mistake. If he does, he will all too often be disavowed by a superior fearing for his career.

Encourage the sense of honor. I know that this is easy to say, but we must return to the days of duty, honor and country. I emphasize the word honor. If a man is casting a shadow of doubt, suspicion or guilt on the Army, let's not harbor him. Let's get rid of him.

Return authority for discipline to the lowest level. Allow platoon sergeants and above to assess up to two hours of extra duty a day for the man who can't seem to follow an order.

Return promotions to the field. It is an incentive to a man to soldier when he knows that the person who is going to promote him is sitting right up there at company, battalion or brigade headquarters. A simple integrated promotion system would both protect the good soldier and reduce the number of NCOs who look good on paper, but can't get the job done.

Explain the Volunteer Army. The majority of the junior officers at Fort Knox felt that we should: (1) aim the Volunteer Army program at the man with from 2 to 12 years of service; and (2) eliminate the Volunteer Army program from basic and advanced

CAPTAIN PIXTON

A wife's opinion influences a major portion of her man's decision to remain in the Army. By improving the service quality and selection of merchandise in the PX and commissary, insuring all posts have adequate dependent medical facilities, and reducing the strain upon family life as is currently being accomplished by extended periods between PCS moves, the Army can project a much more favorable image and impression on the junior officer's wife and ultimately on the junior officer.

In every survey, we have seen the subject of red tape listed as the number one most disliked aspect of the Army. I'm sure this doesn't come as a surprise to anyone. Here is one area where the Army can project a much better public image and lessen job frustration. If corps and division commanders will enforce a "Reduce the Red Tape Campaign," commanders on all levels will have more time to spend with their troops. If the DA staff down to the post staff will enforce a Reduce the Red Tape Campaign, additional productive man-hours can be spent in solving the complex problems of today's and the future Army.

In Summary . . .



The problems presented by the officers of these committees are complex and far reaching. The solutions we have presented have approached "the magic wand variety." However, the problems are none the less real and the solutions must be found. We have presented three of a large number of challenges facing today's Army. These challenges face not only the junior officers but the senior officers as well. With the help and understanding guidance of the senior officers, solutions will be forthcoming.

CAPTAIN JULIUS T. CROUCH, Armor, was commissioned in 1966 from Lincoln University of Missouri. He graduated from the Armor Officer Basic Course in 1966. He has served as company commander in the 1st Battalion, 63d Armor, 1st Infantry Division, Fort Riley, Kansas. In Vietnam, he was assigned as a psychological warfare officer. Captain Crouch is currently attending the Armor Officer Advanced Course.

CAPTAIN JOUNI KERAUVUORI, Infantry, graduated from the USMA in 1966. After attending the Ranger and Airborne Courses, he was assigned to Germany where he served as a platoon leader and rifle company commander in the Berlin Brigade. He then received orders to Vietnam, and after attending the MATA Course, was assigned to MACV where he served as advisor to an ARVN ranger battalion. From there, he was chosen as aide-de-camp by the Commanding General, IV CTZ. He received his master's degree from Shippensburg State College in Pennsylvania and is currently a student in AOAC 2-71.

CAPTAIN JOHN B. WHITEHEAD III, Armor, is a 1966 graduate of West Virginia University. After completing the Armor Officer Basic Course, he was assigned to the Armor Center. He graduated from flight school in 1967 and was assigned as platoon leader with the 187th Airmobile Company, Fort Benning. In 1968 he served as operations officer and executive officer on the USARV OH6A New Equipment Training Team. Upon completion of his Vietnam tour, he was reassigned to the 1st Battalion, 32d Armor in Germany where he commanded a tank company. He is currently attending the Armor Officer Advanced Course.

CAPTAIN EDSON G. BROCK, Armor, was commissioned in 1964 through OCS at Fort Benning after three and a half years enlisted service with the 101st Airborne Division. He has held a variety of positions in training units, assault and attack helicopter companies. During his tour in Vietnam, he was the commander of the 1st Brigade Aviation Platoon, 101st Airborne Division. Upon completion of the Armor Officer Advanced Course, he will be assigned to the 82d Airborne Division at Fort Bragg, North Carolina.

CAPTAIN DANA B. DILLION, Armor, received a direct commission in 1966 and was assigned to the Berlin Brigade where he served as platoon leader, executive officer and company commander. In 1969 he was reassigned to the 1st Cavalry Division where he commanded a rifle company. In 1970 he returned to Fort Knox to attend the Armor Officer Advanced Course. Upon graduation he will attend graduate school at Kearney State College, Kearney, Nebraska.

CAPTAIN THOMAS MARGRAVE, Armor, enlisted in the Army in 1963. He attended the USMA Prep School and graduated from the USMA in June 1968. After Ranger School and the Armor Officer Basic Course, he was assigned to Troop D,

10th Cavalry, 194th Armor Brigade, Fort Knox, where he served as a platoon leader. He served with the 1st Squadron, 1st Cavalry, Americal Division in Vietnam from 1969 to 1970 as a platoon leader, executive officer, an assistant S4 and as Headquarters troop commander. He is currently a student in AOAC 2-71 and will attend graduate school at Syracuse University before being assigned to the USMA as an instructor.

CAPTAIN GEORGE L. BROWN, Infantry, graduated from The Citadel in 1966. He attended the Infantry Officer Basic and Airborne Courses, and was then assigned to the 82d Airborne Division where he served as a mortar platoon leader. He was next assigned to Vietnam where he served as a rifle platoon leader, support platoon leader and battalion S4 with the 173d Airborne Brigade. Upon returning to CONUS, he was assigned to Fort Bragg, North Carolina, where he served as battalion S3 and company commander in the training brigade. After attending the Ranger Course, he returned to Vietnam where he served as a S3 air and rifle company commander in the 1st Air Cavalry Division. He is currently assigned as a student in AOAC 2-71.

CAPTAIN DENNIS R. OECHSNER, Armor, was commissioned after completing Officer Candidate School at Fort Knox in 1967. After graduating from the Officer Fixed Wing Aviator Course, he was assigned as a visual reconnaissance pilot in II Corps, Vietnam. In 1969, he commanded the 3d Armored Division's Main Airfield and Operating Company, and also served as a battalion adjutant. Currently attending the Armor Officer Advanced Course, he will receive a Rotary Wing Qualification en route to an assignment with USARV.

CAPTAIN CHRISTOPHER C. PIXTON, Armor, was commissioned from the University of Utah. After graduation from the Armor Officer Basic Course, he was a platoon leader in Company B, 4th Battalion, 37th Armor at Fort Knox. He attended flight school in 1966 and has served two tours of duty in Vietnam. Between tours, he served as a special staff officer in Task Force Program Learning and as a company commander at Fort Wolters, Texas. Captain Pixton is currently attending AOAC 71-2 at Fort Knox.

CAPTAIN ROGER L. RUCKER, Armor, graduated from Idaho State University in 1967. After attending the Armor Officer Basic Course, he was assigned to Fort Campbell, Kentucky, where he served as S3 of the 4th Squadron, 9th Cavalry, 6th Infantry Division. When the division was inactivated, he was reassigned as training officer and later company commander in the 2d Basic Combat Training Brigade. He was next assigned to Vietnam where he served as a staff officer and detachment executive officer in the USA Special Security Group (Strategic Intelligence) of the 1st Infantry Division and Americal Division. Upon returning to CONUS, he was assigned as a student in AOAC 2-71.

How Would You Do It?



US ARMY ARMOR SCHOOL PRESENTATION

SITUATION:

As the newly assigned platoon leader of the 3d Platoon, Company B, 2d Battalion, 33d Armor, you have been instructed to conduct driver training for your personnel. The battalion is equipped with the M60A1 main battle tank. As a recent graduate of the Armor Officer Basic Course, you are familiar with the tank and the proper method for conducting driver training. The situation can be informative, however, since it provides an opportunity to observe the platoon and to evaluate the personnel and non-commissioned officers.

The area assigned by the S3 is open for the most part with some woods. The open areas are deeply and heavily gullied due to soil erosion. Before operating in the area you caution the tank commanders to exercise extreme care in selecting routes while operating to prevent damage to the vehicles or their immobilization due to the terrain.

After completion of the training and as the platoon is preparing to return to the motor park, one of the tank commanders notifies you that his tank

has thrown a track. When pressed for further details, he reveals that the two rear sets of road wheels are positioned on top of the track center guides (fig 1). He also informs you that he has had difficulty in trying to rectify the situation. When informed by your platoon sergeant that he is the least experienced of your tank commanders, you investigate the situation. After you make a quick estimate of the situation you prepare to remount the track.

PROBLEM:

The problem here is to reposition rather than remount the track so it will be in correct alignment with the road wheels.

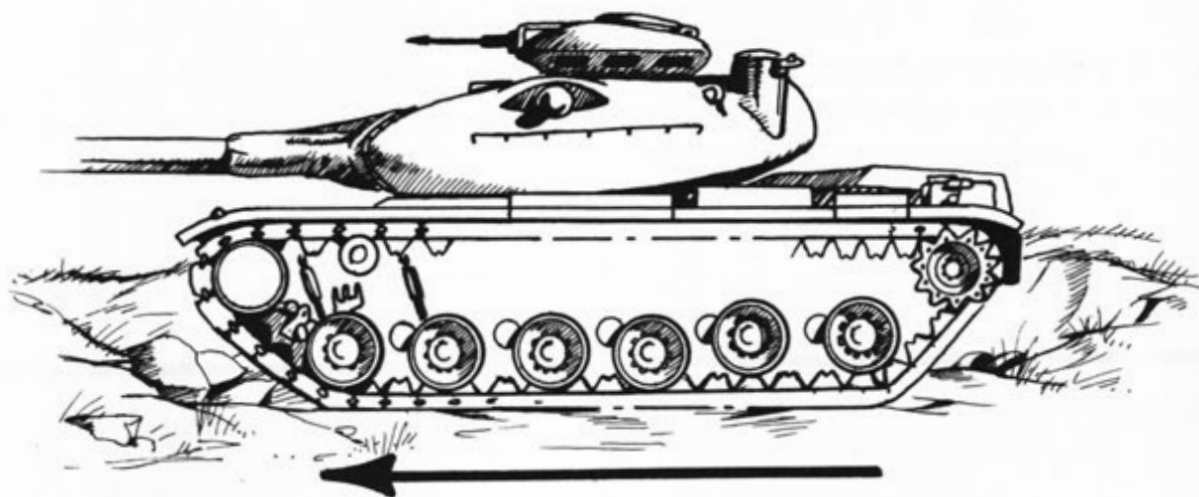
In this particular situation, you want the tank made operational in the least amount of time and involving the least amount of effort without breaking the track. FM 20-22, *Vehicle Recovery Operations*, and TM 9-2350-215-10 contain no useful information.

AUTHOR: MR. EDWARD F. BASHAW

ILLUSTRATOR: PVT LARRY ELMORE

How Would You Do It?

(CONTINUED)



DIRECTION OF TRAVEL WHEN TRACK WAS THROWN

Figure 1

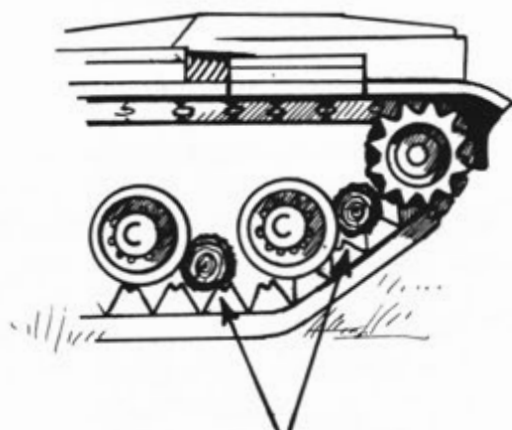
SOLUTION:

An expedient is available to the crew whereby the tank can be made to "jump" or be "walked on" to be positioned properly without breaking it and remounting it. To do this, the crew must first release the track tension as instructed by the operator's manual. A log, approximately 6 inches in diameter

and 2 feet long, is then placed to the rear and against each set of road wheels involved as in figure 2.

The driver starts the engine, places the transmission in reverse, and gradually applies power to the tracks while applying steering action to the side with the thrown track.

Movement of the vehicle will force the road wheels over the logs and in so doing will stretch or force the track to its proper position. This procedure may have to be repeated, but usually one attempt is all that is required.



LOGS PLACED IN POSITION

**DIRECTION OF TRAVEL
TO REPOSITION TRACK**

DISCUSSION:

Once the track and road wheels are aligned properly, track tension is adjusted as prescribed by the operator's manual and the tank can continue its mission.

One fact to remember in a situation such as this is that to reposition the track, the vehicle must be moved in a direction opposite that of its original travel. Bear this in mind when placing the logs by the road wheels. Also remember that should more than two sets of road wheels be involved, the track must be broken and remounted as prescribed in the stated manuals.

Figure 2



short, over, lost, or ...TARGET

This department is a range for firing novel ideas which the readers of ARMOR can sense and adjust. It seeks new and untried thoughts from which the doctrine of tomorrow may evolve. Items herein will normally be longer than letters but shorter and less well developed than articles—about 750 words maximum is a good guide. All contributions must be signed but noms de guerre will be used at the request of the author. ON THE WAY!!

The Rifle Squad: A Disappointing Element

by Captain Michael Foster

Scouts, tanks, mortars and infantry are the elements of the Army's smallest combined arms team, the armored cavalry platoon. Few would attach significance to the sequence in which these elements were listed. However, many armored cavalry troop commanders and platoon leaders will verify, it is the rifle squads who usually finish last, both literally and figuratively, among the fighting elements of the troop. Squad and section proficiency within the troop is often lowest in the rifle squad and the morale and discipline of the troop's infantrymen frequently fails to compare with the professionalism of its scouts, tankers or mortarmen.

Several factors combine to create this disparity and, while they cannot be eliminated entirely, an understanding of these factors tempered with imaginative leadership can all but eliminate their effect. The rifle squad comprises more than a quarter of the platoon's strength and only by the contribution of its maximum effort can the platoon be considered a truly effective combined arms team.

What factors then contribute to the seemingly inherent mediocrity of the rifle squad?

First, the belief exists among many troop commanders that rifle squads are of lesser importance to the functioning of the troop than the other combat elements. This belief is predicated upon an academic grasp of the types and quantities of missions assigned to the four troop combat elements,

i.e. tanks, mortars, infantry and scouts, and has no basis for support when the services of the rifle squad are required. The prevalence of this belief, usually among inexperienced leaders, results in the frequent misuse of the squad. In combat, the rifle squad is often employed as the platoon replacement pool. Fillers for other platoon positions are often plucked from the infantry with devastating effect to squad cohesion and effectiveness. In units in non-combat zones, the squad is called upon frequently to provide personnel for details, which are not performed by people in so-called "essential" combat positions. A detrimental effect on squad morale and professionalism results with the denigration of the infantry's importance to platoon operation and the rifle squad's designation as the platoon "detail section."

A second factor which compounds the problem of low morale and performance within the rifle squad results from its high soldier-to-vehicle ratio. With 11 men in a full squad, the significance of each rifleman is diminished in relation to the maintenance, operation and tactical employment of his vehicle. Nowhere else in the armored cavalry platoon is this problem present, as each member of the scout, tank or mortar section shares a large measure of the responsibility for his fighting vehicle. The source of pride and esprit implicit in this responsibility is absent, to a great degree, in the infantry section and



the rifleman often fails to realize his significance within the platoon.

The third factor contributing to the rifle squad problem results from a lack of imagination on the part of many troop commanders in the training of their infantry squads. Realizing that the greater portion of their effort must be directed toward the training of the other, perhaps more complex elements, these commanders may ignore or give only token effort to the infantry. Troop training exercises for the infantry become stultifying experiences where the squad simply rides behind the tanks, occasionally dismounting to assault a tree line. In short, the squad is only considered because it is present and is not included, in any real measure, in the platoon's effort. Neglected in this manner, the rifleman senses his lack of importance and quickly develops apathy toward unit goals.

Finally, it is ironic that the primary source of the infantryman's pride, i.e. his prowess in the dismounted role, can also be a significant factor in the problems of low morale, lack of motivation and marginal mission performance within the squads. While the majority of the troop fights mounted, it is the infantryman who must perform the bulk of the dismounted fighting. In most cases, it is the infantryman who encounters the personnel mines. In combat and non-combat areas, it is the infantryman who performs many of the most demanding and unrewarding troop tasks. In the minds of the many riflemen, the allotment of these hazardous and arduous missions is disproportionately weighted. The presence of this feeling has an invidious effect

on the squad's relation to the other platoon sections and leads to increased alienation of the squad in its platoon.

Depending greatly on the imagination of the troop commander and the actions of his subordinate leaders, the aforementioned factors may be eliminated. Infantry soldiers are not inherently inferior, and the rationalization of leadership failures through this line of reasoning can only prevent solutions of the basic problems of the rifle squad. The following, then, are considerations from which to build constructive solutions to these problems.

Most essential to the fostering of professionalism and esprit in the rifle squad is the elimination of "infantry as a second-class citizens" concept. The armored cavalry troop, although commanded by an armor officer, cannot be motivated in the same manner as the armor company. Such depreciatory phrases as "ground pounder" and "grunt" should be avoided and the combined arms concept should be stressed. Troop leaders should try by word and deed, to instill in their unit a respect for the traditions and accomplishments of the "Queen of Battle" as well as other combat arms. All members of the troop should be aware of the difficult mission of the rifle squad, which is to act not only in their infantry role but to perform occasionally as scouts and to protect the tank section. The knowledge that the rifle squad is a unique and vital asset to its platoon must exist throughout the troop and the rifle squad's stature must never fall below that of the troop's other combat elements.

To this end, the practice of using the rifle squad as a troop replacement pool or "detail squad" should be avoided and effort should be directed toward maintaining the squad's integrity and cohesiveness.

The problem of vehicle-to-soldier ratio can be solved by scheduling maintenance periods for the mortar and rifle squads together. Both vehicles being of a similar nature, the mortar and rifle squads should share the responsibilities for maintenance. Further, the standards for maintenance should be substantially elevated for these squads to demand full effort and participation from the riflemen in the upkeep of their vehicles. Higher standards result in better maintenance and, subsequently, increased pride in accomplishment within the rifle squad.

In training, imagination leads to the betterment of the rifle squad. Not only should the commander devote full attention and interest to the squad's proficiency in strict infantry areas, but he should also insure that the riflemen are able to assist and, in some cases, act as scouts. In this regard the



infantry should be included in the majority of the scout training. When appropriate, the infantry should be permitted to conduct classes for the scout section in those areas which are of particular interest to the rifle squad.

Similarly, the infantry's relation to the tank sections should be stressed and whenever possible the infantry should be integrated with the tanks for training. The rifle squad's tank protection function should be realistically simulated in training and the common practice of letting the rifle squad simply ride behind the tanks during field exercises should be modified.

Finally, the infantry, both in combat and in training, should not be singled out for the hazardous or arduous missions simply for convenience. Scouts may patrol and man observation and listening posts; tankers can be employed in accomplishing tasks not necessarily related to their tank mission. Where it is only appropriate to employ the infantry for such missions, recognition should be shown.

In short, the rifle squad should not be neglected. It is an extremely vital element of the armored cavalry platoon and its critical function should not be overlooked. In combat, successful accomplishment of the platoon's mission and the reduction of its casualties depends completely on teamwork. Through imagination and diligent application of simple leadership principles, the rifle squad will not detract from this end.

CAPTAIN MICHAEL FOSTER, Armor, was commissioned in 1966 from the Officer Candidate School at Fort Knox. He was assigned immediately to the 2d Armored Cavalry Regiment where he served as tank platoon leader, tank company executive officer, armored cavalry troop commander and squadron adjutant. In 1968, he served as an advisor to a Vietnamese cavalry troop. Returning to the United States in 1969, he was S3 for the 1st Training Brigade at Fort Knox. A June 1971 graduate of Armor Officer Advanced Course 501-71, Captain Foster is currently with Company A, 1st Battalion, School Brigade at the Armor School.

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from the
Armor Branch Chief

DA PAMPHLET 601-4, COMMANDER'S GUIDE TO THE RETENTION OF JUNIOR OFFICERS

Recently revised by OPO, DA Pamphlet 601-4, dated 1 November 1970, was released by TAGO for distribution on 1 April 1971. Distribution is to be made by each installation and activity to all field grade officers for their use in counselling junior officers. In addition to counselling techniques, the pamphlet outlines junior officer career opportunities. Commanders may requisition additional copies from the US Army Adjutant General Publications Center, Baltimore, Maryland 21220.

OFFICIAL TAGO, CAREER BRANCH, AND FIELD 201 FILES

The TAGO, Branch, and Field 201 files are of major importance to every officer. The responsibility for the current and accurate status of your Field 201 file is shared by you and your unit personnel officer.

The same responsibility is shared with TAGO and Armor Branch for your Official Military Personnel File (OMPF) and the Career Branch File. Regulations require an audit of your Form 66 once a year. All changes to the field copy of your Form 66 must be accurately transmitted to Armor Branch by your unit personnel officer for up-dating. Your Form 66 is used by the various DA promotion and selection boards and for other personnel actions to include assignments. The Branch copy of your Form 66 is the only copy maintained at DA. A periodic review of your Branch file, perhaps every three years, would be

desirable. Your OMPF is maintained by TAGO. This must be as current as possible since it is the official file used by all DA selection boards considering you for promotion, RA appointment, schooling, and special personnel actions.

We encourage you to make an appointment with TAGO (OX 21924/25/26) when you have the opportunity to review your OMPF. A complete, accurate OMPF represents the whole man to DA Boards. Should you find your OMPF to be incomplete, you should take immediate action through your personnel section to make corrections and have missing material forwarded to the Personnel Records Division (Officer Personnel), TAGO.

FAMILY DATA HELPFUL ON OFFICER PREFERENCE STATEMENTS

Unfortunately, the revised Preference Statement does not have a specific entry for family data. Our assignment and personnel action officers can give you more personal service if you list on the statement the names and ages of family members and your addresses and phone numbers en route to your new station (i.e. leave address) when known.

APPOINTMENT IN REGULAR ARMY

In answer to many queries on why an individual was not selected for Regular Army, we offer the following. The Regular Army Selection Board does not provide Armor Branch reasons why an officer or warrant officer is not selected. Our own review of the files of Armor officers not selected for Regular

Army appointments reveals the following possible reasons for nonselection:

- Manner of performance of duty as indicated on efficiency reports in the applicant's file was lower than his RA contemporaries.

- Applicant had only one efficiency report and, therefore, had not yet proven himself to be Regular Army quality.

- Applicant had taken no action over the past several years to complete the educational goals specified by the Army.

- Lack of troop experience (particularly troop or company command for captains and above).

The key to a Regular Army appointment is a good manner of performance record over a sufficient period of time for the officer to prove that he can compete with his contemporaries for promotions, schooling, and assignments. If an officer's application is disapproved, he is normally required to wait one year from the date of the letter from the Adjutant General before resubmitting a new application. Change 2, AR 602-100, cites instances whereby officers may resubmit in less than a year. This deferral permits additional time for the officer to improve his file before being considered further or reconsidered.

DISTRIBUTION OF DA PAMPHLET 600-3 and 600-11

A revised edition of DA Pamphlet 600-3, *Career Planning for Army Commissioned Officers* was published in August 1970 and distributed to each Army installation and activity in sufficient quantity for issue to each commissioned officer on active duty. To insure that newly commissioned officers receive a copy of the pamphlet, each service school is now giving a copy to each officer basic course student and OCS graduate. DA Pamphlet 600-11, *Career Planning for Army Warrant Officers*, October 1969, was also given sufficient distribution to allow issue to each active duty warrant officer.

Installations and activities may obtain additional copies of these pamphlets from the US Army Adjutant General Publications Center, Baltimore, Maryland 21220. Normal publication requisitioning procedures should be followed.

SERVICE AGREEMENTS

The Competitive Voluntary Indefinite Agreement Program, outlined in the interim change to AR 135-215, pertains to those officers entering on active duty on or after 1 July 1970 and who had not been

approved for a voluntary indefinite category by 1 February 1971. Some applications from officers who entered on active duty before 1 July 1970 have been received at the Branch using the format listed in the interim change. When applying for an indefinite agreement, check the updated regulation for the applicable format.

ARMOR BRANCH TO RELOCATE

Armor Branch will relocate to: Wing 10, Tempo A in September or October. Our plans include re-decorating the reception room, adding new items such as unit coffee mugs, plaques, and other Armor memorabilia. We would greatly appreciate items of this nature from units or individual officers. If you have a unique item that might be suitable for display, let us know and we will try to incorporate it in our decoration plans. Our current inventory of coffee mugs includes 2/9th Cav—We Can, We Will, 1/13th Armor—The 13th Horse, 1/70th Armor—Strike Swiftly, 1/32d Armor—Men of War, 3d ACR—Brave Rifles, 14th ACR—Suivez Moi (Follow Me), the 3d Armored Division—Spearhead, the 4th Armored Division—Deeds Alone, and USMA—The Black Knights of the Hudson.

OFFICER PROMOTIONS AT A GLANCE

Following is the current Army officer temporary promotion outlook:

To	No of Promotions 1 Jul 70– 31 May 71	Promotion Projection Jun 71– Dec 71	Convening Date for Board
COL	621	Average 80 per month	20 July 1971
LTC	1,719	Average 150 per month	3 May 1971
MAJ	1,482	Average 100 per month	Mid FY1972
CPT	Time-in-grade required for promotion will increase from 1.0 year to 1.6 years during FY1972. Current decentralized procedures for advancement to captain are prescribed in DA Circular 624-3.		

All promotions are based on existing strength planning figures. These are subject to sudden changes resulting from rapid strength reductions, new grade limitations and unanticipated retirements.

SHERIDAN EXPERIENCE

We must identify officers worldwide who have acquired *Sheridan* experience. Those so qualified are requested to advise Armor Branch by letter or by noting this experience on their Assignment Preference Statement. The extent and details of this experience should be stated. The loss of many fine OBVII officers having *Sheridan* experience, coupled with an increase in *Sheridan* strength in Europe, has created a greater demand for this special qualification.

PHOTOGRAPHS (AR 640-30)

Armor officers are reminded of the requirement to have their photographs periodically updated for their Official Military Personnel Files and Branch files. A new photograph is required for colonels every three years and every four years for captains, majors and lieutenant colonels. The photographs should be made during the month in which the officer's birthday occurs. Each officer may select his own record photograph, or he may authorize the photographic facility to make the selection for him. Officers on orders to hostile fire zones or remote areas who will require a photograph during assignment there, should have photos made within 90 days prior to departure for the area.

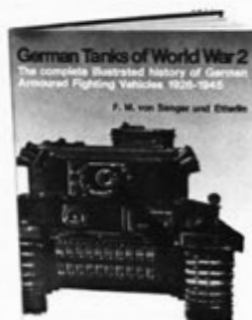
TELEPHONE CALLS TO BRANCH

We welcome Armor officer calls to Branch. We advise that you use AUTOVON when available. As a rule, we cannot accept collect calls except in emergencies.

SELECTION AND TRAINING OF ARMY AVIATION OFFICERS

Pending revision of AR 611-110, the following changes became effective on 1 July 1971:

- Minimum civil education level was raised to 60 semester hours of unduplicated college level studies or equivalent.
- Maximum age for commissioned officers: Less than 30 years; warrant officers: Less than 28 years.
- Physical requirements were raised to Class 1 flying standards for all applicants except those addressed in Para 3-4a.
- Delete all references to initial "fixed wing" flight training. Applications and physicals dated prior to 1 July 71 will be evaluated on the basis of criteria as published in AR 611-110.



ARMOR READERS:

Special Savings

Both for \$19.95



Russian Tanks 1900-1970 by John Milsom

German Tanks of World War 2 by F. M. von Senger und Etterlin

Standard reference works on tanks of foreign armies.

Normal price: \$11.95 ea. — Together: \$19.95.

ARMOR BRANCH DIRECTORY



CHIEF
Colonel James H. Leach
OX 3-1468



**PERSONNEL ACTIONS
&
EDUCATION SECTION**

ADMINISTRATION SECTION
Mrs. Lillian Wesley
OX 3-1552

SECTION CHIEF
LTC Charles M. Belt
OX 3-1468

ASSIGNMENT SECTION

LOSSES
MAJ Gordon R. Sullivan
OX 3-1492

SECTION CHIEF
LTC William F. Coad
OX 3-1468

GAINS
MAJ Thomas H. Tait
OX 3-1540

FIELD GRADE ASSIGNMENTS
LIEUTENANT COLONELS
LTC Eugene R. McBride
OX 3-1475
MAJORS
MAJ John E. Toye
OX 3-1474

**MILITARY
&
CIVIL EDUCATION**
CGSC & CIVIL SCHOOLING
MAJ Gary P. Graves
OX 3-0690
AOAC & OUDP
Mrs. Agnes Burns
OX 3-1473
TDY SCHOOLS
Mrs. Ruth Carmichael
OX 3-1473

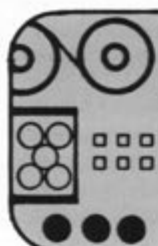
COMPANY GRADE ASSIGNMENTS
CAPTAINS
MAJ Richard A. Behrenhausen
OX 3-1474
LIEUTENANTS
MAJ William H. Roche

**PLANS, PROGRAMS,
& PROMOTIONS**
LTC Robert W. Mills
OX 3-1469

AVIATION PROGRAM
ASSIGNMENTS
MAJ Warren J. Walton
OX 3-1473
AVIATION ACCESSIONS
Mrs. Ruth Carmichael
OX 3-1473

The branch is located in Wing 10, Tempo A, on the corner of 2d Street S.W. and "V" Street. Tempo A flanks Fort McNair on the east. It can be reached readily from the Pentagon by shuttle bus. If you're driving your own car, Maine Avenue or South Capi-

tol Street are the best approaches. Visitors parking is available in rear of the building. **ADDRESS YOUR LETTERS TO: Office of Personnel Operations, ATTN: OPDOPAR, Headquarters, Department of the Army, Washington, D.C. 20315.**



ARMOR CENTER INNOVATIONS

NEW NAME FOR GENERAL SUBJECTS DEPARTMENT

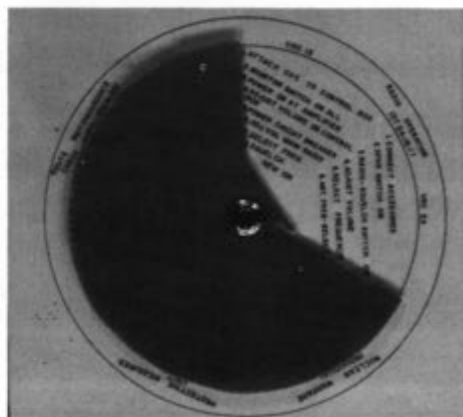
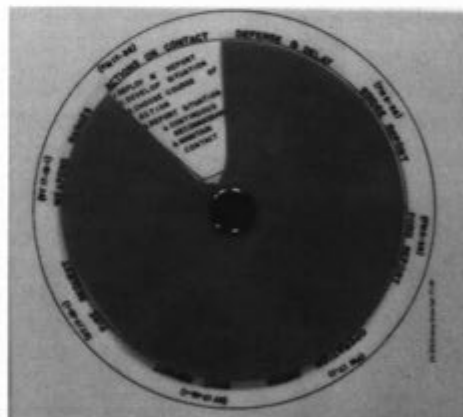
In order to reflect the current Army-wide emphasis on leadership training, the former General Subjects Department (GSD) is now more appropriately called the Leadership and Educational Development Department (LEDD). The name was chosen from a list of suggested titles submitted by personnel of the department, with concurrence of Brigadier General George S. Patton, assistant commander, and approval by Major General W. R. Desobry, commandant. Curriculum innovations include an orientation on effective writing through a reading and listening program, and electives such as officer retention, race relations and drug abuse.

M203 INTEGRATED INTO TRAINING

The *M203*, a new weapons system, has been recently integrated with the *M79* grenade launcher in reconnaissance scout training on Ames Range. Since the *M79* and *M203* are basic weapons of the scout, it is necessary that students become familiar with the nomenclature, as well as the destructive power of each weapon. In training, the scout is first taught disassembly and assembly of each weapon, sight construction, sight alignment and sight setting. Each soldier fires a total of five rounds, the first three with the *M79* grenade launcher and the last two with the *M203*.

THE BEALE WHEEL

Having trouble remembering maximum and minimum weapons ranges, action of contact, bridge and ford classification report formats? The AOBC student has the answers virtually at his fingertips with the Command and Staff Department's latest innovation, the "Beale Wheel." No more bulky data booklet to be hauled out of the rear left pocket and futilely thumbed through because you can't find the right information. The Beale Wheel, proposed and developed by Captain Larry Beale, branch chief of the Armored Cavalry Branch, Company and Team Tactical Operations Division, is smaller than the booklet size yet contains a wealth of information. By turning the wheel to the appropriate heading, the opening reveals the desired information, including: route reconnaissance checklist; nuclear protective measure; procedure for activating the VCR12 and VRC53 radios; bridge report; ford report; operation order; spot order; fire request; weapons planning ranges; actions on enemy contact; and considerations for defense and delay.



NEW INSTRUCTION IN UNIT ACTIVATION AND MOVEMENT

Heavy student participation is included in a new nine-hour block of instruction on unit activation and movement recently developed by the Command and Staff Department for AOAC classes. The instruction covers procedures for activating a unit, preparing it for deployment, deployment by air, rail and sea, redeployment and finally inactivation. The hours are integrated with instruction on stability operations, allowing students first to plan a specific operation in a stability environment before beginning the activation of the unit. Three weeks before the block begins, the students are given requirements for 29 briefings. Under supervision of the department's instructors, the students research and prepare the lessons, drawing heavily from personal experiences. Presentations are monitored by the instructors to ensure that all teaching points are covered, but all teaching is done by the students.

SUPPRESSOR MX-778()/GRC SAVES VEHICLE RADIOS

The student who defines the electrical transient suppressor MX-778()/GRC as "a device to suppress itinerant electricians" obviously doesn't know how the thing works. The Armor School reports no excessive voltage damage on any tracked vehicle equipped with the suppressor which eliminates electrical surges. It works on radio series: AN/VRC12, AN/VRC53, AN/VRC64, AN/GRC106, AN/GRC125, and AN/GRC160; and vehicles: Tanks—*M60*, *M60A1*, *M48A3*, *M41*, *M60* chassis *AVBL*, *M48* chassis *AVBL*, *M728 CEV*; Carriers—*M114A1*, *M113A1*, *M132A1*, *M125*, *M548*, *M577*, *M106*, *XM163*; Recovery—*M578*, *M88*; Others—*M56(SPAT)*, *M551 (Sheridan)*, *M42A1*, and *HM163*. TB 750-911-4 (Jul 70), para 2-29, is the authority to order this \$279 item under FSN 5915-937-9564.

1ST BRIGADE GOES TO FIVE DAY WEEK

In keeping with the Army's overall trend toward a Modern Volunteer Army, the 1st Brigade at the Armor Center has reduced its training requirements by 32 hours to free soldiers on weekends. Through extensive research, the Army's only AIT Armor Brigade eliminated the 32 hours without reducing the effectiveness of the training. Seven hours of physical training were eliminated by ending long road marches. Commanders believed that the normal training was vigorous enough to keep trainees sufficiently fit throughout their 40 days of training. Conversion to the *M60* series tank reduced communications training 11 hours because the new radio equipment is less complicated than the old. Because the brigade's mission is to train future tank crewmen, and not tank commanders, 14 hours of land navigation and tactical training were eliminated. Advanced training in these areas becomes the responsibility of the unit of ultimate assignment.

NEW ADDITION TO INSTRUCTIONAL FACILITIES

To provide permanent and better facilities for the map maneuver exercises of the AOAC classes, the Armor Center is renovating the Snow Mountain complex, formerly an Air Force Early Warning Radar Station. The complex will be a major addition to the academic plant and will provide facilities more adaptable to such exercises than an average classroom. The air-conditioned facility will include space for the Division Controller Headquarters, and the staffs of two brigades and eight battalions employed in the exercises.



news notes



FAREWELL TO *ARMOR*'S 29TH EDITOR

During his four-plus years as Secretary-Treasurer of the U.S. Armor Association and Editor of *ARMOR* Magazine, Colonel O.W. Martin, Jr., made excellent use of every opportunity to implant or further cultivate among his fellow men of Armor cognizance of the benefits and, more important, the necessity of active support of the Association and its professional journal. It was no different when more than 60 old and new friends of Colonel Sonny Martin gathered at the Fort McNair Officers' Open Mess to pay tribute to him before his departure to Fort Leavenworth, where he eventually will become Editor-in-Chief of *Military Review*.

In his unfailing meticulous fashion, Colonel Martin thanked by name all those who had worked for and with him during his tour with *ARMOR*. The thrust of his remarks, however, was directed to senior officers who were well represented among the civilians, enlisted men and all ranks of officers in attendance at the luncheon. He urged them to support *ARMOR* and other professional journals not only with words and money, but with their pens and typewriters.

"Where better to put forth the best efforts of rational, creative, mature military thinkers than in our professional journals?" he asked. "And what better intellectual discipline for us all than to have to think through our views and set them down accurately?"

"The Army has everything to gain by having available for study more hard-hitting articles by people on the firing line who are the acknowledged military leaders of today and tomorrow," he added.

The challenge did not go unanswered. In addition to words of praise for Colonel Martin's performance, General Bruce Palmer Jr., Vice Chief of Staff of the Army and Armor Association vice president, said he was picking up the gauntlet thrown down by Colonel Mar-

tin. Citing the need to make the future Army not just a Modern Volunteer Army, but a professional one as well, he promised to begin work on an article immediately.

"Just tell me which issue you want it for and I'll have it ready," he said.

In addition to the many words of tribute paid to Colonel Martin, the 10th Armored Division made him an "Honorary Tiger"; the *ARMOR* staff presented him with a mock-up cover showing him as a young mounted captain riding through the sands and sagebrush of Colorado; and Brigadier General Hal C. Pattison, Jr., president of the Armor Association, presented him with a resolution in partial thanks for his outstanding performance in the dual roles of Secretary-Treasurer and Editor.

Earlier at Fort Knox, Colonel Martin was awarded the Meritorious Service Medal and a Master Tanker's Certificate, and was designed a Distinguished Faculty Member by Major General William R. Desobry, commandant of the Armor School.

LOWELL HONORS GENERAL PATTON

Lowell, Massachusetts, residents turned out by the thousands recently to honor General George S. Patton, Jr., and his wife, the late Beatrice Ayer Patton, a native of the city.

Despite a heavy downpour, the residents lined the streets four deep to watch more than 20 bands, various civic and school groups, several armored vehicles and representatives from the five services parade down the Lowell streets to a point near Mrs. Patton's early home.

Ceremonies began with the presentation of the city key to Mrs. Ruth Totten, Patton's daughter. She later unveiled a new portrait of General Patton and a Purple Heart plaque.

General Bruce C. Clarke, who served under General Patton in World War II, told the audience that in battle, Patton was "irascible, daring and indomitable."

"His men were proud to be known as Georgie's boys," General Clarke said.

LTC ZIERDT HONORED

Lieutenant Colonel William H. Zierdt, Jr., former editor of *ARMOR* Magazine, was honored recently for his work as chief of information for the Office, Chief of Army Reserves. The Public Relations Society of America presented its Silver Anvil Award to the Army Reserves for its nationwide community relations campaign. It was the second consecutive award the Reserves have received. Zierdt was editor of *ARMOR* from 1953-61.

ARMY TESTS TWO HELICOPTERS

Two *UH-1 HELMS* (Helicopter Multifunction System) aircraft, equipped with rotor blade radar, soon will begin a lengthy period of military potential tests by the US Army.

The modified aircraft, a *UH-1C* (1100shp T53-L-11 engine) and a *UH-1M* (1400shp T53-L-13 engine) were delivered recently by Textron's Bell Helicopter Company.

Rotor blade radar is designed to give helicopters unrestricted flight capabilities at night and under restricted visibility conditions. Planners hope to integrate it into an effective helicopter night attack system.

Basic concept of rotor radar involves use of the helicopter main rotor blade as a scanning radar antenna. Its principal advantages are: (1) a large horizontal antenna aperture provides a narrow azimuth beam with resultant high resolution that clearly shows not only water-land demarkation, but also fields, fence rows, tree lines, roads and vehicles; and (2) it results in a lighter, more reliable and less expensive system than conventional radars.

1st CAV DIVISION CHANGES

Two changes in the organization of the new 1st Cavalry Division (TRICAP) were announced after the July-August *ARMOR* was printed. The 4th Squadron, 9th Cav (Air) has become the 1st Squadron, 9th Cav (Air), and the 230th Aviation Group is now the 227th Aviation Group.

JORDAN GETS MORE TANKS

The Jordanian Army will receive some of the *M60* tanks originally destined to go to Army National Guard units in the states. The tanks will help replenish those lost in the recent Jordanian civil war.

At least 60 tanks have been diverted to Jordan. All have come from stocks in Europe, where units are converting from the multi-fuel *M60* to the diesel *M60*.

Despite these changes, the Guard is still expected to receive large numbers of *M60s*. In fact, the first shipment of 24 tanks were delivered to the Texas National Guard last spring.

SCAT-I STUDY COMPLETED

A study called "Family of Observation, Scout, and Attack Helicopters 1975" (SCAT-I) has recently been completed by the CDC Armor Agency. The main goal of SCAT-I was to recommend observation, scout, and attack helicopters for use by Army units through 1975.

Current and developmental helicopters were considered with respect to type of units and mission equipment. Instead of complex methodology and computer simulations, professional judgment was used as a basis for the study.

Several areas were identified as needing additional emphasis to focus efforts on. Numerous items of desirable equipment for possible use with each aircraft were considered, and the best configuration for each helicopter was recommended.

A follow-up effort, SCAT-II, will be conducted to investigate the Army's helicopter requirements in greater detail.

LOCKHEED ENGINEERS INVENT DOUBLE-VIEW DUAL-POWER TELESCOPE

A simple telescope which simultaneously provides a wide field of view and a close-up of any object within that field has been developed by two Lockheed Missiles & Space Co. engineers.

Using a simple combination of lens elements, the dual-power telescope magnifies a large field of view, while a circular area within the field is magnified by a much greater power.

Watching a distant car with the new telescope, an observer would see the car magnified in the overall field, and, in the center of the field, the observer could have a close-up of the driver.

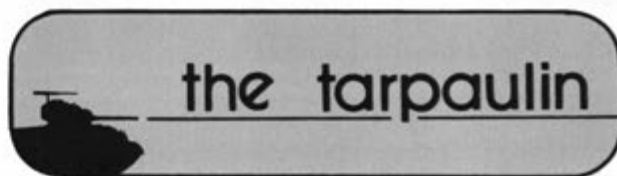
Search and rescue, surveying, range finding, laser and rifle scopes are a few possibilities the inventors see for their device, which has been patented.

The inventors explained that, because the design is simple, some of the scopes have been built with a moveable high-power field. A lever on the side of the scope adjusts the position of the high-power field within the larger, low-power field. If the observer wishes, he can flip the lever to one side and completely extract the high-power field from the general field of view.

LINE OF COMMUNICATIONS (LOC) PROGRAM REVISES COMPLETION DATE

In order to meet increases in troop deployment and Vietnamization commitments, the US Army Vietnam Line of Communication (LOC) Program has moved its completion date from 1974 to December 1971. The project is designed to construct a high speed highway network extending north and south from the DMZ through the Delta, with laterals extending from the coastline to the Cambodian border. The length of the highway is equivalent to a two-lane highway from Washington, D.C. to Las Vegas, Nevada.

To meet the revised target date, high production commercial equipment was purchased to supplement TOE construction equipment. The road construction, despite many problems of which security during construction work is a major one, is on schedule, and when completed will accelerate the Republic of Vietnam's pacification program and improve the economy of the country.



Covers a bit of everything gleaned from the service press, information releases, etc. Contributions are earnestly sought.

TAKE COMMAND

COL Donald F. Packard, 3d Bde, 2d Armd Div . . . COL John T. Price, DIVARTY, 2d Armd Div . . . COL Samuel E. Smithers, 2d Bde, 3d Armd Div . . . LTC Joseph B.

Ameel, 3d Sqdn, 7th Cav, 3d Inf Div . . . LTC James Boehme, 3d Bn, 33d Armor, 3d Armd Div . . . LTC Sterling Darling, 3d Sqdn, 14th ACR . . . LTC Dan L. Drury, 3d Bn, 63d Armor, 1st Inf Div . . . LTC Glenn G. Finkbinder, 1st Bn, 35th Armor, 1st Armd Div . . . LTC Charles A. Glenn, 1st Bn, 3d Arty, 2d Armd Div . . . LTC James G. Hattersley, 1st Bn, 32d Armor, 3d Armd Div . . . LTC James H. Hetherly, 3d Bn, 64th Armor, 3d Inf Div . . . LTC Robert E. Joseph, Jr., 1st Bn, 8th Cav, 1st Cav Div . . . LTC Robert B. Osborn, 3d Sqdn, 5th Cav, 1st Bde, 5th Inf Div (Mech) . . . LTC Harold Page, Inf, 2d Bn, 51st Inf, 1st Armd Div . . . LTC Jake M. Rupe, 4th Bn, 64th Armor, 3d Inf Div . . . LTC John H. Weckerling, 2d Bn, 32d Armor, 3d Armd Div.

ASSIGNED

BG Jack W. Hemingway, ADC, 1st Cav Div . . . BG Charles A. Jackson, ADC, 2d Armd Div . . . COL (P) Robert J. Baer, OCRD . . . COL Charles Beach, Jr., USAR, ADC, 100th Div (Tng) . . . COL (P) Vincent deP. Gannon, Jr., ADC, 4th Inf Div (Mech) . . . COL Howard R. Fuller, Jr., SGS, First Army . . . COL Bruce Jacobs, Public Affairs Off, Nat Gd Bureau . . . COL Robert I. Kirwan, ADC, 2d Armd Div . . . COL John A. Maurer, CofS, 2d Armd Div . . . COL Duane R. Tague, Director, LEDD, USAARMS . . . LTC Carl Putnam, DEP Cmdr, 12th Cbt Avn Gp.

VICTORIOUS

Distinguished Graduate of AOB 17 was 2LT Rapheal B. Caire, II, USMC. Honor graduates were: 2LT Michael I. Howell, 2LT Dennis F. Jaggi, 2LT Francis A. Darmis, Jr., and 2LT Stephen J. Zweig . . . Brigadier General William J. Maddox, a long-time aide to General Bruce C. Clarke, was recently inducted into the Infantry Officer Candidate School Hall of Fame . . . One of the soldiers recently awarded the Medal of Honor was Sergeant Peter C. Lemon, who earned the award while assigned to the 2d Bn, 8th Cavalry, 1st Cavalry Division . . . The Mershon Memorial Award, presented annually to the outstanding ROTC graduate, went this year to 1LT John F. Robitaille of the 1st Armored Division . . . Taking top honors in tank crew qualification in USAREUR was a crew from Company C, 3d Bn, 32d Armor, 3d Armored Division, with CAPTAIN EDWARD A. BRYLA as tank commander.

AND SO FORTH

Fort Benning recently lost its only Armor battalion, the 4th Bn, 69th Armor, 197th Inf Bde, through inactivation. Two companies remain to provide Armor instruction to Infantry School students . . . Lieutenant Colonel Wolfgang F. Hartelt arrived at the Armor School during the summer to begin his tour as German Liaison Officer. . . . In the July-August news notes, we erroneously referred to Mr. Donald C. Stratton as William. Our apologies to Mr. Stratton.



Arnold Palmer may have a big following in golf, but this is not part of Arnie's Army. It's actually an M48 tank and crew from the 2d Battalion, 263d Armor, South Carolina Army National Guard

as they go through two weeks of summer training at Fort Stewart, Georgia.

Armor Association Sabers

Engraved Army sabers were presented on behalf of the United States Armor Association to the top two cadets being commissioned in Armor on Tuesday, 8 June 1971 at the United States Military Academy. Honored in the ceremony at Trophy Point were Cadets John F. Lilley and John S. Brown. Presenting the sabers was the

Academy's Senior Armor Officer, Major General William A. Knowlton, superintendent of the United States Military Academy. The cadets also received certificates of recognition from the Association for their exemplary scholarship and professional dedication during four years as a cadet at the Academy.



Lieutenant Lilley, the first in his class to be commissioned in Armor, ranked sixth out of over 720 fellow cadets. Through special arrangements he was sworn into the Regular Army by his father, Chief Warrant Officer 4 Charles E. Lilley. Lieutenant Lilley's initial military plans are the Armor Officers Basic Course, Airborne, Ranger and Flight School, with eventual assignment to the 3d Squadron, 1st Cavalry, 1st Cavalry Division (TRICAP) at Fort Hood, Texas.



Lieutenant Brown, the second to be commissioned in Armor, is the son of a 1941 USMA graduate, Colonel Horace M. Brown. Lieutenant Brown maintained a high standard in athletics, including boxing, track and coaching tennis, as well as in academics, graduating eighth among his classmates. He further celebrated graduation from West Point on 9 June 1971, by being married on the same day. Future plans for Lieutenant Brown after the Armor Officers Basic Course include assignment to the 2d Battalion, 37th Armor, 1st Armored Division in Germany.



from the bookshelf

HITLER'S LAST OFFENSIVE. The Surprise German Assault That Triggered The Battle Of The Bulge.

by Peter Elstob. Macmillan. 413 pages. 1971. \$9.95.

In December 1944 German troops mounted an offensive designed to cut through to the Channel and separate the Allied armies. That it did not succeed is history, but it did momentarily cause a change in major command arrangements and it temporarily unsettled the inexorable movement of the Allied forces toward the heart of Germany. It was a masterful effort at a time when Germany could ill afford to take the main chance. She had absorbed gigantic losses of manpower on both fronts and "vast quantities of transport, ammunition and supplies" were abandoned. Germany was fighting for survival and now Hitler wanted to go over to the offensive. Field Marshal Model had warned that the struggle was already unequal and time was fast running out. Field Marshal von Rundstedt acknowledged that the Meuse might be reached but that Antwerp was beyond his power. Destruction of the Ninth US, the Second British, and the First Canadian Armies was impossible unless the Allies could be cut in twain.

Hitler ordered the impossible. Men and equipment to man and equip the 25 new divisions required for the offensive were found by a variety of measures. Dr. Goebbels ordered Germany to be put on a total war footing. It was an astonishing state of affairs that Germany was able to fight for so long with so much slack in her system. All non-essential work was stopped and students not in war-connected subjects were put into industry. A 60-hour work week was established and holidays were cancelled. Manpower was shifted from the Luftwaffe and Navy to the Army. The call-up age was lowered to 16 and some of the less fit were trained to replace skilled

workers of military age. Others with various medical complaints were inducted for front-line service. Soldiers whose units had been mauled in France and who were not yet attached to other units were rounded up and sent to new divisions. Albert Speer, the production genius, upped production during the fall months. Records were set in aircraft production and munitions manufacturing. Tremendous amounts of machineguns, mortars, and artillery pieces were turned out. Unfortunately, tank production and shipment suffered badly but this was compensated for, in part, by record amounts of assault guns being produced. The impossible was almost reached.

It appeared that Hitler could once more call the tune. The instinctive genius who ordered the re-occupation of the Rhineland, created the Anschluss, broke the back of Czechoslovakia, successfully planned the invasions of Poland, Denmark, and Norway, all against the advice of some competent generals, was impressed by the spectacular results achieved between August and December. Despite mounting air attacks, losses of great cities, fallen allies of Germany, and shrinking boundaries caused by crushing defeats on both fronts, Hitler seemed to be thinking of Frederick the Great at Rossbach and Leuthen. A quick victory in the West would demoralize the British and Americans and he could then turn against the Russians. The parallel was obvious, and Hitler was convinced that the coalition of "Ultra-capitalist states on the one hand (and) ultra-Marxist states on the other" was incapable of surviving the crash which would eventuate from a solid German offensive.

Of course, Hitler badly misjudged. We were not as

sure then as we are now. Now we know that the offensive gave another rallying point to the Allies. The bickering between the Allied generals, notably inspired by Field Marshal Montgomery's desire for a single land commander, was patched up for the ensuing Battle of the Bulge, as it came to be known. The coalition stiffened and did not fall apart. Green American fighting troops held up better than anyone would have predicted. Weather was on Hitler's side until late December, when the clearing skies exposed the unprotected German units to the Allied air might. German units, attempting to meet a demanding time-table, failed to match plans to performance and the entire offensive was off its mark almost immediately. Runstedt was right; the Meuse was a far better objective with the force available than was Antwerp. Superb generalship in the field and hard fighting could not rescue a misguided effort that depended on captured fuel supplies to sustain itself. Hitler's military genius was a myth that could not be sustained because the margin for error was too thin. Brilliance of his fighting troops could not make up the deficit of trained forces and adequate supplies. The Ardennes became the scene of a large spoiling attack that was the high watermark of German offensive capability.

Peter Elstob tells this story somewhat in the manner of S.L.A. Marshall. The reader is given excellent overviews, but it is in the small unit action that the author excels. He served with a British tank unit during the combat he describes. He knows the feel of an early morning attack on a cold winter's day when men are numbed with fatigue, hunger, and cold, and when machines don't respond without infinite attention, care, and warmth. We learn why green soldiers fought, died, and won priceless time for the rear echelons to react in their ponderous way to the understanding of the problems at the front. We learn, too, why men gave way and how isolated units fell apart under the impact of unexpected attacks in quiet sectors.

The author delves into the Montgomery-Bradley controversy. He has less than kind words for his fellow countryman and has high praise for General Eisenhower. When the latter decided to entrust two American armies on the northern front to Montgomery, the British were overjoyed. Perhaps the arrangement would be made permanent. This was not to be, as events were to show, and Montgomery unnecessarily nettled top commanders, even going to the extent of claiming credit for pinching out the salient caused by the offensive. It was principally an American show as evidenced by casualties. When

Montgomery claimed his victory in the Ardennes, some 8000 Americans versus 200 British had died there. His claims rankled Americans and disturbed even Churchill who issued a disclaimer in the House of Commons. Exception was taken by Americans to his use of the offensive to press his demand for sole leadership of ground forces. Peter Elstob accuses Montgomery of painting a dark picture even blacker to gain sympathy for his ends. He points out serious inaccuracies in Montgomery's appraisals of the situation and matches them against fact. The result is damning.

In this careful and detailed retelling of the events preceding and during the offensive, the author tells the story of unit actions with the "hide off." Units which broke and leaders who failed are identified. The precise four-letter Anglo-Saxon expletive uttered by General McAuliffe at Bastogne is recorded for antiquarians, whose penchant for detail demands exactitude so that the flavor of the moment may be preserved. This attention to minutia recreates the battlefield as the author remembers it. What he did not see, he reconstructs from personal reconnoitering of the post-battle area and from extensive research.

There are faults but they are minor. Maps are not keyed in all cases to the pages where they are placed. Retelling of the Otto Skorzeny escapade is possibly too extensive for the value gained. A selective bibliography is presented, but hundreds of other, and presumably valuable, bibliographic items are omitted. Reference is made to these items, and to personnel who were of assistance to the author, in the book's foreword. Historians would doubtless like to know where they might find some of the non-referenced material which provided the insights which were invaluable to Mr. Elstob's task of drawing together such a diversity of experiences from German, French, British, and American sources.

The author prefaced each part and chapter with a quotation. Part One was graced with von Clausewitz's "A swift and vigorous assumption of the offensive—the flashing sword of vengeance—is the most brilliant point in the defensive." Part Two's quotation is from Hitler quoting a German myth: "The Gods love and bless those who strive for the impossible." Chapter 27 has a prophetic remark by J. F. C. Fuller: "Adherence to dogmas has destroyed more armies and lost more battles and lives than any other cause in war. No man of fixed opinions can make a good general." And lastly, B.H. Liddell Hart's "It would have been a brilliant brain-wave if Hitler had possessed the forces and resources

to give it a fair chance of success in the end" was selected to head Chapter 29, "A Summing Up." These quotes tell the story. Offensive dogma, an idea of swift victory, a major miscalculation, and a post-mortem that is balanced do indeed sum up this excellent book.

Clausewitz would probably have recommended this work because it illustrates so well his precepts on the ease of defense and the immense difficulty of the offensive. This reviewer recommends it as well. The reader will be rewarded with what might be the best account of the Battle of the Bulge since Jacques Nobécourt's *Hitler's Last Gamble (Le Dernier Coup de Dés de Hitler)* published in 1962.

Colonel W. F. Cline, USAF, USAWC

STILWELL AND THE AMERICAN EXPERIENCE IN CHINA, 1911-1945

by Barbara W. Tuchman. MacMillan. 621 pages. 1971. \$10.00

The author has applied her knowledge of the origins of World War I to the development of a perceptive and fascinating biography of one of the most controversial of our World War II leaders, General "Vinegar Joe" Stilwell. Thoroughly developed are the events and circumstances which shaped General Stilwell's personality and tenacious devotion to China.

General Stilwell emerges as a hard-headed and realistic friend of China, knowledgeable in her history and tradition, wanting to help her on the path of development, yet unable or unwilling to apply the oriental approaches to life he has learned securing the ends that he sought in his dealing with Generalissimo Chiang Kai-Shek. The twisted paths which American foreign policy took towards China during this thirty year period is valuable for all Americans. Mrs. Tuchman has not permitted the fact that she was writing a biography to bias her historical perspective nor the accuracy of her research.

The excellent accounts of the campaigns in the Far East and particularly Stilwell's personal role as a commanding general will be of interest to all military men. His frequent and direct participation in combat actions, perhaps more than any other senior general officer of World War II, is well documented. Ringing loud and clear throughout the book is General Stilwell's absolute dedication to completing practical military training, the value of the individual rifleman trained in his profession as an instrument of national policy, and the necessity for pursuing a common goal and strategy.

General Stilwell emerges as possessor of a unique grasp of history and a knowledge of Chinese vagaries of thought and action. His acid wit and sharp tongue did not endear him to General Chiang Kai-Shek. As General Chiang Kai-Shek's principal US military advisor, this inability to curb his impatience and to seek other ways to success greatly reduced his effectiveness and eventually led to his removal. As we enter more and more into the era of "advising" our Allies, the conscientious military officer can derive many lessons from examining General Stilwell's actions. General Stilwell's fixed and public opinion of Chiang Kai-Shek affected his advice, his actions, and in the end his capabilities to influence him. Mrs. Tuchman has objectively presented both sides of this duel between strong and opinionated men.

General Marshall's efforts to promote a solution to the Chinese civil war provides an insight into the intransigence of the Kuomintang leaders and Mao's followers which doomed this mission to failure and which shaped China's destiny today. General Marshall's role in China is treated almost deferentially and with great respect by Mrs. Tuchman. General Marshall on repeated occasions interceded on behalf of and in support of General Stilwell even in his most acerbic periods with the Generalissimo.

This biography is an outstanding review of the life and times of a key figure of our military history and involvement in the Far East. As a historical text it is most valuable in contributing to understanding China and the possible directions which US foreign policy may be required to take in this vital area in the future. The situations found by General Stilwell in 1911-1945 shaped the China of today and still present the most difficult set of problems facing the US policymakers and military men of the seventies.

Colonel R.E. Dingeman, USAWC

WAR WITHOUT HEROES

by David Douglas Duncan. Harper & Row. 252 pages. 1970. \$14.95.

You are the guest of the most creative combat photographer of our time on operations with United States Marines in South Vietnam. He explains that, "Nearly every man in this book is a Marine. It is no accident. I was with them during World War II, and in Korea. I rejoined them in Vietnam in 1967 and 1968 for three combat operations along the Demilitarized Zone, where I took the photographs in this book. But these pages could have been filled with pictures of soldiers or paratroopers or medevac pilots, or any number of other Americans in uniform

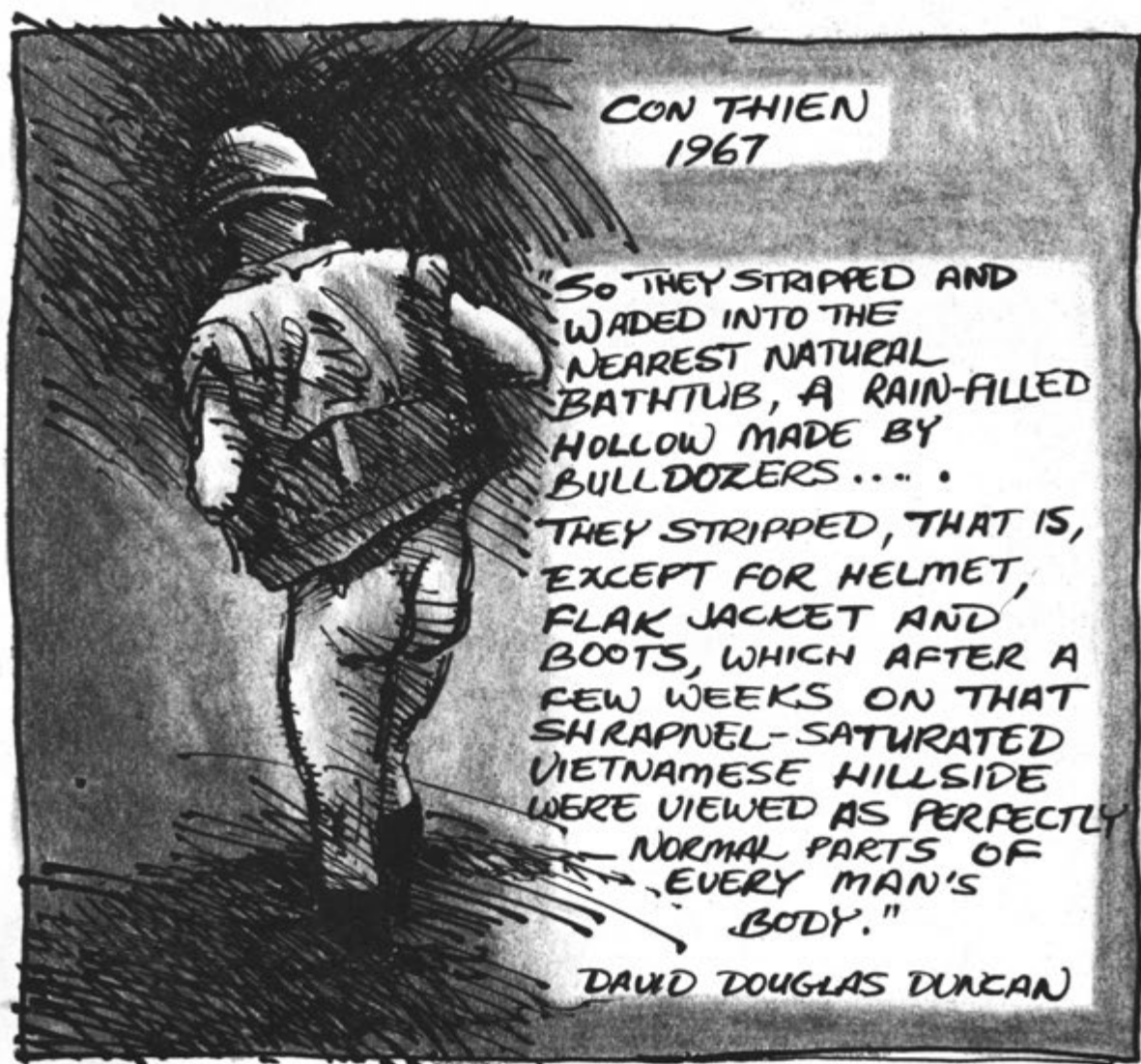
in 'Nam,' whose lives were much the same."

September, 1967: Cua Viet; An early morning amphibious helicopter assault in northern Quang Tri Province. The area is along the coastal plain just below the DMZ. Duncan rides in on the landing craft and shares the action with an amtrac assault force. His introduction includes this description: "Except for flash storms which turned a gray day into near-night and the operations officers' ornately colored maps into scraps of meaningless paper, and the scrub-foiled dunes into deadly tractor-miring swamps, the opening twenty-four hours of Fortress Sentry rumbled by with very little to distinguish them from many other hours of many other days, of many other months already spent by the same Marines in that far-from-home land to which they had been shipped for combat duty."

September-October, 1967: Con Thien; A muddy, blast-torn vigil. Thirty days on a cratered knoll rising above the undulating DMZ countryside.

Duncan observed and discovered. "From the heights of Con Thien, the men of Mike Company looked down upon the DMZ during daily fighter-bomber attacks—and, at the same time, they often saw muzzle flashes of enemy guns when they seared the hilltop with return fire." Mike Company Marines viewed it through rather different eyes. "Good evening, Charles. Yes, Charles, we know you're there. Charles and us—a real sin—phooey! A fiddle duel, like up at Corn-eggy Hall in Nooo York." (Lieutenant Kermit Brown, commanding Mike Company's attached 106-mm recoilless rifle section, as Marines and North Vietnamese gunners exchanged night fire.)

February, 1968: Khe Sanh; The Siege, as only this great master could see and record it. "At dawn or dusk, and some days even at noon, fog cut visibility to less than a feeble hand-grenade toss . . . and then, other days, bad days, it fell to zero. The place was hardly ideal as a base from which to interdict an



enemy—any enemy—with less to qualify it as a defensive position from which to withstand attacks by the shrewdest and most experienced guerrilla general in all of Southeast Asia: Giap, conqueror of Dien Bien Phu. Pearly fog . . . flags from everywhere . . . graffiti manifestoes on many helmeted young heads . . . unlikely objects adorning the barbed wire . . . Khe Sanh had a certain charm; and maybe an enemy tunneling underfoot.”

His purpose in presenting the book was to give the fighting man a lasting tribute. “These photographs have now been reassembled with affection for those men who so often shared all they possessed with a stranger, and as a tribute to their code of values—courage; generosity in its most pure form; simplicity of language where words had no hidden meanings; responsibility to their comrades, convictions and pride. This book is also my effort toward a portrait of that man alone in the trenches . . .” And what a fantastic effort it is, this massive portfolio of brilliant photographs “eligible for space in any museum where great pictures are hung.” (Detroit Free Press)

Just as the painter works with brush and pigment, Duncan the artist has created unforgettable images using light and film. These pictures have a lot of meat on them, every single one of them. And believe me, they tell it like it is. If you have been there and want to be reminded of emotions long since buried

by time and new experiences, this book belongs to you. In his Memo to Vietnam Veterans, Duncan explains, “But my deeper reason for making this book as beautifully as possible is so that it may endure as a testament of the strength, humor, gentleness, dignity, with which you conducted your lives during one of the dirtiest and roughest periods in recent history . . .” For those of you who have never been to, cannot go, will not go, wish you could go, or thankful you’re not going to Vietnam, you owe it to yourself to at least look through “War Without Heroes,” to see exactly what you missed. All Americans owe it to the men enshrined on its pages to experience this book that deals with the lives and deaths of their soldiers. And for a mere \$14.95, you can take it home and treasure it.

One cannot leave the subject of this volume without paying tribute to the publisher, Harper & Row, for their taste and good sense in leaving the printing done by Enschedé en Zonen of Haarlem in the Netherlands. The craftsmen of this firm are widely known for their superb renditions of wars, of art and postage stamps. The binders, Van Rijmenam N.V. of the Hague, likewise deserve favorable mention.

Chief Warrant Officer 2 Chester Jezierski

The reviewer, a helicopter pilot, is himself a Purple Heart veteran of Vietnam. Last year, he headed a combat art team in Korea. He is now with the Office of the Chief of Information, Department of the Army.

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MILITARY MEN \$6.95

By Ward Just. This book is now being widely discussed. There is much disagreement on whether it is for or against the Army, fair or unfair, true or untrue—in whole or part. It is must reading for the Army man of today. 252 pages.





ARMOR

NOVEMBER-DECEMBER 1971

**PRESENTS A MAJOR
ARTICLE BY GENERAL
BRUCE PALMER JR.**

If an Army is to be a great Army, however, it must have more than professionalism, a code of ethics, high morale and a strong sense of discipline. It must have **PRIDE**—the right kind of pride—in its country and people, in itself, and its future role and importance.


UNITED STATES ARMY
THE CHIEF OF STAFF

TO THE OFFICERS AND MEN OF ARMOR

On the occasion of the celebration of the 195th anniversary of Armor, I extend to each of its members the hearty congratulations and best wishes of the United States Army.

Today, as the Army reduces its numbers, our battlefield tactics require mobile, hard-hitting forces -- characteristics that have always been the hallmark of Armor. We must also develop new capabilities through improved weaponry and doctrine if our combat superiority is to be sustained. I have every confidence that the men of Armor will meet this challenge in the same professional manner they have met those of the past.

The men and women of the Army join me in wishing you continued success throughout the coming year.

A handwritten signature in dark ink, reading "W. C. Westmoreland". The signature is fluid and cursive, with the first letters of each word being capitalized and prominent.

W. C. WESTMORELAND
General, United States Army
Chief of Staff

ARMOR

Volume LXXX

November-December 1971

No. 6

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ON THE COVER . . .

The Army keeps on rolling as CW2 Chet Jezierski takes a nostalgic look at yesteryear's professional soldiers.

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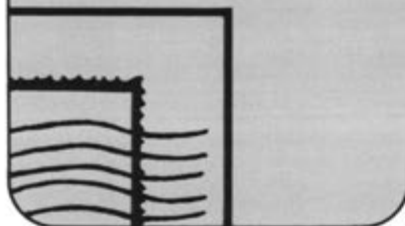
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letters to the editor



July-August Cover

Dear Sir:

It is a small point and perhaps someone has already mentioned it, but the July-August cover would better portray the mobility, firepower and shock effect of the 1st Cavalry Division (TRICAP) if the armored vehicle depicted were an M60 instead of an M48.

QUENTIN W. SCHILLARE
Captain, Armor

Headquarters
Seventh Army Training Center
APO New York 09114

We agree. THE EDITOR.

Someone's in Big Trouble

Dear Sir:

Since entering the service, my husband has always kept his membership up in the Armor Association. I make out monthly bills, keep address changes, etc. Last year, after my husband left for Vietnam again, for some unknown reason, the post office did not forward any magazine or correspondence from you (a renewal was due).

Since I was feeling rather tight about my money, I thought, "Oh well, he can renew it after he gets back."

When he returned, we had a long leave and transferred to here. He reads your magazine in the office, but collects his own at home. He has every copy of *ARMOR* and *ARMY* magazines since he was commissioned.

Suddenly it occurred to me, "I'm in big trouble." I finally got my neighbor to get

an application for me to start my husband's subscription again. He thinks he is still an active member. Could you please eliminate any welcome letter when you return the membership card? Thank you very much.

PENNY WISE

Fort Knox, Kentucky

No welcome letter sent. We can keep a secret... but what is he going to do when he finds a year of issues missing as he fits them into his fancy 'Old Bill' binder?

THE EDITOR

Young Views about *ARMOR*

Dear Sir:

I have just received my third issue of *ARMOR* and would like to compliment you on a superb magazine. My one complaint is that it is not published 12 times a year as the many civilian-type magazines are. If this were to happen, I would have no complaints for an increase in subscription rates.

ARMOR Magazine is helping me fulfill a goal, which is to become an Armor non-commissioned career officer. Why I picked this branch I don't know, but I have made a dedicated study of military history, mechanized warfare and vehicles since I set my goal in 1968. *ARMOR* has helped me learn little bits of valuable information that will be beneficial in the future.

I am quite pleased with the efficiency of the Book Department which has given me outstanding material at a cheaper price and in a shorter time than the insufficient material I acquire through civilian resources who take as long as six months.

Also, I would like to know how I could obtain tank crewmember field manuals, since I want to become a tank crewmember after I graduate from high school in 1973.

To conclude, an increase in subscribers may be accomplished if the existence of the Association could be made known to National Guard, Army Reserve and ROTC units. My fellow students have asked me about the Association just by seeing the Armor Association decal on my notebook and car. Maybe I can get you some subscribers while I'm in ROTC. I'll sure try.

THOMAS HOLT
ROTC Cadet

401 Lagrand Drive
Dothan, Alabama 36301

Technical Manuals

Dear Sir:

There are a number of older US Army technical manuals (TMs) which I need for my research library. I will pay \$10 each for one copy of the following:

TM 9-734 Medium Tank, T23
TM 750 Medium Tank, M3

TM 753 Medium Tanks, M3A3, A5
TM 754 Medium Tank, M4A4
TM 756 Medium Tank, M4A6
TM 9-1734 T23 Drive System, etc
TM 1727C M5 Transmission, etc
TM 1727 Guiberson Engine, T-1020
TM 1756A Caterpillar Engine, 1820D
TM 1750F M3A4, M4A4, Engine
TM 1750E Guiberson Engine, T-1400
TM 2800 Military Vehicles
TM 721 Heavy Tank, M6

Also, I have many FM's and TMs to trade.

Finally, I will gladly loan books to other Armor Association members doing research.

STANLEY C. POOLE

Main Road, Box 311
East Marion, New York 11939

Kudos to Book Department

Dear Sir:

This last year I have done a great deal of business through *ARMOR*'s Book Department and on all occasions have been well-pleased by your excellent service, quick replies, and careful shipment of books. Books are rather hard to come by in Europe, but *ARMOR* has filled the gap extremely well for me.

Could you send me a note on how large a volume of business the Book Department does a year? I'm curious to see if very many of my fellow officers are well-acquainted with your reliability and convenient service.

If at any time I can be of personal service to *ARMOR*, please feel free to call upon me.

PETER G. TSOURAS
First Lieutenant, Armor

Company C
1st Battalion, 64th Armor
APO New York 09031

The volume for the Book Department can be found on page 49 of the July-August issue of *ARMOR*. THE EDITOR

AOAC Class Leader Joins *ARMOR*

Dear Sir:

I am an Infantry officer and class leader of Armor Officer Advanced Course 1-72. To set the example, and to receive the benefits of your magazine, my application for membership and check are inclosed.

Though I'm Infantry, I've spent a lot of time with Armor—3d Armd Cav Regt in Europe (1961-63), 1st and 2d Armd Div's at Fort Hood (1963-65). So, I'm pleased to be reassociated with the combat arm of decision. Being an aviator, I'm looking forward to working with the air and ground cavalry elements in the future.

DON MARTIN
Captain, Infantry

Fort Knox, Kentucky



Armor Center Commander's Update

MG William R. Desobry



Since assuming command of the Home of Armor in April, it has become apparent to me that we have not taken sufficient advantage of our professional journal to disseminate information to cavalrymen around the world. Armor remains a dynamic, viable combat arm of decision and I firmly adhere to the principle that a well-informed soldier is a better soldier. I intend to use the journal for this purpose and bring to you, on a bimonthly basis, a current update of ongoing activities within our Branch. Space and problems of a classified nature will not permit me to address all aspects of doctrine, materiel, training and personnel in each issue. Instead, I propose to capsule and surface those subjects which are of greatest importance.

On the equipment side, we are on the threshold of several very important milestone decisions. In mid-August, the Army signed a new contract with Lockheed to settle the disputed production contract and open the way toward completing AH56A (CHEYENNE) development. The contract includes installation of the night vision system and proceeding with contractor and Army testing at Yuma, Arizona. Also in mid-August, the first two AHIGs assigned to the 8th Squadron, 1st Cavalry arrived at Fort Knox. Brigadier General William J. Maddox, the director of Army Aviation OACSFOR, flight delivered the first *Cobra*, which was officially accepted at a formal ceremony at Brooks Field.

The XM803 program was slowed considerably by not receiving full Congressional approval for future funding. Their final decision as to the total amount had not been made at the time of this writing; however, suffice to say that funding limits will cause considerable delay in the program. Service testing of the XM803 had been programmed to start at Fort Knox.

The M60A1E2 reached its highwater mark in late October before the In Process Review (IPR) and the Defense Systems Acquisition Review Committee (DSARC). Since the dates of these reviews were subsequent to the submission of this update, the decisions reached will be outlined in the January-February issue.

The product improvement program (PIP) for the M60A1 fleet is well underway. Troop tests at Fort Hood on the stabilization package are complete and the program is now undergoing extensive firing on the move at White Sands, New Mexico. The improvement program will include a new track, tube over bar suspension, new air cleaners, an improved engine, solid state computer, laser range finder and an add-on stabilization kit. How fast and how far we go with the improvement program for the M60A1 fleet will depend to a large extent on the outcome of the M60A1E2 program.

In the reconnaissance field, we are pressing ahead on a new initiative aerial scout program. The purpose of this program is to meet the requirement for an improved aerial scout for Europe in the 1972-1980 time frame. Essentially, this will be a product improvement program for either the OH58 or the OH6. Requirements for

the vehicle include a day-night capability with a sensor-designate system that will enable the scout to stand off and to observe, identify and designate targets for subsequent attack by ground or air means. This program is one of seven new initiative proposals outlined before the Senate earlier this year.

The Vice Chief of Staff approved an austere configuration of the Armored Reconnaissance Scout Vehicle (ARSV) in September 1970, and we are in hopes of soon going to industry with requests for proposals. In the interim, we are considering options regarding the *M114A1* command and reconnaissance vehicle assets. Because of the delays experienced in the ARSV program, product improvement of a limited quantity of *M114A1*s may become necessary, although it is generally agreed that extensive product improvement of the *M114A1* for long term usage is the least desirable solution.

Of interest to all tankers is the awarding of a contract for the tanker's two-piece summer uniform. This item is of nomex construction and similar in design to the aviator uniform. Issue of these uniforms should commence next summer. The winter uniform should not be far behind the summer suits. This uniform will be a one-piece coverall made of nomex material and having a liner for extremely cold conditions. Minor modifications are currently being incorporated into the uniform on a USAEUR evaluation during the winter of 1970-71. A limited production test is scheduled for the modified uniform during the coming year and a production contract will be let upon successful completion of the test. Barring any slip in the program, the uniform should be ready for issue to the field in two years. Looking at the helmets, the Army Materiel Command has purchased 100 Gentex *DH132* helmets for engineering and service testing during the period October 1971-March 1972. Some of these helmets will undergo service tests at Fort Knox. Pending successful testing, production quantities should be ready for the field in the fall of 1972.

On the personnel side, we have undertaken two rather large study efforts. These include an Armor Maintenance MOS and a fresh new look at the Army Maintenance Management Systems (TAMMS). Regarding the first, the Armor School is conducting an in-depth study of the Armor maintenance MOS structures. The principal objective of the study is to improve Armor maintenance at the organizational level by revision of current MOSs for track vehicle and tank turret mechanics. Facets of the study include improved technical supervision; career incentives related to promotion, retention, and MOS evaluation; personnel management problems concerning identification and assignment; and training programs designed to provide a well-trained, first-tour mechanic capable of performing on the job in his MOS skill level with additional follow-on advanced training courses.

Several approaches are being examined ranging from a single "master mechanic" MOS concept to systems-oriented MOSs, branch-oriented MOSs parallel structures, and retention of current MOSs with revised progression. A comprehensive study of these and possibly other approaches, with and without the use of Additional Skill Identifiers (ASI), should result in an MOS system which will improve organizational maintenance without a sacrifice of capability of direct support/general support units. Such a result would improve combat readiness in the field by providing a "home" in Armor units for the experienced, well-trained maintenance man. One approach which the Armor School is examining would permit the tank company track vehicle mechanic and the turret mechanic to progress through the grade of E-8 without ever leaving the tank battalion.

The second effort concerns TAMMS. A revision to the Army Maintenance Management System (TAMMS) technical manual (TM 38-750) has been circulated Army-wide for review and comment. The purpose of this revision was an attempt to simplify maintenance management at the organizational level. The proposed changes have not, in my view, accomplished the required simplification at the

trooper level. I have directed the Armor School to establish an ad-hoc committee to review and analyze TAMMS from the trooper viewpoint. The committee, composed of both commissioned and noncommissioned members of troop units, the Armor School, Armor-Engineer Board, Maintenance Board, CDC Armor Agency and Armor Human Research Unit is chaired by Colonel Harry C. Smythe Jr., Director of the Automotive Department. The TAMMS study is currently in the information gathering stage. A review of the entire TAMMS manual to identify areas where changes appear to be required is necessary. Additionally, information necessary versus information required at various levels, from unit to Department of Army, must be determined. The complaint most often heard about TAMMS is that the system is too complex. While this may be a factor, I am certain that this is not the only reason why the system does not work. Perhaps our training procedures or time devoted to training in the maintenance field are inadequate in the fact of increasing complexity of equipment being fielded. On the other hand, our MOS and grade structures may be inadequate. At any rate, this is a long-term study. The study group is not "locked-in" with preconceived ideas, and your comments and recommendations are welcome and encouraged. Write directly to me or to Colonel Smythe at Fort Knox.

ARMOR SELECTIONS FOR LIEUTENANT COLONEL-AUS

* Secondary Zone

Army Aviator

Adkins, Donald V 0870
Bartlett, William G 0837
Berdux, Sylvester C 0406
Bloedorn, Gary W 0697
Brown, Charles L Jr 1107
Burleson, Charles E 0843
* Burleson, Willard M 1245
Collings, J Elmer 0513
Curtin, Thomas Rogers 1135
Davall, Bernard M 1075
Delumpa, Felix M 1193
Dramis, George J Jr 0208
Eliot, John H 0965
Esher, John D 0799
Estep, Ronald C 0822
* Fitzgerald, William 1298
Foley, Thomas C 0866
* Franks, Frederick M 1288
Gaspard, Glaudis P 0486
Gillette, William P 0982
Gordon, Henry J 1084
Greenwalt, Randall 0661
Griffith, Warren E 0922
Haan, Philip J 0193
Harman, Walter D 0890
Harris, William K 0906
Hartley, Robert K 0079
Harvey, Thomas H Jr 1095
* Helton, Robert E 1249
Hruby, Dale E 0989
Hutton, Paul C III 1023
Jolley, Charles A 0600
Kidwell, Walter E 1167
Kolasheski, Richard 1181
Ledford, Jerry G 0314
Lehmann, John F 0086
Mahler, Michael D 1055
Malloy, Shaun T 0586
Martin, Don Jr 0977
Massey, Lee T 0863
Matthews, John B 0892
Maxson, Stanley A J 1073

McCracken, James A 0420
McDonald, Larry P 1140
Milburn, George B 0710
Moscatelli, Robert 0978
Myers, James A 0842
Natale, Matthew M 0729
Nelsen, Ronald L 0375
Nelson, Maynard L 0132
Nelson, Turner L 1200
Oldinsky, Frederick 0499
Phillips, Johnny A 0414
Powell, Benjamin B 0504
Prichard, Johnnie R 0538
Rafferty, James R 0587
Robinson, William A 1168
Russell, Richard R 0251
* Schlieper, David P 1221

Schmidhuber, David 0708
Schneider, John W J 1064
Schurtz, Gerald P 0999
Tait, Thomas H 0216
Thompson, David E 0243
Thompson, Richard A 0805
Tipton, James A 0731
Toye, John E 0376
Tredway, Robert N 1053
Wagg, Robert A Jr 0310
Wickware, Argle W 0099
Winger, Norman 0543
* Wolfe, Rodney D 1224
Wollerton, Charles 0929
Wulff, Roy A 0701
Zach, Alan R 0150
* Zierdt, William H III 1296

ARMOR BOX SCORE

OVERALL

	CONSIDERED	SELECTED	% SELECTED	SECONDARY ZONE SELECTED
Armor	124	68	54.7	8
Army	1781	969	54.4	107

FIRST TIME CONSIDERED

	TOTAL	SELECTED	% SELECTED
Armor	89	63	70.8
Army	1126	871	77.4


ARMOR AVIATORS

	CONSIDERED	SELECTED	% SELECTED	SECONDARY ZONE SELECTED
Overall	34	30	88.0	3
First Time	31	29	93.0	—

Keep Those Caissons Rolling

by General Bruce Palmer Jr.

How is the Army doing? Analyzing public opinion, morale, discipline, drug abuse, military justice and professionalism, Vice Chief of Staff General Bruce Palmer Jr. answers this relevant question through a dynamic, historical perspective which enables one to understand the present and visualize the future.



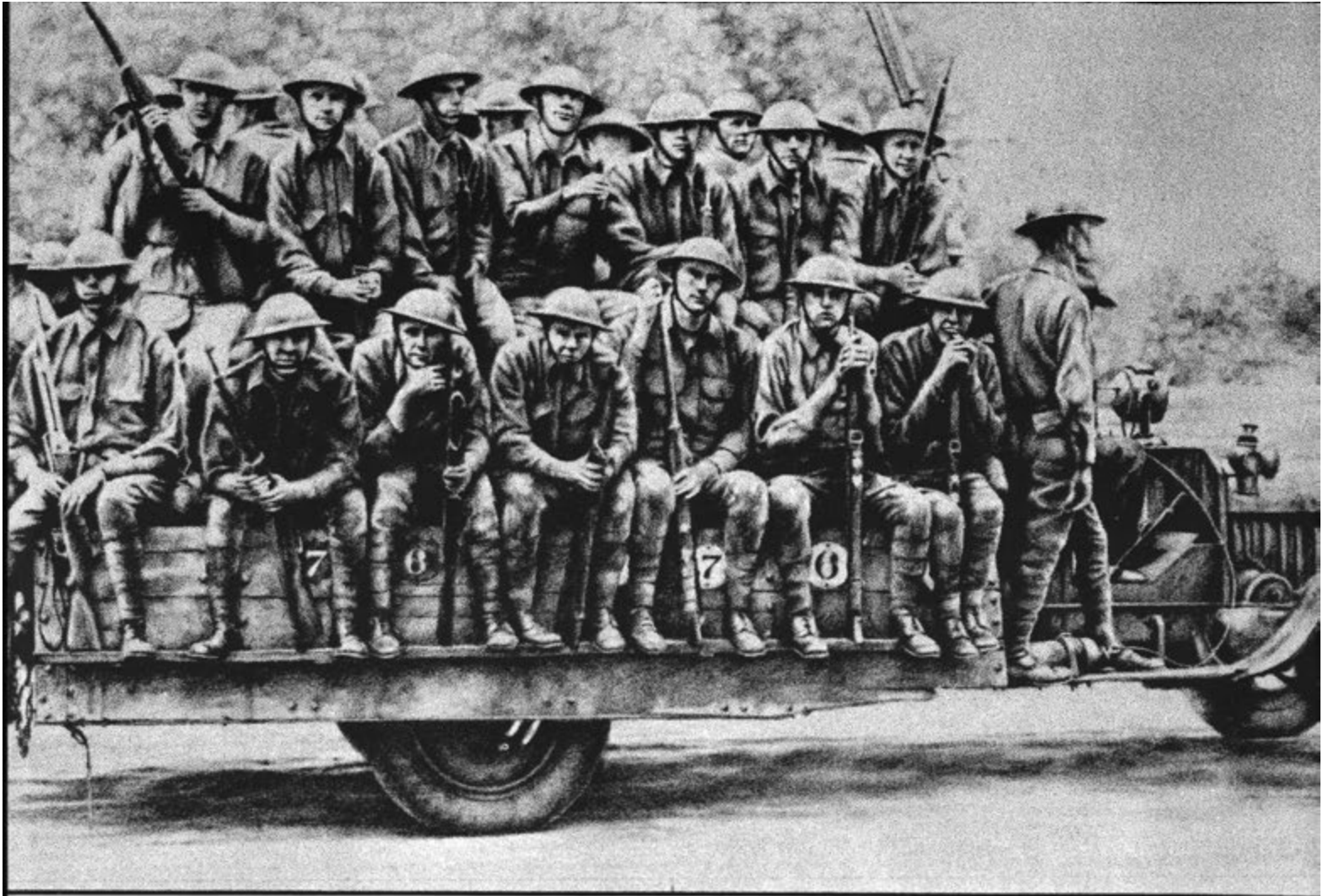
THIS article is the result of a recent challenge—at least I took it that way personally, although it has since occurred to me that I might have been “slickied” into this by an astute and clever challenger. My challenger and “needler” said this: . . . Our younger leaders—and here I mean the young NCOs, the lieutenants, the captains, the majors in whose hands lies the fate of the United States Army of the future—are looking to their seniors for intelligent discussion of and suggested . . . solutions to the challenges facing the military today. They seek not corporate, staff-produced, faceless dogma served up in regulations and manuals. On the contrary, they thirst for the very human thoughts and lively writing of those whom they recognize as having the experience and wisdom to point the way to thinking through the problems. . .

Moreover, it seems . . . that the field of strategic writing is now largely pre-empted by the Kissingers, Kahns, Strauss-Hupes and other civilians. Where are the Mahans, Fullers, and Steeles?*

Why are all too many articles on leadership as well as strategy which are authored by military men written by those who are retired?

My colleagues . . . join the disappointment of having too few inspiring and challenging articles by active duty people. . . . The Army has everything to gain by having available for study more hard-hitting articles by people on the firing line who are the acknowledged military leaders of today and tomorrow.

As I mulled over these remarks, I recalled the provocative article some months



ago in *Army* by retired General "Ham" Howze on military discipline in the US Army, and the explosive rejoinder (also published in a later issue of *Army*) by Major General George Putnam, then commanding general, 1st Cavalry Division in Vietnam. The Howze piece had sent my blood pressure up—Putnam's rebuttal put things in better perspective. I thought of the various reasons I had sold myself on for not writing such articles: "too busy—no time to write," "reasons of security," "problems of getting something cleared for publication," "personal opinion versus official policy," and so on. It finally occurred to me that these were excuses not reasons. Anyhow, I took the bait and here goes. I don't pretend to be a Mahan or claim to be a "junior Clausewitz." If the reader objects to my inflicting these thoughts on him, I only ask that he put the blame squarely on my tormentor—the author of the above quotes.**

Since I want to write about the Army in general—perhaps as an institution—I chose as a title "Keep Those Caissons Rolling," a phrase taken from that most famous of old Army songs—The Field Artillery Song.

**The reader may be interested to know that the Army, in an effort to uncover and develop such talent, has initiated the Army Research Associates Program. Outstanding field grade officers with a master's or doctor's degree in national security and international affairs disciplines study at a civilian institution and attend certain seminars at the Army War College in lieu of resident attendance at a Senior Service College. Five lieutenant colonels (three Field Artillery, two Infantry) are in the program for academic year 1971-72.*

***Colonel O. W. (Sonny) Martin Jr., former editor of ARMOR Magazine, in remarks made at the Armor Association Luncheon held in his honor at Fort Lesley J. McNair on 1 July 1971.*

My approach is primarily one of a professional talking to other professionals. I've always felt that civilians were a better voice—at least a more objective voice—in defining and defending the role of the military in our society. On the other hand, I believe that in his own field the professional need not take his hat off to anyone. And so my target is basically an internal Army one, although who knows but what readers outside the military may pay some heed!

By the way of introduction, I'm an "Army Brat," following in the footsteps of something like five generations of regular service. There are those who might say that's five too many! In fact, my mother thought so, too, and did her best to dissuade me from a military career. But she failed and here I am: the product of an Infantry grandfather (Civil War—Medal of Honor, Indian Campaigns of the West, Spanish-American War) and a Cavalry father (Spanish-American War, Mexican Punitive Expedition, World War I). I started out with the Cavalry (Horse, Mechanized, early Armor) and much to the disgust of my old Armored Cavalry friends, ended up in the Infantry.

However, I figure that Infantry blue plus Cavalry yellow when thoroughly mixed makes Army green. This is how it should be. The heart and soul of any

especially useful for the military professional. It is an unfortunate truth that few people can or will learn from history. Nevertheless, we need both a historical perspective and a good grasp of the present if we wish to visualize the future.


The antimilitary feeling we see in some quarters today is hardly a new phenomenon for the US Army. In the past it has taken different forms, often subtle, but it has been there nevertheless—sometimes quiescent, lurking in the shadows, so to speak. As professionals, we should remind ourselves that this is an American characteristic. As a people, we are not militarily inclined but rather quite the opposite, and the tradition of firm supreme civilian control of the military runs deep in our American psyche.

I recall my father telling me about an incident that occurred to him in Washington shortly after World War I. Then on duty with the Army General Staff as a lieutenant colonel, he made the mistake of going in uniform to listen to the Senate debate the National Defense Act of 1920 which grew out of our World War I experience. A certain senator spotted my Dad in the gallery wearing the old high collar Army blouse with rather large General Staff Corps insignia on it. The senator pointed his finger and roared, "And there is one of those dangerous militarists of

Army are the combat arms of maneuver—infantry and armor—whose actions decide the issue on the battlefield. All other arms and services exist only to support these fighting arms which ultimately must close with the enemy.

My current credentials stem from my job as Vice Chief of Staff. With three years on the job, I now hold the dubious record of longer tenure than any predecessor. Nevertheless, that post is a unique vantage point, providing an overview of the Army from a Washington perspective with insights as to how others see us at OSD level, in the joint arena, in the State Department and other government agencies, and on Capitol Hill.

One of the most frequent questions asked me by people in and out of the Service is "How is the Army doing?" The question reflects a basic and genuine concern on their part. In answering the question, I try to put any contemporary analysis in some kind of historical perspective, feeling that this can help to interpret the often puzzling aspects of the present scene. In this connection, I am a firm believer in the importance of studying history, which I feel is



the General Staff grinning and leering at his civilian superiors; I wonder what he is plotting?" The good senator then returned to his speech—a general tirade against the danger of letting the military get out of control. My father, innocent of any ulterior motive other than curiosity and interest, slunk out of the Senate Chamber—a wiser man. Mind you, the United States and its Allies had just won World War I, and "the Yanks" were presumably still popular. But, my Dad realized that the honeymoon was over. Shortly thereafter, a policy was established that military personnel on duty in Washington would wear the uniform only once a month. This wasn't just a low profile; it was a blending into the background, unnoticed if not unseen.

Those days between World Wars I and II were lean ones for the US Army. Neglected and forgotten, the Army tended to withdraw from society. Scattered at coastal installations and old frontier posts all over the United States as well as small overseas garrisons—in China, the Philippines, Hawaii, and Panama, the Army numbered only about 100,000 men. The fighting elements of the Army could have been stationed entirely at one of today's large posts such as Fort Bragg or Fort Benning. Weapons and equipment were almost antique. For many junior officers and enlisted men, promotion wasn't just slow; it simply didn't exist. Numerous people found themselves first lieutenants for 17 years; the lucky ones who had made captain or even major remained so for 12 to 15 years. In some respects, the elite of the Army was not the ground combat arms or the Air Corps, but the Coast Artillery with its mission of harbor defense in the United States and its overseas possessions. It had the best posts and quarters world-wide. A separate Army within the Army, the Coast Artillery had its own adjutant general and published its own orders.

But despite the boredom, stagnation, and lack of challenge and incentive, the Army, much to its credit, maintained its professionalism and code of ethics throughout the 1920s and 1930s. Although badly outclassed in a materiel sense and small in size, the Army was first rate in professional thought and study, primarily through the means of a well-conceived and brilliantly-staffed school system. Likewise at unit level, the Army was blessed with truly professional officers and noncommissioned officers who knew their men and how to lead them. Thus, the



small Regular Army was able to furnish talented and competent cadres for the hundredfold expansion which occurred in World War II.

In September 1939, when the Germans invaded Poland, the life style of the United States was changed forever. Thrust into an unfamiliar role of world leadership at that time, we nevertheless accepted the responsibility and thereby the inevitable consequences. We are now in our thirty-second year of this immense responsibility. We cannot escape our destiny nor can we now turn the clock back. The only alternative to continuing our role as leader of the Free World is the road to oblivion traveled by Rome and similar great civilizations of the past. The ultimate outcome is up to our people.

Nor can the US Army ever return to its gracious, withdrawn, introspective world of the past. We must remain in the mainstream of American life and mores. We are now a vital part of our Nation's forward defenses, with strong, ready active forces backed up by improved Reserve Component Forces. Forward deployments in vital areas and ready strategic Reserves based in the United States constitute a viable alternative to a defensive, peripheral Fortress America strategy—a modern day Maginot Line psychology which can lead only to an isolated, out-numbered, friendless homeland with a cheerless future.

But what about the Army of today—how are we doing? What is the state of morale and discipline?

If we examine the traditional indicators—such things as AWOL/desertion rates, court-martial rates, offenses and the like—we find that they are quite similar to those experienced at the end of World War II and after the Korean War. Today, however, there are other factors which are quite new and different:

- An exceptionally long and unpopular war in Vietnam.
- A drug problem—hard drugs in particular—which has exceeded all previous experience.
- Murder and attempted murder—the so-called “fraggings”—perpetrated against our officers, noncommissioned officers and other ranks in Vietnam. In the numbers experienced, this has been a new phenomenon.
- Dissent by individuals in the Service and organized subversion directed against the military evidenced, for example, by numerous underground newspapers. These efforts have likewise exceeded all past experience.
- An awakened pride and consciousness on the part of our Black Americans resulting understandably in heightened racial tension.
- The impact of accelerating social and technological change—what Alvin Toffler has called “Future Shock.”

A forthright answer to the original question posed is that we do have serious disciplinary problems in the Army. Not only do we have the normal letdown which occurs towards the end of a war and the lowered standards of performance associated with a rapid expansion of Regular Forces, but all this is compounded by the aforementioned inter-

related factors. This is not to say, however, that the Army has “gone to hell in a handbasket” or is disintegrating in Vietnam as some press alarmists and critics would have us believe. This is simply not true. The great bulk of evidence shows that our troops in Vietnam continue to carry out their missions, combat or otherwise, in an effective manner. In Europe, Berlin, Korea, Panama, Alaska and elsewhere, the US Army has continued to operate despite formidable obstacles. In my opinion, this is largely due to the great wealth of talented, even brilliant leadership that exists in the career Army today. No other Army in the world could have come through the ordeal of severe strain and constant high pressure endured by the American Army over the last three decades.



What have we been doing about the special problems that exist today? For at least three years or even longer, we could see these problems pounding down upon us as time went by and there was no quick or easy solution to Vietnam. Recognition, of course, is the first essential step to problem solving and we have tried to meet identified problems head-on. Sometimes there is a natural tendency



in any proud organization, civilian or military, to show disbelief when confronted with unpleasant facts; the Army is no exception. However, except for the drug problem, I believe that the Army has a pretty fair track record. We were slow in recognizing the hard drug problem in Vietnam; it crept up on our blind side. I don't pretend to know all the reasons why but it nevertheless happened.

On the other hand, I do not subscribe to the thesis that the hard drug problem in America stemmed from our soldiers in Vietnam. This is utter hog wash. The United States had such a drug problem long before it broke out in Vietnam.

The military services are rapidly moving out on the drug problem and I believe we'll have a reasonably good handle on it in the near future. Indications

are that our planning estimates concerning heroin addicts are high and, hopefully, this will be validated as we broaden our reliable survey mechanisms worldwide. This is only the beginning; rehabilitation is not an answer. A massive and effective educational program for all Americans and a relentless campaign against the sources and distributors will help bring an end to our worries. But we must also get at the basic reasons why a soldier turns to drugs in the first place; boredom, escape and peer pressure seem to be major factors.

At least two years ago, General Westmoreland personally recognized the rebuilding job that would be required for the Army once the Vietnam War was behind us. He started a deliberate campaign to raise our standards of professionalism, to revitalize our leadership wherever needed, and to improve the quality of our people. This campaign has been gathering momentum ever since. It is not a one-shot affair and must be recycled as necessary. Concurrently, we recognized that the lack of personnel stability and the incredible turnover rate, not to mention a chronic state of understrength in TOE units, were basic enemies that had to be eliminated first. We are making headway in stabilizing key command and leadership positions, both officer and non-commissioned officer. In about another year we should be out of the woods. Considering all things together, I believe that we bottomed out during the winter of 1970-71 and that we have been on the upswing ever since.

Some of our problems are self-inflicted or at least in part self-generated. One general area concerns military justice where I feel at least part of the problem lies in our own ignorance of the legal system created by the Congress. Too often people complain of things about which they lack fundamental knowledge. If I am wrong, I will be glad to stand corrected when presented with documentary evidence to the contrary. Specifically, I refer to such allegations that military judges are too easy in adjudging sentences in comparison to courts-martial.

Two different division commanders made such complaints last year. However, upon reviewing the facts using data provided by the division, I discovered (to the dismay of these commanders) that the opposite was true and that any fault lay with the courts not the judges. Moreover, recent surveys in Vietnam and Europe indicate that a good part of the problem may lie at the junior officer level. One major



conclusion of these surveys is that company grade officers are not up to speed on the present military justice system and that an Army-wide comprehensive program of instruction is in order. This is being undertaken.

Unfortunately, the problem doesn't end there. The significant point is that many officers, rightly or wrongly, believe that the system of military justice is not working effectively and feel that disciplinary actions initiated at lower levels are not backed up by higher headquarters. No doubt there is a certain amount of validity to these statements. In any event, it behooves us all to line up squarely behind the small unit commander and leader, officer and non-commissioned officer, who in the final analysis uphold fundamental standards of discipline. Murder or attempted murder in the form of fraggings must be dealt with swiftly, positively and visibly. Threats and intimidations against those in authority cannot be tolerated and again must be met with equal firmness. No military organization can compromise on this basic principle and remain viable.

If an Army is to be a great Army, however, it must have more than professionalism, a code of ethics, high morale, and a strong sense of discipline. It must have **PRIDE**—the right kind of pride—in its country and people, in itself, and its future role

been. If we don't want to recognize this or can't understand it, then we are not true professionals.

But most importantly, we must realize that we have enormous achievements to be forever proud of and very little to be ashamed of. The record since World War II clearly documents this assertion. The Greek Guerrilla War and the Berlin Blockade started us on a new era of selfless service, faithful obedience and unselfish sacrifice. The frustrations of the Korean War were balanced by the build-up in Europe which created Seventh Army—the most powerful US fighting force ever assembled in other than time of war.

Our doubts about Korea have long since dissipated in the light of today's fabulous success story on the part of that post-war Republic. Japan is emerging from the post-war period, destined to be the power center in the Pacific. We are returning Okinawa to Japan in a far more progressive state than it enjoyed as a part of the Japanese Empire before World War II. Truly, we can take great pride in the part played by the US Army in building a strong, healthy North-east Asia.

Likewise, in Europe, our role in NATO has been a profound and basic one. Western Europe is vibrantly alive today with an increasingly bright future. We need only to maintain a solid NATO front to keep it that way.

and importance. Here, we professionals of the American Army—young and old—must watch any tendency to be bitter or feel sorry for ourselves. We must not withdraw from the real world, but on the contrary, we must constantly feel the pulse of our people. We must be philosophically mature enough to recognize our unchanging role and lot in the American scene for what it is and always has



In the historically strategic Caribbean area, vital to the security of our home base in the Western Hemisphere, we can take only pride in the key role played by the Army in the 1960s. Rapid, efficient reaction during the Cuban crisis and the highly successful blocking of a Communist takeover in the Dominican Republic helped maintain precious stability in this potentially explosive area.

In Southeast Asia, we need make no apologies, but can only take pride in the Army's performance. Five successive US Presidents could have opted out of Vietnam, but did not. The Army was asked to achieve limited objectives in a limited way; the military response can simply be categorized as magnificent. No country ever asked its Army to do more; no Army ever responded so dutifully and loyally. What more can an Army do for its country—grateful or not?

It can be truly said that wherever the US Army has stood in the last three decades, the fortunes of the Free World have been preserved for the future. What greater aspirations could a professional Army hold?

And so to you young professionals—the high command of the future—I say that the American Army of Tomorrow depends on you. How you use your talents, the philosophy that you adopt, your outlook towards your country and your people, your perception of your role: all these things will pro-

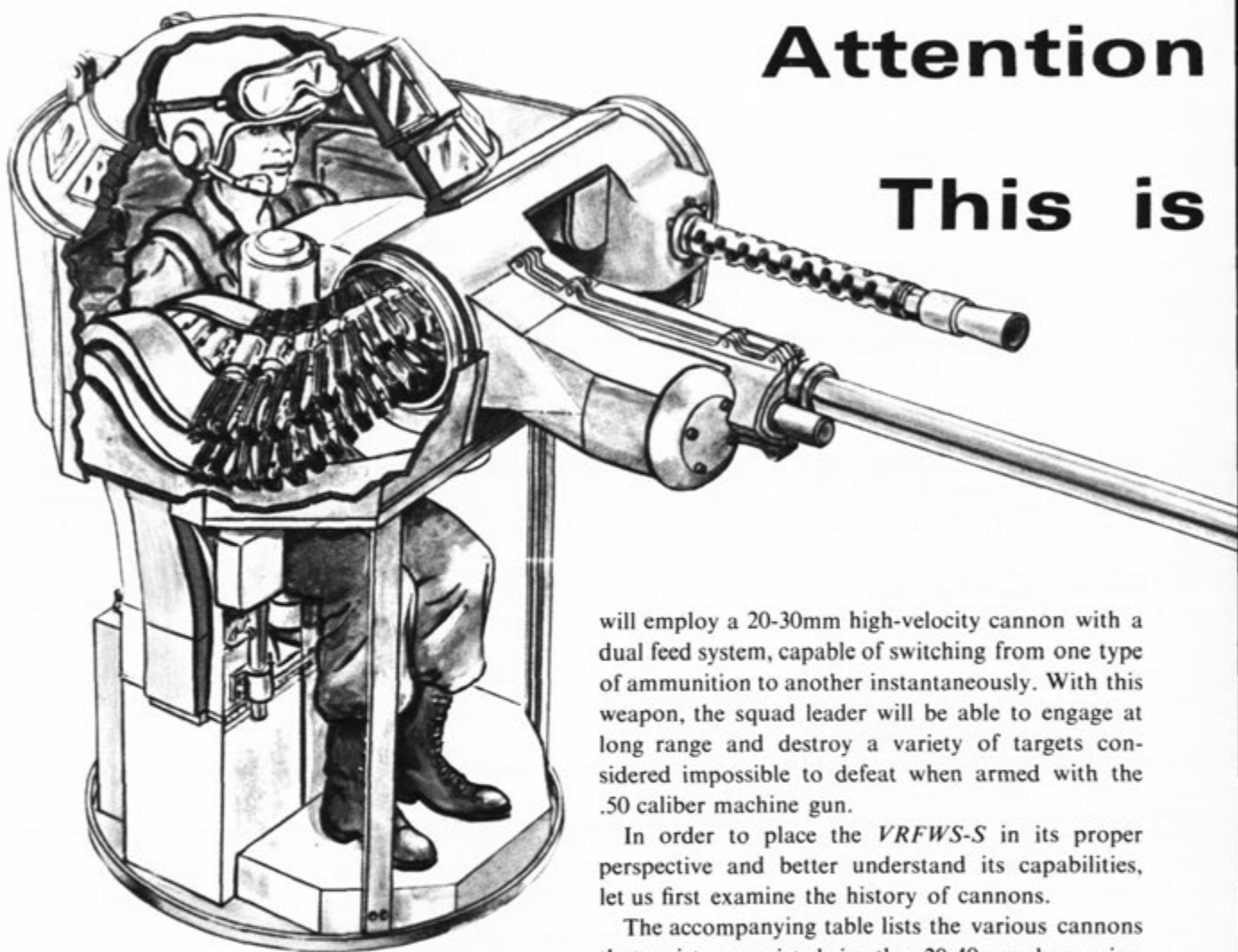
foundly influence the shape of things to come. For the present, we all need to focus on three things: restoring a high degree of professionalism; enhancing military life as an honorable and desirable career; and rededicating ourselves to the principles of integrity and strength of character. Given the wealth of human resources in the American Army today and the potential for tomorrow, I for one believe that our future will take care of itself.



GENERAL BRUCE PALMER JR. graduated from the United States Military Academy in 1936 and was commissioned a second lieutenant in Cavalry. He was promoted to four-star rank on 1 August 1968 and appointed Vice Chief of Staff of the Army. General Palmer is currently serving as first vice-president of the U.S. Armor Association.



The Vehicle Rapid Fire Weapon System-Successor (*VRFWS-S*) will provide mechanized infantrymen with outstanding firepower against an enemy.



Attention This is

will employ a 20-30mm high-velocity cannon with a dual feed system, capable of switching from one type of ammunition to another instantaneously. With this weapon, the squad leader will be able to engage at long range and destroy a variety of targets considered impossible to defeat when armed with the .50 caliber machine gun.

In order to place the *VRFWS-S* in its proper perspective and better understand its capabilities, let us first examine the history of cannons.

The accompanying table lists the various cannons that exist or existed in the 20-40mm bore size. Examination of the table clearly shows that the primary use of high-velocity cannons has been in the aircraft and antiaircraft roles.

The first mounting and firing of a cannon from an airplane occurred in July 1913 when Vickers Ordnance Company placed a two pound cannon on a biplane. At the same time, Bethel Abiel Revelli began work on a 25.4mm cannon weighing 99 pounds; Reinhold Becker of Germany designed a 20mm with a rate of fire of 400 rounds per minute; and Seebach Maschinenbau Aktien Gesellschaft (Semag) of Zurich, Switzerland, introduced a long-barrelled 20mm which was used as an infantry gun.

The United States became interested in cannons in 1918 when the United Shoe Machinery Company of

“GUNNER, HE, Antitank! . . . Identified! Fire!” Although that sounds like a tank gunnery fire command, it could be a future mechanized infantry squad leader employing the Vehicle Rapid Fire Weapon System—Successor (*VRFWS-S*) which will be the primary armament of the Mechanized Infantry Combat Vehicle (MICV). The MICV will be available for issue to the field within the decade, and its weapon system will contain a variety of ammunition.

For years the infantrymen of mechanized units have used the old .50 caliber machine gun to support their movements. In the near future, the infantryman

mechanized infantrymen: your gun!

by Major Robert W. DeMont



Beverly, Massachusetts, agreed to produce two 37mm Puteaux cannons for US Army evaluation. The guns were successfully tested in November 1918. However, by that time World War I was over, there was little need for them and the project was dropped.

In 1919, A. S. Baldwin's 37mm automatic cannon, similar to the Puteaux and Vickers weapons, was test fired. John Browning examined the gun and said, "Where do they put the bait? This thing surely is some kind of a rat trap as it can't possibly be an automatic gun." In 1921, the Army Ordnance Department, undoubtedly mimicking Mr. Browning, cancelled the project.

In 1928, the Hotchkiss 25mm cannon was developed in France. It fired an armor-piercing projectile through 1½ inches of armor plate at 700 meters and ¾ inch at 2,000 yards.

There was a strong reaction against any kind of weapon development in the nation between the

World Wars, so therefore weapons were being produced for other countries.

The first American venture into large caliber cannons was the introduction of Mr. Browning's 37mm in 1935. It had previously been built by Great Britain and Spain. The weapon weighed 313 pounds without feeder and had a 65-inch barrel firing at a muzzle velocity of 2,000 feet per second.

In 1936, the Oerlikon cannons were tested at Aberdeen and Dahlgren Proving Grounds as antiaircraft guns. The United States had been experimenting on defense against low flying attack planes after World War I but had not produced anything remotely resembling an automatic cannon. The United States copied the 20mm Oerlikon automatic aircraft cannon and produced it for the US forces and Great Britain.

During the 1940s, Antoine Gazda offered the American government an opportunity to evaluate a 23mm gun and drawings. This gun was similar to the Becker and Oerlikon guns, which had been in production since 1918. After much correspondence, the Gazda gun project was dropped.

During World War II, the Germans produced thousands of Rheinmetall 20mm cannons which fired automatically and semi-automatically as an antiaircraft and antitank gun. Remembering the introduction of the tank by the British during World War I, the Germans felt that an adequate antitank gun should be in their possession. The *MK-18-1000* semi-automatic gun was their answer. It was fired from the shoulder and could penetrate 1½ inches of armor at 350 yards.

The latest cannon to be placed on vehicles, and the first high-velocity cannon of its sizes to be mounted on a US Army ground combat vehicle, is

CANNONS

Weapon	Bore	Country of Origin	Use	Weight of gun and feed (in pounds)	Muzzle velocity (ft. per sec.)	Rate of fire (rpm)
American Armament	37mm	USA	A	250	1,200	50-60
Baldwin	37mm	USA	A	140	1,320	120
Becker	20mm	Germany	A	66	1,570	300-350
Bofors	20mm	Sweden	A	84	2,750	650-700
Bofors (Twin)	40mm	Sweden	A-A	2,300	2,890	260-300
Breda	20mm	Italy	A	148	2,760	200-220
Browning (M4)	37mm	USA	A	248	2,000	135
C. O. W.	37mm	England	A	140	2,000	60
Ehrhardt	20mm	Germany	A	160	2,200	250-300
Flak 18 (Rheinmetall)	37mm	Germany	A-A	595	2,520	160-180
Flak 30 (Rheinmetall)	20mm	Germany	A-A	141	2,950	200-280
Flak 38 (Mauser)	20mm	Germany	A-A	123	2,950	420-480
Furrer	20mm	Switzerland	A	98	2,920	650-700
Gazda	20mm	Switzerland	A	102	2,750	1,000
Hispano-Suiza (820)	20mm	France	A	145	3,400	800-1,000
			V			
			A-A			
Hotchkiss	25mm	France	A	164	2,700	150-180
Lahti	20mm	Finland	A	84	2,750	450-500
Lubbe	20mm	Germany	A	107	2,650	360
			A-A			
Madsen	23mm	Denmark	A	115	2,250	350-400
MG-151/20						
(Mauser)	20mm	Germany	A	93-1/2	2,590	700-750
MK-101 (Rheinmetall)	30mm	Germany	A	335	2,950	230-260
MK-103 (Rheinmetall)	30mm	Germany	A	308	2,820	420
MK-108 (Rheinmetall)	30mm	Germany	A	135	1,640	400-450
MK-ST-11						
(Rheinmetall)	20mm	Germany	A	118	2,250	350-380
Nine Tenths (T2)	Col. .90	USA	A	313	2,850	400-450
Oerlikon 204 GK	20mm	Switzerland	A	200	3,450	800-1,000
Polsten	20mm	England	A	121	2,720	450
Puteaux	37mm	France	A	198-1/2	1,250	60
Revelli	25.4mm	Italy	A	99	1,320	150
Semag	20mm	Switzerland	A	94.6	2,100	350
			A-A			
Scotti	20mm	Italy	A	156	2,650	350-400
Solothurn	20mm	Germany	A-A	142	2,505	280
Szakats	20mm	Germany	A	91	1,500	400-450
TRW 6425	25mm	USA	V	150	4,800	540-600
Vickers Armstrong	37mm	England	A	150	2,000	150

A—Aircraft
A-A—Anti-Aircraft
V—Vehicle

the Hispano Suiza *HS820*. This gun has been criticized for its poor reliability and the controversial circumstances surrounding its purchase from West Germany. Few people know that a similar 20mm automatic gun, *AN-M2*, designed by Hispano Suiza, was manufactured by Bendix Aviation Corporation, General Motors Corporation, IBM and International Harvester, and that approximately 135,000 weapons were produced in this country mainly for use in the antiaircraft role. The *M1*, *M2* and *M3* designed guns fired a 2,000 grain projectile at about

2,750 feet a second. The present *HS820* is mounted on an *XM27* cupola on the *M114* command and reconnaissance vehicles, which are performing reconnaissance missions in European or European-oriented mechanized units.

Recognizing the potential enemy threat and the requirement to implement mounted combat, the US Army will ask industry to produce a cannon competitively which will meet its requirements. The Request for Proposal should be released this year, and there are several firms which will probably enter the



VRFS-S competition. A few of these could be General Electric, Oerlikon, Hispano, Thompson Ramo Wooldridge, Inc. (TRW), Colt, Philco Ford, Maremont/Rheinmetall and Aircraft Armaments, Inc. (AAI).

TRW has had its candidate for the competitive firing under design since 1964. The gun was tested in 1965 against a variety of targets ranging from 1 inch steel armor plate and 1.25 inch aluminum armor at 60 degrees obliquity, to sandbag and concrete emplacements. The gun with dual feeder, built-in charger and firing solenoid weighs less than 150 pounds. It features a dual feed selector for either of two kinds of ammunition, such as high explosive and armor-piercing. The armor-piercing discarding sabot-traced (APDS-T) projectile can be fired at 4,800 feet per second, thus permitting it to travel 1,000 meters in .76 seconds. Because of the high velocity, the first round hit probability is very high. It is claimed that the TRW gun has a greater than 80 per cent first round hit probability at 1,000 meters. The APDS round will penetrate 1 inch of steel at 60 degree obliquity at 1,000 meters, while the HE round, which weighs 1.15 pounds and is about 8.8 inches long, can penetrate 2 inches of pine with 148 fragments.

The *VRFS-S* will provide the standoff required to defeat the enemy whether they are in aircraft, on the ground, or in armored vehicles armed with 14.5 mm, 23mm or 30mm guns. The *VRFS-S*, with

its high accuracy, first round hit probability and punch at the target, will provide the mechanized infantry squad leader with firepower at his immediate call matching nearly anything the enemy throws at him. Learn all you can about this gun because, "Mechanized infantrymen: This is your gun!"



MAJOR ROBERT W. DeMONT, Armor, is a 1959 United States Military Academy graduate. Following completion of the Armor Officer Basic Course, Ranger and Airborne Courses, he spent three years with the 2d Armored Cavalry Regiment serving as a tank and reconnaissance platoon leader, troop executive officer and troop commander. Upon completion of the Armor Officer Advanced Course, he was assigned to the Armor and Engineer Board as a test officer. During two tours in Vietnam, he was an ARVN cavalry staff advisor, tank company commander, G3 staff officer, 11th ACR base camp commander and S3, 3/11 ACR. Between tours, Major DeMont was a project officer at the US Army Combat Developments Command, Infantry Agency, and is currently attending the Command and General Staff College.

The Army National Guard and Reserve, supplied with the latest in weapons and equipment, are moving to fill the gaps left by a diminishing Active Army. In doing so, they are attaining a greater degree of readiness than ever before, short of mobilization.

Active Army, Guard and Reserve Make ROUNDOUT a Success

by Lieutenant Colonel William V. Kennedy

ONE of the most significant training programs developed by the US Army in the past decade is in full-fledged operation at Fort Hood, Texas.

The term US Army as used here is the Army of World Wars I and II, of the Korean War, and of the 1968-70 phase of the war in Vietnam. It includes units and individuals of the Regular Army, the Army National Guard, the US Army Reserve, and those inducted under Selective Service.

"Roundout" had its beginning a decade ago in a decision to organize the then 1st and 2d Armored Divisions with eight maneuver battalions each. This left each division short two tank battalions and one mechanized infantry battalion. This action was taken with the intent of supplying the missing battalions from the Army National Guard and the US Army Reserve.

Where these six battalions were to come from remained vague throughout the 1960s. During the latter part of that period, however, it became obvious that the Active Army was headed into a period of severe retrenchment without a corresponding reduction in commitments. Each remaining unit of the Active Army acquired, therefore, even heavier responsibilities than had been the case in the past. Equally obvious was the fact that the reduced Active Army could not carry these responsibilities alone. Part of the load had to be shifted to the Army

National Guard and the US Army Reserve. This implied the attainment of a greater degree of readiness in the Army Guard and Reserve land combat forces than ever had been achieved short of mobilization.

The shortages in their organizational structure provided a concrete example of the problem that will confront the entire Army in the years ahead. The armored divisions were, therefore, the logical place to begin to seek a solution to the complex, closely related problems of force structure and Reserve component readiness.

There were other cogent reasons why the search for a solution should start at Fort Hood. The post is located in a region with a truly great military tradition, reflected in the quality and esprit of the National Guard and Reserve units located in the area. Among these is the 49th Armor Group of the Texas National Guard with home station at Fort Worth. Assigned to the group are the 2d and 3d Battalions of the 112th Armor. The group and its battalions are heirs to the former 49th Armored Division. As such, they retained significant residual experience from the division's year of active duty during the Berlin Mobilization, 1961-62. Both tank battalions are housed in armories of recent construction. Both have access to large local training areas. Located within a few hours road march of Fort

ONE ARMY



Hood, they have had access for many years to the post's excellent Armor training facilities. The commanding officer of the group is Colonel John L. Waldrup, whose full-time job is that of training officer in the Headquarters of the Texas Army National Guard.

In July 1969, Lieutenant General William R. Peers, chief of the Office of Reserve Components (CORC), Department of the Army, got underway a 10-point improvement program designed to produce the level of Guard and Reserve readiness necessary to support the total force concept stated in memoranda by the Secretary of Defense and the Chief of Staff of the Army. Total force implies an integration of Active Army, Army Guard, and Army Reserve capabilities and resources previously achieved only in time of grave national emergency.

The 10 points address all of the most crucial problems with which the Army Guard and Army Reserve have been struggling for decades. The point with which we are concerned here is "Readiness and Deployability." The purpose sought in this area is "to achieve the highest attainable levels of training and readiness in order to deploy in the shortest possible time."

A series of subprograms was developed to translate the broad concepts into specific actions. Roundout is Subprogram A in the CONARC Program for improving readiness of Reserve component units. It is designed, according to CORC, "to determine, and to evaluate, the degree of readiness gained from Active Army sponsorship and support to units . . . alongside of and cross attached with Active Army units."

In effect, Roundout was to be an application of the gaining command concept. This is an arrange-

ment worked out between the Air Force and the National Guard Bureau in the 1950s by which the training of Guard and Reserve units is supervised by the command they will join upon mobilization. The gaining command is responsible for the administration of operational readiness inspections to insure that the standards prescribed by the Regular Service are being met.

Roundout got underway with a Continental Army Command message to what was then Fourth US Army, designating six battalions of the Army National Guard and the US Army Reserve to round out the 1st and 2d Armored Divisions to their full allocation of armor and mechanized infantry battalions. The six battalions were as follows:

- 8-40 Armor, Tucson, Arizona (USAR)
- 2-112 Armor, Texas ARNG
- 3-112 Armor, Texas ARNG
- 3-117 Infantry (Mech.), Tennessee ARNG
- 1-123 Armor, Kentucky ARNG
- 1-184 Infantry (Mech.), Missouri ARNG

All of the battalions were selected because of home armory, local training area, and generally favorable readiness conditions approximating those of the Texas units. All were directed to complete their annual training at Fort Hood under the supervision of the armored divisions. All were to achieve a level of readiness that would enable them to meet the deployment schedule of the division with which they were to be associated. Command and administration would remain with their home state or Army Reserve Command (ARCOM). Direct coordination was authorized with the armored divisions to produce the desired degree of training progress. Attainment of this coordination is the responsibility of

Continental Army Command, Fort Monroe, Virginia; Headquarters, Fifth US Army, Fort Sam Houston, Texas; III US Corps, Fort Hood; and the headquarters of the divisions.

The first meaningful training activities began in the summer of 1969 when the then 1st Armored Division provided familiarization training with the *M60A1* tank, the *VRC12* family of radios, and ground surveillance radars to the units of the 49th Armor Group.

In the fall of 1969, 2d Battalion, 112th Armor, began an ambitious program of weekend training at Fort Hood, to include service firing. It became apparent very soon, however, that the best of intentions could not overcome equipment limitations, and time and distance factors unless significant additional support was to be provided.

An assessment of these factors took place during the ensuing months. An improved level of coordination and support was achieved during the 1970 annual training period. Early in 1971, the first increments of the needed additional support began to materialize. Included were additional full-time

Guard and Reserve technicians, mobile training team visits from the Active Army divisions to home armories of the Roundout units, and participation of Roundout staffs in Active Army command post exercises.

In the late winter and spring of 1971, significant quantities of new equipment began to flow into the Roundout unit armories and equipment pools, replacing the *M48s* and the old Korea-era family of radios.

During this same period, what had been the 1st Armored Division was redesignated the 1st Cavalry Division and assigned the challenging TRICAP mission. The division already was a principal supporting unit for the equally demanding MASSTER.

The training objective set for the Texas and Arizona Roundout units during the 1971 annual training period was attainment of company-level proficiency, this to be verified by means of Army training tests administered by the Active Army. Because they had come into the program somewhat later, the Missouri, Tennessee and Kentucky units were to be tested at platoon level.



Considering their commitments and their high rate of personnel turbulence, this placed a heavy burden on the two Active Army divisions. Despite this, both divisions turned in a remarkable performance.

When the 49th Armor Group and the 1st Battalion, 184th Infantry, began their 1971 annual training at Fort Hood on 31 May, they were hosted by the entire 1st Brigade, 1st Cavalry Division.

Colonel John C. Faith, commander of the 1st Brigade, and Colonel Waldrip of the 49th Armor Group, formed a joint control center combining their respective S2, S3 sections. To support this operation, Colonel Faith established a full tactical operations center (TOC). Similar arrangements were made at battalion level. The 2d Battalion, 13th Armor, of the Active Army supported the 2d Battalion, 112th Armor, of the Guard; the 1st Battalion, 81st Armor, supported the 3d Battalion, 112th Armor. The Guard's 1st Battalion, 184th Infantry (Mech.), was supported by the 2d Battalion, 12th Cavalry.

TOCs were in place and fully operational when the Guard units arrived. The Guard commanders and staffs estimated that these advance preparations by the 1st Cavalry Division represented a gain of eight hours training time over what could have been accomplished by the Guard units without such assistance. This work constituted, therefore, a measurable gain in efficiency of almost 10 per cent, considering that there are a total of 88 hours of scheduled training in the 15-day annual training period.

The establishment of the TOCs produced another, and even more significant training benefit. Lacking *M577s*, *M113s* and adequate radios, the Guard tank battalions never before had been able to work from modern command post facilities. The 1st Brigade, 1st Cavalry Division provided not only the vehicles and radios but a complete range of briefing and status charts as well. The Active Army and Guard staffs were integrated throughout the training period. Both were supplemented by officers and enlisted men of the US Army Reserve called to active duty from the Individual Ready Reserve (IRR).

This integration of the Army's three components was personified by Major Robert M. Tarbert Jr., a former enlisted Guardsman, a 1962 graduate of the United States Military Academy and now a US Army Reserve officer on duty for two weeks as an evaluator of Headquarters, 49th Armor Group.

Integration of the Active Army, Army National



To augment the One-Army concept, Texas National Guardsmen receive support from the 1st Cavalry Division during Roundout training.

Guard, and US Army Reserve effort occurred at every level down to and including the platoon. The results bore out a comment by a Headquarters, Fifth Army, staff officer: "Once the members of these three components start talking to each other, they find out what they can do for each other. From that point on, they work together with no difficulty whatsoever."

A company-level field training exercise was conducted during the first week of the annual training period. The Army training tests followed during the second week.

The tests were conducted through the use of opposing teams in separate battalion areas. The additional team in each case was provided by elements of the Missouri Guard's 1-184 Infantry, tested this year at platoon level. The remaining platoons of the mechanized battalion were cross-attached to tank companies of the Texas battalions. Control in all cases was by Active Army members of the host battalions with full unit-to-unit parity. In the estimate of at least one senior Regular Army observer, this produced a test superior to what has been attainable in recent years in the Active Army due to the difficulty of providing a control system of such extent and qualification. The scenario for the tests was prepared by the 1st Brigade, 1st Cavalry Division.

The ATTs included non-ordnance tactical air and artillery support. Among the units furnishing tactical air support was the 131st Tactical Fighter Wing, Missouri Air National Guard, based at Lambert



Field, St. Louis. The Air Guard target at Fort Hood turned out to be a company of fellow St. Louis Guardsmen from the 1-184 Infantry.

In addition to serving as test controllers, the 1st Cavalry Division commanders and NCOs served as evaluators, accomplishing the annual rating required by CONARC for each Guard and Reserve unit.

In the estimate of all of the senior Guard officers interviewed, the value of the instruction imparted in both the preliminary FTX and the ATTs clearly exceeded any other training in the premobilization history of the units. In addition to the experience gained in the operation of a tactical operations center, the battalion headquarters gained practical experience in the tactical control of subordinate units. A measure of battalion-level training was achieved, therefore, enabling both of the Texas tank battalions to achieve and exceed the training objective of company-level proficiency.

No small amount of credit for the success of the overall operation is due to the Annual Training Equipment Pool (ATEP) maintained at Fort Hood by a combination of full-time and part-time Texas Army National Guardsmen. The condition of the track vehicles provided by the pool assured a full or near-full TOE level of track vehicles throughout the initial 1971 Roundout training period.

In an era of extreme personnel turbulence in the Active Army, the opportunity to train with very near-full TOE companies proved to be as valuable an experience to the Active Army controllers as to the Guard units.

Immediately upon completion of the ATTs, the 1st Brigade, 1st Cavalry Division, provided a full day of preliminary tank gunnery instruction on the

M60 tank. The preliminary gunner's examination was completed by the Texas battalions at their home armories in September, using the new M60s. All companies of the Texas battalions fired Tables I through III on successive weekends in October. In March 1972, Tables IV and V will be fired from Active Army sponsor battalion tanks at Fort Hood on ranges established by the sponsor battalions. Hopefully, airlift will be available from either Army or Air Force sources, or both, thus saving some six hours travel time during the weekends at Fort Hood. Tables VI through VIII are scheduled to be fired at Fort Hood during the 1972 annual training period.

The 2d Armored Division has approached the Roundout program on essentially the same basis as the 1st Cavalry Division. The 1st Battalion, 66th Armor, is the Active Army battalion for the 8th Battalion, 40th Armor, of the US Army Reserve. The 2d Battalion, 66th Armor, is the sponsor unit for the 1st Battalion, 123d Armor, of the Kentucky ARNG. The 2d Battalion, 50th Infantry (Mech.) sponsors the 1st Battalion, 117th Infantry (Mech.), of the Tennessee ARNG.

As with the Missouri battalion, the Kentucky and Tennessee battalions have a special problem because of distance from Fort Hood. The 1-123d Armor has been able to overcome this problem by arranging with the Armor Center for use of tank ranges at Fort Knox. The battalion is also considering the possibility of conducting ATTs at home station under the supervision of teams from the 2-66 Armor.

Brigade commanders, S3s and mobile training teams (MTTs) from sponsor units made visits to the home armories of the Roundout units during the

1970-1971 inactive duty training season. In addition, the 8-40 Armor has participated in Active Army command post exercises at Fort Hood. Additional MTT visits are planned for the 1971-1972 armory training year, with emphasis on tank gunnery and tactical training.

Colonel Oscar M. Padgett, commanding officer of the 1st Brigade, 2d Armored Division, has under consideration plans to conduct a brigade exercise at Fort Hood during the 1972 annual training period with a preparatory battalion field training exercise at Fort Hood for the Roundout units. The Active Army host battalions would support the FTX on a weekend multiple unit training assembly (MUTA) basis.

Platoons from the 2d Armored Division host units were cross attached to Roundout units during the 1971 annual training period. Further cross attachments are planned for the future.

As each Roundout unit attains company-level proficiency, it will be responsible for maintaining that capability. This will be largely a factor of retaining a substantial percentage of the Guardsmen and Reservists who complete the ATTs.

In Colonel Padgett's view, "We in the 2d Armored Division can't say enough about the esprit, discipline and enthusiasm of the Roundout battalions. The professional attitude of all leaders, junior and senior, was very impressive."

The 8-40 Armor has reciprocated this feeling by obtaining permission to wear the 2d Armored Division patch.

The surge of Roundout training that is occurring in both the 1st Cavalry Division and the 2d Armored Division is the product of a great deal of hard work over a period of two years. The success achieved to date is a reflection of command empha-

sis, beginning with visits to home armories by Major General William R. Desobry, then commanding the 1st Armored Division, and continuing under Major General J. C. Smith, commanding general of the 1st Cavalry Division, and Major General Wendell J. Coats, commanding the 2d Armored Division.

The formal programming of Roundout training as a part of the mission of each supporting Active Army division was a logical extension of command emphasis. In the opinion of participating Active Army officers, any less formal commitment would be unworkable.

Based on observation of the 1971 annual training and interviews with officers and enlisted men of all components, the following can be said to be the major by-products of Roundout to date:

- The program has given the participating Guard and Reserve units a sense of purpose and belonging, surpassing any previous premobilization training program.

- By requiring Active Army and Reserve component members to work together down to the platoon level, the program has fostered a mutual respect all too seldom achieved in the past.

- There have been significant and, to a degree, unexpected training benefits to the Active Army. These have stemmed from the size and relative personnel stability of the Guard and Reserve units, and from the necessity of concentrating a significant level of training in a very short period. Since the sponsor units must, in turn, concentrate all available manpower to achieve the training objective desired, the diversions of manpower common to any garrison situation must be avoided or at least postponed. The effect, in the view of one Active Army sponsor battalion commander, was to enable his battalion to accomplish in two weeks what might





The operations section of the 3 Bn, 117 Infantry (Mech.), Tennessee ARNG, sets up a M577 command post.

normally have required a month.

The support of weekend Guard and Reserve training on a phased, year-round basis may have the effect of enabling the Active Army sponsor units to phase their own training on a more satisfactory basis than often has been the case in the past. There is, however, a danger that over-commitment may require excessive weekend work schedules on the part of the sponsor units negating the good relations built up so far and working to the detriment of morale and retention in the Active Army units.

The successful extension of the Fort Hood experience to other Guard and Reserve units clearly rests on the existence of the same factors on which the original program was based. Among the most important of these are:

- Careful matching of Active and Guard and Reserve Units.
- Home armories and local training facilities adequate to support company-level training.
- Close proximity of Active and Roundout units achieved either by location or by time based on regularly programmed airlift support.
- Pools of well-maintained equipment at the Active Army training site adequate to support Roundout training.

With care to include the elements found to be essential to success at Fort Hood, this program

and its possible derivatives hold great potential for further development.

Author's note:

This article is based on visits by members of the Strategic Studies Institute to Roundout units training at Fort Hood.



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After losing the 1970 Canadian Army Trophy Match to Great Britain, West Germany tankers have set out to improve sensing and adjusting their rounds.

sensing by neighboring tanks



by lieutenant colonel william d. carter

DURING the 1970 Canadian Army Trophy Match, the German tankers, mounted in their *Leopard* tank, received the most number of main gun first round hits. However, they did poorly on firing subsequent rounds. The British, on the other hand, had less first round hits but won the match because they were able to adjust the subsequent rounds and thereby receive a second, third or even fourth round hit. Briefly stated: the British knocked out more main gun targets even though it was not with the first round.

Prior to the match, the British trained their tank crews to operate as part of a tank section. Whenever one tank fired a high velocity round, the sensing was given by the neighboring tank. Their loaders were drilled continually to reduce the time necessary for loading the *Chieftain's* separated main gun round and their crews were taught to fire on a target until they obtained a clear hit or the target disappeared.

The German crews emphasized obtaining a first round hit in the shortest possible time. Their crews excelled in fast accurate ranging. During the match, the range was never overestimated, but when they

missed the target, the range was from 1 to 20 meters short. These short rounds led to their problem of ricochets.

The Germans also trained each tank commander to sense and adjust his own rounds. There was little or no sensing of rounds by the neighboring tank. In most cases, the individual tank commanders waited until the smoke and dust cleared and then searched the target for a hole. This resulted in a loss of time and an erroneous hit picture because of the ricochets.

After the match was over, the Germans diagnosed their main difficulty as a failure to properly sense the round. Many times, the projectile from the high velocity HEAT round was in the target area before the smoke and dust had cleared. The tank commanders did the best they could to sense their own rounds. This often amounted to guessing where the first round went or searching the target to see if a hole was in it. This, in turn, produced a time consuming delay before the second round was fired.

Based upon this experience, the Germans devised a simple but effective method of operating together

MAIN GUN HITS—1970 CANADIAN ARMY TROPHY MATCH

	Canada	Great Britain	West Germany
Main gun hits (out of 45 targets)	23	43	34
First round hits	12	14	30
Second round hits	9	18	4
Third round hits	2	9	0
Fourth round hits	0	1	0
Number of rounds expended	75	81	64
Number of ricochets	9	2	7
Average time for hit (seconds)	13.0	14.9	11.2

as a tank section.

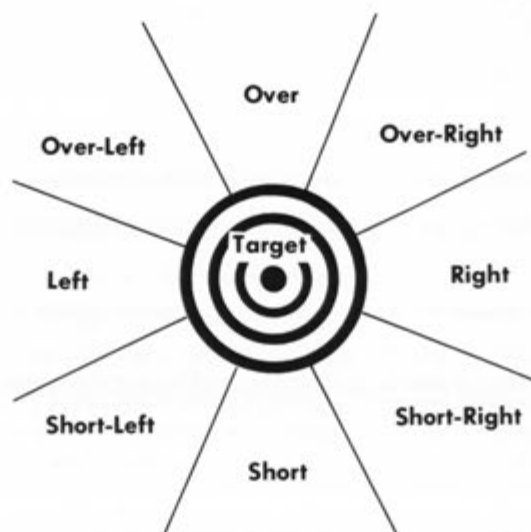
Each tank commander within the platoon has his radio set on the platoon frequency. He remains on this frequency while his crew is on intercom. The minute that one tank commander gives a fire command, it is heard throughout the platoon. For example, the first tank commander to spot a target orders: "Position—Tank—Fire." He does not use a call sign because the other TCs should recognize his voice and see the movement of his tank. This command over the platoon frequency alerts the whole platoon and the other tank within the section knows automatically that he must sense the round.

As the tank moves into position, the tank commander lays the main gun roughly on target with the override mechanism. When the gunner sees the

target, he says over the intercom: "Identified!" The gunner then ranges on the target. (The rangefinder in the *Leopard* is operated by the gunner and it has the capability of being operated in either the coincidence or stereoscopic mode.) As soon as he has his range and the loader says, "Up," he announces, "Achtung!" and fires the round.

The other tank in the meantime has gone into position. If he has not identified the target, he can follow the tracer element to the target. This illustration shows how the target plane has been sectionalized for sensing. The observing tank commander merely announces over the radio where the round went in relation to this plane. If the target is clearly hit, he will simply say, "Target!" If the round missed the target, he will announce any one of the eight possible

SECTIONALIZATION OF TARGET PLANE



sensings, for example, "Over-left." In the meantime, if the observing TC sees another target, he gives his own fire command and the first tank commander observes for him.

The minute the gunner of the firing tank hears the sensing, he uses the following rule of thumb: move $\frac{1}{2}$ mil in the opposite direction when firing APDS or HEAT and 1 mil when firing HESH/HEP. For example, if he is firing APDS or HEAT and the sensing was over-left, his new sight picture will have the aiming cross $\frac{1}{2}$ mil down and to the right of center of vulnerability. He fires the second round as soon as he can see the target.

As soon as the target is hit, the tank commander either engages another target or gives the command "Move out!"

Gunnery experience with the *Leopard* tank has proven that the main reason for not hitting with the first round is an error in ranging. Most of the time the round will be on line with the target but either over or short by 50 to 100 meters.

This new tank section gunnery technique or observation by a neighboring tank was tested in Capo Teulada, Sardinia, from 28 December 1970 to 10 February 1971. The testing units were enthusiastic about it and they found that they increased their

total number of targets hit by about 35 per cent. They also found that the tanks were firing faster and there was no long pause after firing the first round. The German tank gunnery manual is now being rewritten to incorporate this new technique and the tank ranges are being reworked to allow firing by tank sections.



LIEUTENANT COLONEL WILLIAM D. CARTER was the US liaison officer to Kampftruppenschule II (the German Armor School) from 1968 until 1971. He is currently the executive officer of the 26th General Support Group in Phu Bai, Vietnam.

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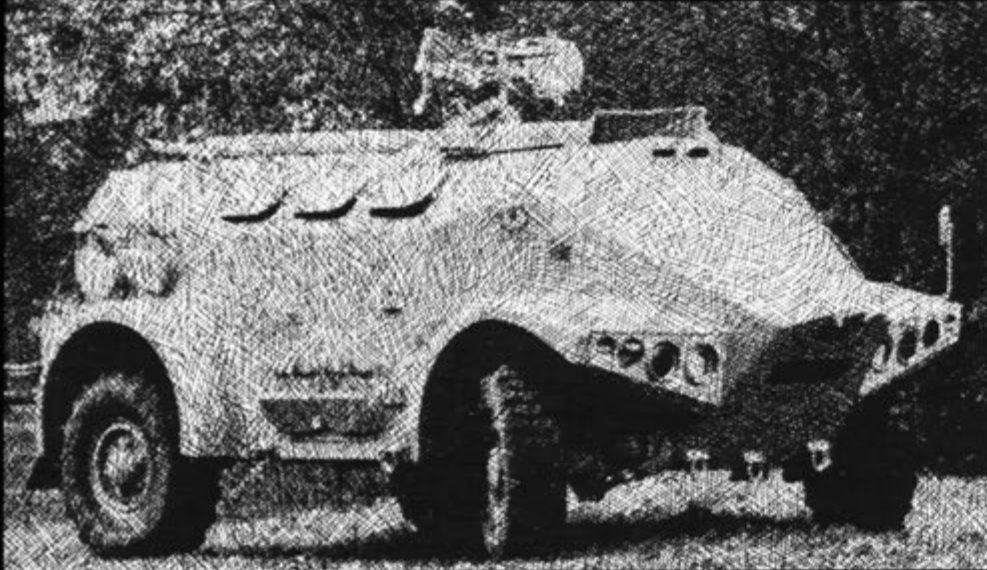


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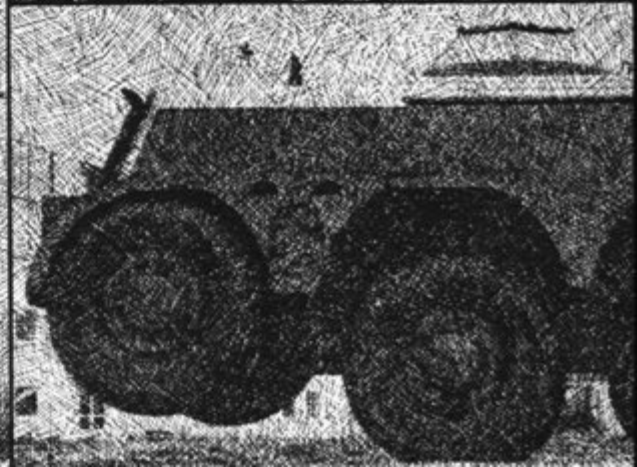
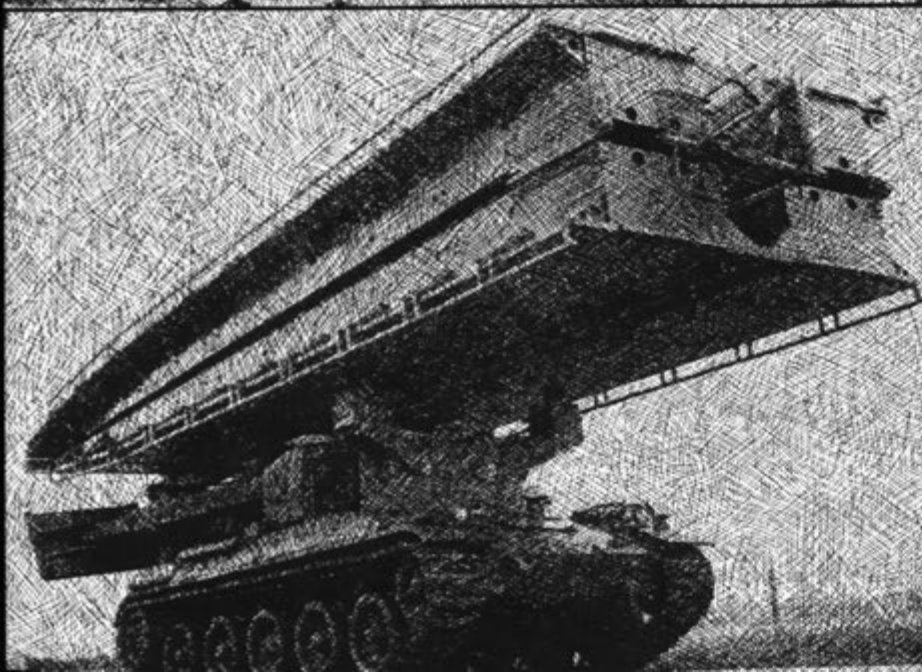
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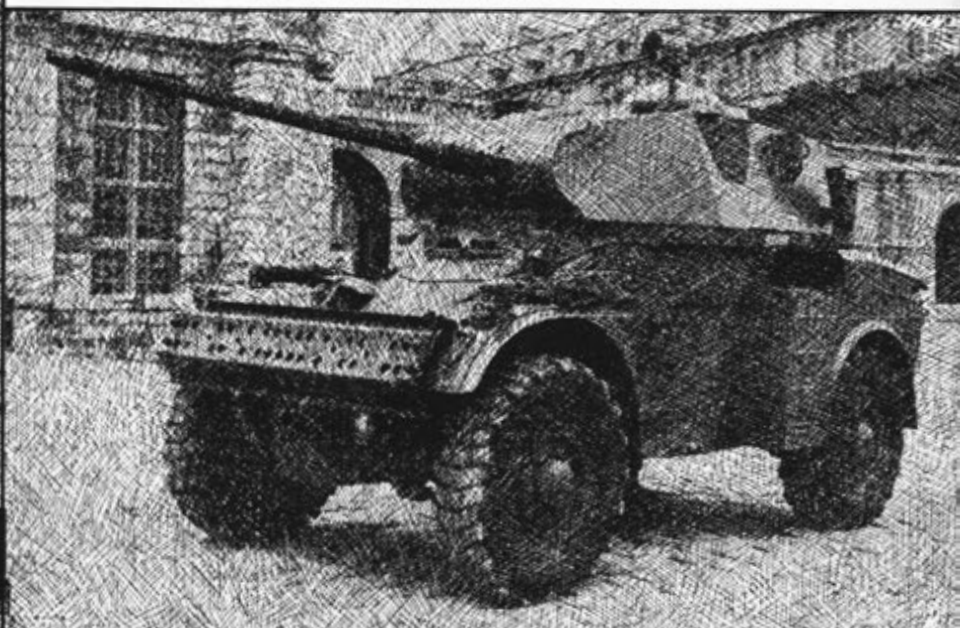
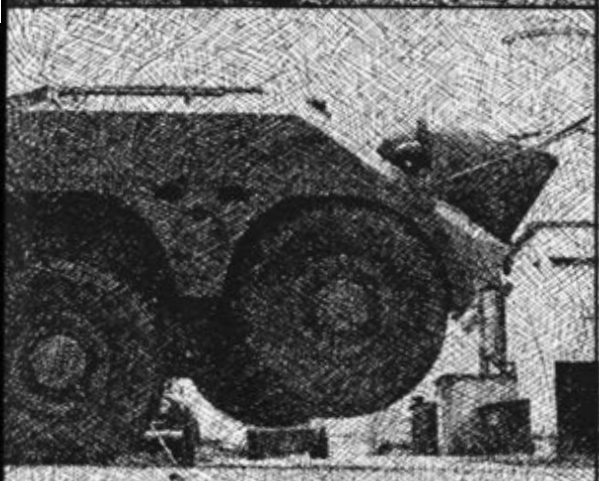
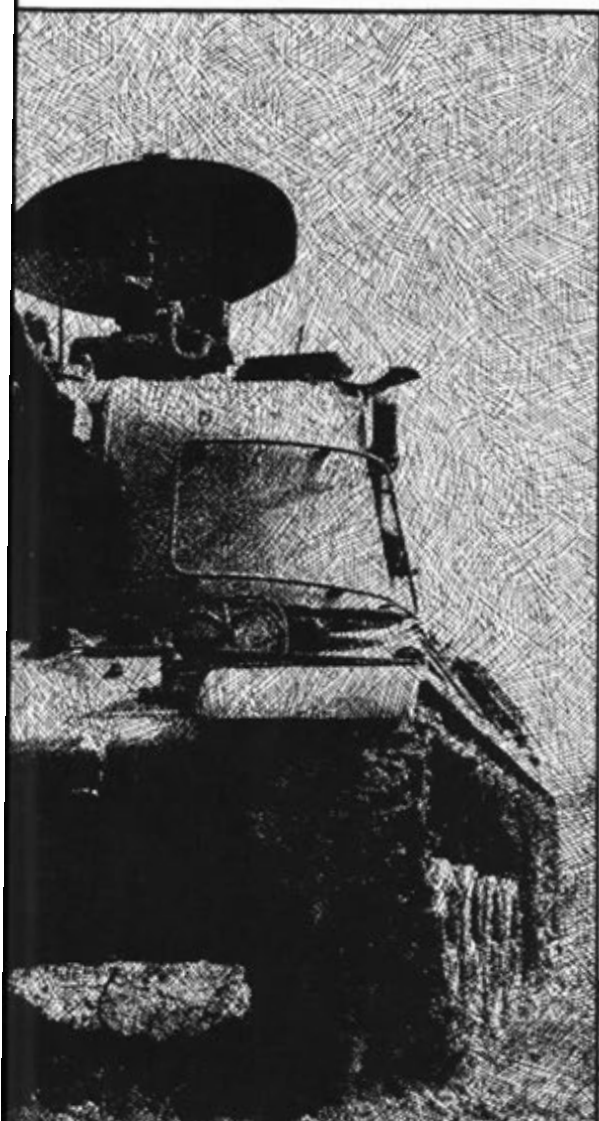
France has long been a leading producer of armored vehicles, noted for their originality in design.

French Armored Vehicles

by Richard M. Ogorkiewicz

FRENCH progress in the development of armored vehicles has always been worth watching. A particularly good opportunity for observing it has been provided in recent years by the biannual expositions of French military equipment held at Satory, near the historic palace of Versailles. The second of these was reported by the writer in the November-December 1969 issue of *ARMOR* and was noted for the appearance of several interesting new armored vehicles. The third exposition, held in June 1971, saw the appearance of several more armored vehicles.

Like the two previous expositions, the third was not confined to armored vehicles. In fact, it provided a very impressive display of the achievements of the French Army and industry over the whole spectrum of ground armaments. However, to anyone interested in armor, what was most significant about it was the presentation of new armored vehicles and the information released about them.



AMX30 BATTLE TANK FAMILY

Although no longer a novelty, the most important of the armored vehicles displayed at the third Satory exposition was the basic *AMX30* battle tank of the French Army. This highly mobile 105mm gun tank has now been adopted by at least two other armies in addition to the French, and developmental work continues on making it still more effective.

The most immediate result of this work is likely to be the provision of stabilization of the turret in azimuth and of the gun in elevation. An appropriate electro-hydraulic system has been developed since 1968-69 and has already been tested in the *AMX30*. The next and much more important improvement is likely to be the replacement of the present coincidence-type optical rangefinder by a laser rangefinder, which will give the gunner the range of the target with far greater accuracy than previously. A laser rangefinder system has already been developed and is currently on trials with the French Army. The addition of a fire control computer linked to the sighting and aiming equipment, which would represent a further significant improvement, is also being studied.

A less immediate but much more radical development of the *AMX30* is the possible replacement of

its present 105mm gun turret by a new turret mounting a 142mm gun/launcher which exists now only in experimental form. The 142mm *ACRA* weapon system is similar to the 152mm gun/missile launcher system of the *M551 Sheridan* and the *M60A1E1/E2* battle tanks but incorporates several improvements, including a laser-emitted infrared beam for guiding the supersonic missile to a range of more than 3,000 meters. The missile itself has a metallic case and can be handled like any round of normal fixed gun ammunition. This is also the case with the unguided but rocket-assisted high explosive projectiles which complement the missiles of the *ACRA* system. Thus, the *ACRA* missiles and projectiles are fired from a conventional type of gun with a semi-automatic breech block and the system is free of some problems which have bedevilled the US 152mm gun/launcher systems.

The adoption of the new turret with the 142mm *ACRA* weapon system would, obviously, greatly improve the antitank capabilities of the *AMX30*. But, inevitably, it would take time for the new version to come into service. In the meantime, the original 105mm gun model has been supplemented by an *AMX30* recovery vehicle and an *AMX30* scissors-type bridgelaying. Prototypes of both are undergoing trials and were displayed at Satory (they have already been described in the report of the

AMX30 bridgelaying



1969 Satory exposition).

One of two new versions of the *AMX30* to appear at the 1971 exposition was a twin 30mm gun anti-aircraft system. In contrast to virtually all other Free World armies which until recently have almost completely ignored the need to provide armored units with effective mobile weapons against low-flying attack aircraft, the French Army has been developing for a number of years mobile anti-aircraft gun systems. As a result, it already has in service a twin 30mm gun anti-aircraft system with radar control mounted on the *AMX13* light tank chassis. This, in turn, has provided a well-proved twin 30mm gun turret, the *S.401A*, which could be transferred on to the *AMX30* chassis to form the prototype of an improved mobile anti-aircraft system.

The second new version of the *AMX30* to appear was a launcher vehicle for the *Pluton* tactical nuclear missile system. This vehicle, which resembles some of the Soviet armored missile launchers but has no counterpart in any Western army, increases the tactical mobility and effectiveness of the missile system of which it forms a part.

Another new development based on the *AMX30*, which was described but not exhibited at Satory, is

a 155mm self-propelled gun. This consists of a large, 360-degree traverse turret mounting a 40-caliber long 155mm gun on the basic *AMX30* chassis. The gun is provided with an automatic loading mechanism which enables it to fire at the rate of 8 rounds per minute and the vehicle can carry 42 rounds. Fully loaded and carrying its crew of four, the 155mm self-propelled gun weighs 84,000 pounds. This makes it heavier than the 79,000 pound *AMX30* battle tank, but its automotive performance is virtually the same and would be able to operate in support of it, a role for which it is, in fact, intended. However, it has not advanced yet beyond the developmental stage.

AMX10 LIGHT VEHICLE FAMILY

As its name indicates, the *AMX30* and its derivatives have been developed by the Atelier de Construction d'Issy-les-Moulineaux, or AMX, the French Army's equivalent of the US Army's TACOM, and it was on its grounds at Satory that the three expositions were held. The *AMX30* is not, however, the only family of armored vehicles on which AMX have been working for they are now



AMX30 anti-aircraft tank with two radar-controlled 30mm automatic guns.

also developing a family of light armored vehicles based on the *AMX10* infantry combat vehicle.

The prototype of this amphibious carrier, the *AMX10A*, was presented at the 1969 exposition and was described in the report on it. However, its design has been developed further and the new *AMX10P* version differs from its forerunner. In particular, it is fitted with a two- instead of one-man cupola mounting a 20mm automatic gun and a 7.62mm machine gun. The new, larger cupola was developed because the French Army found during trials that it should be able to accommodate the

a tank destroyer. Like the *AMX10C*, the *AMX10M* will have a three-man turret but no gun bigger than a 20mm cannon. Its principal armament will be *HOT* antitank guided missiles, which have already been described by the writer in the January-February 1969 issue of *ARMOR*.

Another antitank version has also been built in prototype form. This is armed with the same 142mm gun/launcher as the *AMX30* with the *ACRA* weapon system. However, instead of being mounted in a turret, the gun/launcher is mounted in the frontal hull plate. Thus, the *AMX10M-ACRA* takes the form of a turretless tank destroyer which combines the mobility of a light armored personnel carrier with the fire power of a battle tank.

Like other armored personnel carriers, the *AMX10P* lends itself readily to modification into command and recovery vehicles which are also being developed. Other derivatives may follow later, for if the successful development of the *AMX13* family is anything to go by, a family of light armored vehicles might grow to as many as 18 models. In fact, the AMX designers have already gone well beyond what they achieved with the *AMX13* family by developing a wheeled version of the *AMX10*.

The experimental wheeled *AMX10R* uses the same hull, engine and transmission as the *AMX10P*, but instead of tracks has six large diameter pneumatically tired wheels. The wheels are independently located by means of trailing arms, and driven by shafts running down each side of the vehicle and short shafts connecting them to the individual wheels. What is most noteworthy, however, and in striking contrast to other wheeled armored vehicles, is that none of the wheels of the *AMX10R* are steerable. In consequence, it has to be skid-steered like any tracked vehicle. In fact, the *AMX10R* steers using the same triple differential steering mechanism as the *AMX10P* and the other tracked members of the family. Thus, by adopting skid-steering, the AMX designers have produced, relatively simply, a wheeled version of a tracked armored vehicle. Their approach offers considerable logistics as well as some technical advantages, but the effectiveness of the resulting vehicle still has to be fully proven.

PANHARD AML FAMILY

More conventional wheeled armored vehicles continue to be produced with great success by the Panhard Company which exhibited several new models at Satory. All but one are based on the *AML* which



AMX10P infantry combat vehicle with a new two-man 20mm gun cupola.

vehicle commander, as well as the gunner, to give him the best chance to observe and to more effectively control the vehicle's weapons. It is interesting that a similar conclusion was also reached by the German Army in developing its new *Marder* infantry combat vehicle.

The *AMX10P* is also powered by a higher output, 280bhp supercharged, V8 Hispano Suiza *HS115* diesel. Combat loaded, it weighs 30,400 pounds and it can carry up to 11 men, including the driver. Preparations are now under way to produce it in quantity for the French Army, which expects it to come into service in 1972-73. When it does, it will replace the current *AMX-VTT*, an armored personnel carrier based on the *AMX13* light tank chassis.

In the case of the *AMX10* series, a turreted gun model will follow instead of preceding the personnel carrier. It has been designated *AMX10C* (the *C* standing for cannon) and will consist of a three-man turret mounted on a hull similar to that of the *AMX10P*. Its gun will have a caliber of 105mm, which represents a significant advance on the 90mm guns presently being used in French and other light armored vehicles.

The *AMX10C* will be suitable for antitank as well as reconnaissance and fire support roles but a second turreted version, the *AMX10M*, will be specifically

was described in detail in an article on "Panhard Armored Cars" in the November-December 1967 issue of *ARMOR*. One new version of this light, 4x4 armored car has been fitted with a newly built two-man turret mounting a 30mm Hispano Suiza automatic gun, as well as a coaxial 7.62mm machine gun. As a result, it can very effectively combat all light

effective even when perforated by bullets, and they also provide additional protection against shaped charge projectiles. Although the amphibious *AML* can propel itself in water by means of its wheels, it has been fitted with a propeller which increases its water speed up to about 4.5mph.

The original version of the *AML* has also been



Panhard AML with a new turret mounting a 30mm gun.



Amphibious version of the Panhard AML with a 90mm gun.

armored vehicles, and because its armament can be elevated up to 45 degrees, it can also fire to deter low-flying attack aircraft and helicopters.

Another new development of the *AML* consists of the addition of sheet metal floats which make it amphibious and thereby make it even more effective as a light reconnaissance vehicle. The floats are filled with polyurethane foam so that they remain

armed with the French Army's new type 621 automatic gun. Since it fires high-velocity, armor-piercing projectiles, the new gun makes even the lightest and smallest version of the *AML* capable of combating hostile light armored vehicles. Because of its elevation, it is also capable of antiaircraft fire. At the same time, the *AML* can still deliver effective high explosive fire from its 60mm breech-loaded mortar.

Panhard M3 armored personnel carrier, the production version of the AML-VTT.



The most radical development of the *AML* is the armored personnel carrier, the *AML-VTT*. The prototype of this vehicle was presented at the 1969 exposition and was described in the report on it. Once again, however, the design has been developed and the 1971 production version, called the *M3*, differs from the prototype. In particular, it has a modified hull which has partly sloping sides and offers better vision from within. The *M3* also has been developed to mount a number of different weapons, ranging up to a cupola with a 20mm automatic gun. The original personnel carrier model has also been developed into an armored ambulance, a command vehicle and a maintenance vehicle. The different versions of the *AML-VTT*, or *M3*, form a useful supplement to all the various turreted models, and together make up a very comprehensive family of light armored vehicles.

PANHARD M2 WHEELED CARRIER

In addition to the *AML* family of light 4x4 wheeled armored vehicles, the Panhard Company

has also developed a highly sophisticated eight-wheeled experimental armored personnel carrier, the *M2*. All eight of its wheels are driven at all times through a transmission which includes a limited slip differential between the drive line on one side of the vehicle and the other. However, some of the wheels are not used all the time because of a unique adjustable hydro-pneumatic suspension which gives the *M2* several advantages over other multi-wheeled armored vehicles.

One important advantage of the *M2* is that its second pair of wheels can be lifted off the ground and the fourth pair simultaneously virtually unloaded for road operation. As a result, it operates on roads almost like a four-wheeled vehicle, which makes it more efficient and stable at high speeds than other eight-wheeled vehicles. It also needs only one pair of steered wheels on roads; off-the-roads, when all eight wheels are in contact with the ground, the steering effect of the front wheels is assisted by braking the other three wheels on one side or the other through an automatic hook-up between the

Panhard M2 with its front and rear pairs of wheels raised off the ground for a pivot turn.



power-assisted steering mechanism and brakes in the transmission system.

Another advantage of the *M2* suspension and transmission system is its ability to raise the front and rear pairs of wheels off the ground and to drive the two center wheels on each side in opposite directions, so that it spins about its center. This is equivalent to the pivot turn which the more sophisticated tracked vehicles can perform, and removes the old objection to wheeled armored vehicles that they cannot turn around as quickly as tracked vehicles can.

The adjustable hydro-pneumatic suspension of the *M2* can also be used to vary its ground clearance from as little as 8 inches, which enables it to "duck" behind cover, to as much as 21 inches, which helps it to move over obstacles and muddy terrain. The cross-country mobility of the *M2* is further increased by the ability of its driver to vary the inflation pressure of its tires to suit ground conditions through a permanent connection between the tires and an on-board air compressor.

The *M2* can also float without any preparation and propel itself in water by means of two propellers, each coupled to the drive line on one side of the vehicle so that their relative speeds can be varied, which greatly improves the maneuverability of the *M2* in water. On roads it has a maximum speed of 58mph and can cover 600 miles without refueling.

In its present experimental, Hispano Suiza diesel-

powered version, the *M2* weighs 23,000 pounds empty and 28,000 pounds combat loaded, and carries 12 men including the driver. It could, however, become the basis of several other high performance wheeled armored vehicles.

BERLIET VXB

Another new armored car and one entirely different from those produced by the Panhard Company has been developed by the Berliet Company, France's leading manufacturer of heavy trucks. It was developed from the basis of the *BL12* experimental 4x4 armored carrier demonstrated at the 1969 Satory exposition, but represents a considerable improvement on it.

The new Berliet *VXB* is a lightly armored, diesel-powered 4x4 vehicle, with a conventional beam axle suspension which is particularly suitable for internal security duties because of its simplicity and carrying capacity. In its basic, personnel carrier configuration, it can carry up to 12 men, including the driver, and weighs 25,000 pounds combat loaded. For internal security or police work, it can be fitted with a bulldozer blade for clearing barricades and similar obstacles. For other than security duties, it can be armed with a cupola-mounted 20mm gun or various other weapons. It also has sufficient buoyancy to float and it can therefore be made amphibious which further increases its potential as a general-purpose light armored vehicle.



Berliet VXB moving at speed.

GATEWAY TO THE STARS



by Colonel Glenn E. Fant, AUS-Retired



CAN any other cavalry regiment top this? In the 1942-43 period, four sharp-looking young cavalry officers, three of them lieutenants and one a captain, joined the 15th Cavalry Regiment (Mech.). By 1967, three of them had risen to the rank of brigadier general, and in 1969, the fourth made his first star!

In September 1942, Second Lieutenant William R. Kraft Jr. joined the "Fighting 15th" at Fort Riley, Kansas. He served with it throughout World War II in the US and Europe as a platoon leader, troop



Major General William R. Kraft Jr.

***** commander and regimental staff officer. He is now a major general commanding the 3d Armored Division.

Lieutenant John Gray Wheelock III joined the 15th in May 1943, and remained with the regiment until 1945. He served in Louisiana and California maneuvers as a platoon leader and executive officer in a reconnaissance troop, through four campaigns in Europe as a troop commander and squadron operations officer, and on occupation duty in Germany as both the 15th Cavalry Reconnaissance Squadron executive officer and squadron com-

mander. During combat he was wounded twice, decorated four times for valor and received a battle-



Major General John Gray Wheelock III

field promotion to major in December 1944. He is now a major general and commands the US Army Training Center, Infantry at Fort Polk, Louisiana.

Lieutenant Adrain St. John joined the 15th as a reconnaissance platoon leader in the spring of 1943. When the regiment arrived in England in March 1944, he was assigned as commander of, and activated, an assault gun troop, then a new addition to cavalry organization. At this time, the regiment was reorganized as a group. Shortly after landing in the Normandy invasion with his assault gun troop, he assumed command of a reconnaissance troop which he led through the Normandy, Northern France, Rhineland and Central Europe Campaigns. After V-E Day he was transferred to the Group Control Council (later OMGUS) and entered Berlin in July 1945 with the advance party of General Lucius Clay's headquarters. He was promoted to major general on 1 September 1971 and is now chief, Strategic Plans and Policies Division, J5,



Major General Adrain St. John II

Office of the Joint Chiefs of Staff, at the Pentagon.

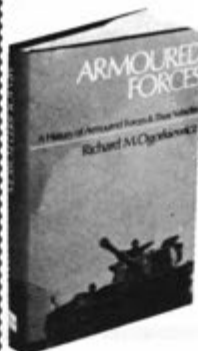
Captain Morton McDonald Jones Jr. was assigned to the regiment as commanding officer of Troop C. He went overseas with the organization and served successively as troop commander, S3 and executive officer of the 17th Cavalry Reconnaissance Squadron. In June 1959, he left the greatest combat arm, Armor, and transferred to the Ordnance Corps. He was promoted to brigadier general on 1 June 1967 and has since retired.



Brigadier General Morton McDonald Jones Jr.

COLONEL GLENN E. FANT, AUS-Retired, commanded D Troop, 15th Cavalry at Fort Riley and later served as regimental S4 and group S4 in Europe until V-E Day. He is now a civilian information specialist with the Secretary of the Army, Office of Public Information.

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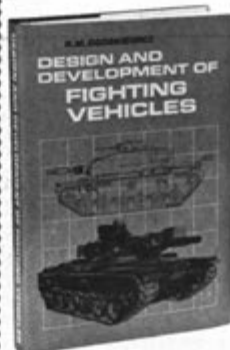


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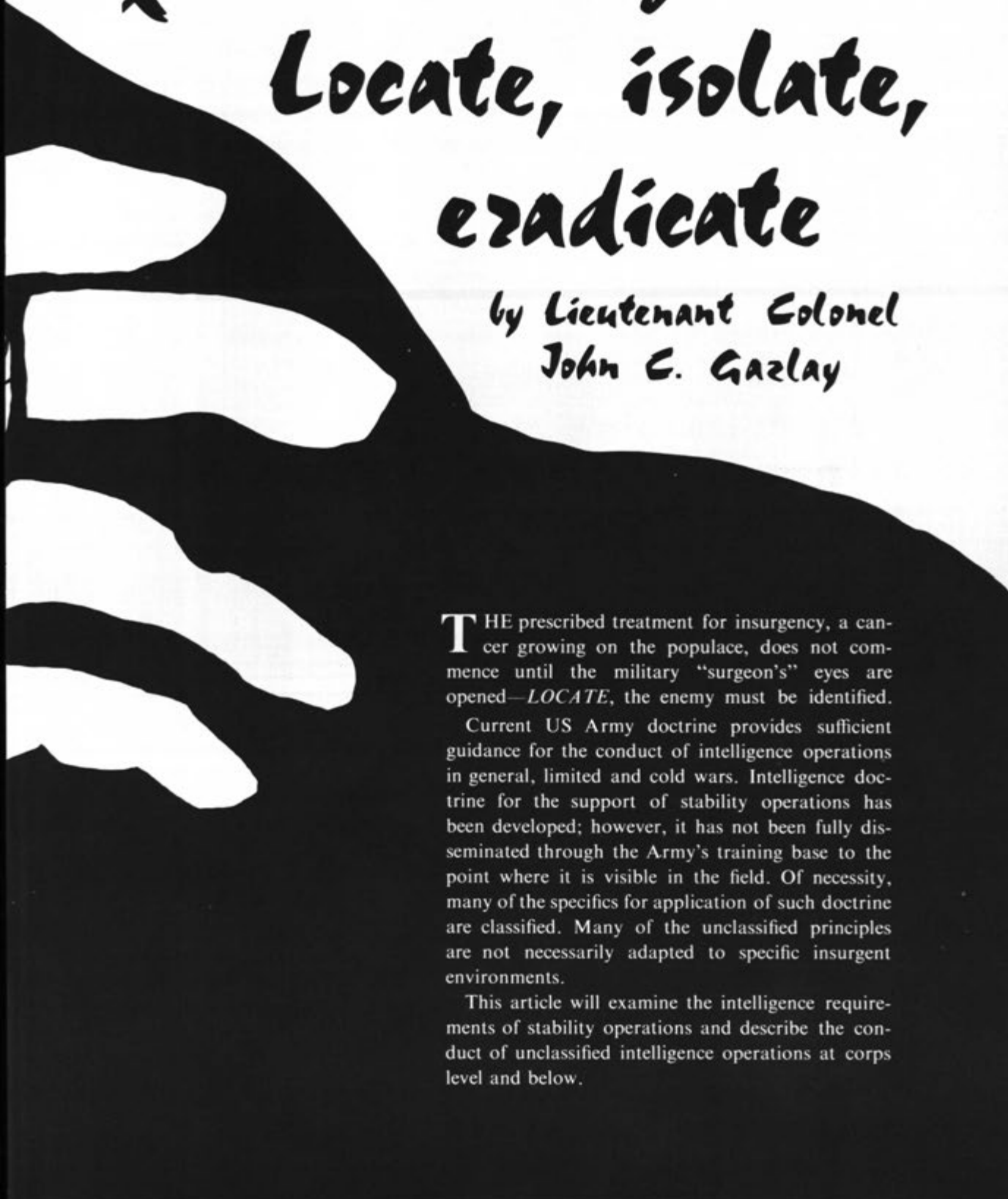


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R_x the insurgent: Locate, isolate, eradicate

by Lieutenant Colonel
John C. Gazlay

THE prescribed treatment for insurgency, a cancer growing on the populace, does not commence until the military "surgeon's" eyes are opened—*LOCATE*, the enemy must be identified.

Current US Army doctrine provides sufficient guidance for the conduct of intelligence operations in general, limited and cold wars. Intelligence doctrine for the support of stability operations has been developed; however, it has not been fully disseminated through the Army's training base to the point where it is visible in the field. Of necessity, many of the specifics for application of such doctrine are classified. Many of the unclassified principles are not necessarily adapted to specific insurgent environments.

This article will examine the intelligence requirements of stability operations and describe the conduct of unclassified intelligence operations at corps level and below.

REQUIREMENTS

Military

Combat Intelligence—In addition to the traditional requirement to provide the commander, staff, and troops with information of the enemy, weather, and terrain, an equal fourth dimension is added—information about the populace. This new dimension is an important barometer to the insurgents' strengths and weaknesses.

Counterintelligence—In the combat arms, we normally think of counterintelligence as a denial operation with efforts primarily directed at denying the enemy knowledge of friendly operations, and with such passive measures as light, noise and camouflage discipline. During stability operations, we must open our eyes to the actual function of counterintelligence. Counterintelligence should embrace active efforts directed towards detecting, uncovering and neutralizing insurgent activities in the fields of sabotage, subversion and espionage. Examples of counterintelligence measures to be applied in stability operations are:

- Background investigations of personnel in sensitive assignments.
- Screening of civilian personnel employed by the military.
- Surveillance of known and suspected insurgent force agents.
- Censorship or suspension of civilian communications.
- Control of civilian movements as required.
- Checks on physical security of all military and government installations.
- Indoctrinating all military personnel on the aspects of security.
- Neutralize insurgent intelligence agents.
- Security of classified documents and control of plans, orders, and reports.¹

Basic Intelligence

In March 1962, the chief of research and development, Department of the Army, sponsored a symposium on "The US Army's Limited War Mission and Social Science Research." One of the salient points agreed upon was the major role of social science in stability operations. "Through research in social science we can go a long way in determining and defining how the overall culture of a particular group or society can be translated in a predictable form of conduct. We must make a concerted effort to study those newly emerging nations

most susceptible to insurgency and accumulate a reservoir of data."²

This summary of the requirement for encyclopedic intelligence can be translated in literal requirements for data.

Basic Intelligence Data

Sociology
Attitudes and reactions
Family structure
Geography
History
Ethnic groups
Police force(s)
Industry
Nationalism
Civil organization
Societal characteristics
National/tactical organization
for stability operations
Military/paramilitary
force structure
Education
Population
Social values
Transportation
Communications
Sects and cults
Insurgent base
Agriculture
Patterns of living
US assistance program(s)
Domestic politics
Religion

Such data can, for the most part, be collected through overt means commonly available in periodicals, public documents, or academic references. Much of this is suitable for machine records storage. The success of this effort is assured only by a dynamic collection program to ensure that assembled data remains current.

Environmental improvement program (EIP)

Intelligence is required to indicate: those areas most contested for by the insurgents, the basis for popular unrest, and the overall attitude of the populace. This information provides the guide lines for establishing priority areas and programs for physical and social improvements.

Populace and resources control (PRC)

The insurgent needs little to survive, but any denial of resources requires great effort by the

insurgent to compensate for its loss. Intelligence identifies those items critical to the insurgent and necessary controls are instituted, e.g., rationing, check points, physical security, and cordon and search operations. To sever the relationship between the populace and the insurgent, control measures are again applied. Selected measures are: resettlement, road blocks, curfews, identity cards and pass systems. Intelligence indicates the restrictions required for an effective PRC program, and is used as a gauge to measure the success or failure of the program. This information provides the basis for the decision to increase or diminish restrictions on the populace.

Conclusions from this enumeration of the intelligence requirements in stability operations identify the following objectives:

- Identify the existence of insurgency.
- Identify and neutralize the groups and individuals engaged in subversion, espionage, and sabotage.
- Prevent insurgents from obtaining information and penetrating the government.
- Supply information in support of counter-insurgent operations.
- Provide information for use in environmental improvement and populace and resources control programs.⁴

INTELLIGENCE SOURCES

Civilian populace

The civilian populace, as the principal target of the insurgents, is imminently qualified to provide information about the insurgent because of its close daily contact with the enemy. Civilians can provide the following information:

- Weather and terrain information.
- Ideological motivation and sympathy of the populace.
- Logistical support available the insurgent.
- Local insurgent supply installations (caches, caves, tunnels).
- Potential insurgent targets or objectives.
- Identity of covert or part-time insurgent members.
- Information about insurgent sabotage, espionage, or terrorism.
- Vulnerabilities and weaknesses of the guerilla force.⁵

The principal difficulty experienced in extracting information from the populace is that in many instances, the civilian who really wants to give infor-

mation, whether for monetary reward, desire, revenge or fear, will hesitate to do so when he knows that his being an informant will be known by other civilians. The military must devise methods of con-



The civilian populace is qualified to provide information about the insurgent because of its close daily contact with the enemy.

tact by which informants are protected from compromise and possible danger.

Agents

Generally speaking, Americans are not ethnically nor linguistically qualified to conduct covert intelligence operations at the grass-roots level. As a practical necessity, we must rely upon indigenous personnel as agents. It takes months, or even years, to establish a productive net, and normally American forces must rely on an existing net.

When seeking agents or informers, potential candidates are those who have the least to win and the most to lose by an insurgent victory. The insurgent program usually will indicate who they are. Most agents work strictly on a dollar basis, and a local currency fund provides the moneys to finance indigenous operators. Sometimes, moneys are used to purchase material items attractive to, or required by, the agent which he cannot otherwise conveniently obtain. Immediate payment without administrative delays motivates immediate reporting.

Before employment, the operator must establish the agent's qualifications. The three basic qualifications are motivation, knowledge and ease of access to the proposed area of operations, and ability as

a military observer. Once employed, agents should be checked out frequently without their knowledge, in an effort to evaluate their effectiveness and the degree of credibility of their reports.⁶

Numerous governmental and military agencies, from local to national level, employ their own agents, and this redundancy serves the above-mentioned double check function. However, it encourages "paper mills" to operate. A "paper mill" is an agent who sells the same report to several agencies, and is montarily rewarded by each. To



To conduct intelligence operations at the grass-roots level, indigenous personnel must be relied upon.

control this type of operation, the senior military headquarters and governmental agencies at each command and political subdivision must establish a central source registry (CSR) which registers and documents all agents to assist in source control. Frequent consultation with the CSR permits each net operator to avoid employing and paying other agencies' personnel. Each agency maintains a complete individual source file (ISF) on its own agents in addition to the basic information provided to the CSR. The organizational ISF should record the following minimum information:

- Name, alias(es), description of source.
- Particular area(s) in which source is capable of obtaining information.
- Reason for source's cooperation.
- Method(s) of contacting source.

- Record of payments.
- Past reliability/productivity.⁷

Agents need a safe, anonymous method of reporting. Quite often the organization must go to the agent, rather than the agent reporting in. To assist in preserving their cover, ingenious means of reporting must be provided.

Patrols

Continuous, extensive patrolling must be conducted by small, highly mobile units moving by foot, track or wheel vehicle, air or water means. They operate day and night in visiting populated areas, establishing surprise checkpoints on routes of communication, and extending the government's influence outside of populated areas. In stability operations, patrolling is one of the principal activities of small units. In addition to the show of force and security aspects of patrolling, the intelligence benefits that accrue are: knowledge of the terrain, changes in the attitude of the population, and information about the insurgent.

As stated by Lieutenant General Kinnard, former commanding general 1st Cavalry Division, "Patrols need radio communications and the ability to interrogate and translate." Both these capabilities support the fact that intelligence is a perishable commodity which cannot always wait for the patrol's return to base camp. Patrols should be prepared for a multitude of eventualities and experience will dictate those materiel items that should be readily available. A basic kit, carried in one or more light



Continuous, extensive patrolling must be conducted by small, highly mobile units.

packs, would include demolitions for destroying insurgent positions and facilities, pyrotechnics for marking positions and targets, illumination grenades, a signal mirror, and flashlights for marking night landing zones.

Long range reconnaissance patrols (LRRPs) should be surreptitiously infiltrated into insurgent base areas to collect otherwise unavailable knowledge of insurgent organization, equipment, logistics and disposition. Airborne relay, aloft on the LRRPs reporting schedule, may be necessary because of the extended communications distances.

Electronic sensors

The use of sensors may be of less value in stability operations than against enemy forces in conventional warfare, primarily because of civilian activity throughout the area of operations.

Insurgent activities

Certain activities are indicators, though not positive, of the intent of the insurgent. After gaining a certain amount of familiarity with the insurgent, the intelligence officer will develop a list, mental or written, of the probable meaning of insurgent activities.

MEANINGS OF INSURGENT ACTIVITIES

<i>Activity</i>	<i>Indication</i>
Systematic assassination of officials, principally those in education, health, administration and agriculture.	Subversion
High proportion of heavy weapons in particular insurgent unit.	Defense of the area
Concentration in means of mobility, with particular attempt at concealment.	Attack

The above examples are typical thought provokers that ask the intelligence officer, "What are the insurgent's intentions?" A recurring pattern of these indicators will identify a campaign or program adopted by the insurgent.

Captured documents

The insurgent has often been an avid diarist, who

in his self-imposed exile to remote redoubts, dares only to communicate with himself. These diaries are an important source of information concerning morale, equipment, and order of battle. This, coupled with conventional documents, provides the intelligence officer with the insurgent's evaluation of situation, present, and future plans. With the transitory nature of the insurgent, dates, places, and circumstances of capture become extremely important. A document containing unit designations and locations is of more value when the date and place of capture are known.

Interrogation

Often interrogations must be conducted through indigenous personnel. Selection of these people should not be based solely on linguistic ability, but also upon honesty, reliability and intelligence. Most counterinsurgent wars are civil wars in character and become passionate affairs. This passion is often translated into brutality, and results in the loss of potentially valuable information. Prisoners should be treated firmly, but humanely, to exploit their potential.

The use of rehabilitated insurgents in interrogations is a practical method to determine the reliability of extracted information. Captured documents and the previously mentioned personal diaries will provide the interrogator with a lever and "trump cards" to convince the prisoner that evasive answers and subterfuge can be easily refuted. The results of interrogations should be used to check the reliability of other reports, and must be checked against recorded information to either validate, deny, or update current intelligence holdings.

Terrain and weather studies

US produced studies, host country current studies and those collected by the basic intelligence collection plan are valuable tools. From these studies, the intelligence officer initiates the production of a series of acetate overlays for the situation map. The principal overlays are drop zones and landing zones, and separate trafficability overlays for foot, motorized, mechanized and waterborne movement for each distinctive season of the year. Each trafficability overlay is color coded: red (no go), yellow (caution), and green (go). Before the commander and operations officer complete their "Leavenworth" arrows and circles, the various overlays are used to indicate compatibility of the terrain, and the effects of weather on the proposed maneuver.

Pilots/aircrews

Three categories of aviation assets are available to the intelligence officer: organic or direct support Army light aviation, army sophisticated surveillance aircraft and Air Force aircraft.

The Army light aviation is usually the most valuable in stability operations because of intimate familiarity with the area of operations. This familiarity is achieved by assigning pilots to the same search area for their entire tour to develop a "like-the-back-of-my-hand" knowledge of the area. Minute changes become readily apparent, and in-flight spot reports are not merely historical in nature since the observer may comment on his report. A pilot's comment may be, "Snooper 2, this is Eagle 33, 41 sampans concealed under trees at Boondock BX1347. Normally no more than 12-15 sampans are here at any one time. I'll buzz the area to see if I can find the people to fill them." The intelligence officer delves into his activity indicators as previously explained, and selects "massing mobility means, with attempts at concealment—attack." This seemingly mundane report becomes critical in stability operations.

Another use for pilots is verifying the accuracy of military maps with reports of bridge outages, villages destroyed, new villages, defoliated areas and other significant changes.

The use of sophisticated Army surveillance aircraft has the same disadvantages discussed concerning electronic surveillance devices. However, their intrusion into insurgent safe and redoubt areas that are not inhabited by the civil populace can provide valuable information.

Air Force tactical and reconnaissance aircraft provide information relative to movements, location, and terrain. The tactical aircraft provide post-strike analysis of their missions against the insurgent and spot observations enroute to target areas and

returning to their airfields. Reconnaissance aircraft provide imagery for objective area mosaics, landing zones, drop zones, map substitutes and in-flight spot reports of location and movements. Unless answering specific information requests, in-flight spot reports are given "to whom it may concern" over a common net monitored by Army units on the AN/GRR5 receiver.

When debriefing pilots and aircrews, maps, photos, overlays, and narrative reports should be used to preserve the extracted information.

Electronic intelligence

Both intelligence and counterintelligence operations are conducted by electronic means. Communications security stations monitor friendly communications nets to tell us who our security violators are. We must credit the insurgent with both the capability to monitor our transmissions and understand English, in addition to the *lingua franca* of the area of operations. The use of "double talk" and unauthorized codes invites disclosure of our plans and intentions to the insurgent.

Communications and noncommunications intelligence specialists use both ground stations and airborne radio detection finding (ARDF) equipment to conduct intercept and direction finding (DF) operations. The results of ARDF/DF operations can provide the tactical commander with the geographical location of insurgent tactical transmitters, "liberation" stations and the units normally collocated with them. Intercept specialists perform traffic analysis, intelligence extraction, and code breaking services.

Units in contact

Once friendly forces gain contact with the insurgent, battlefield intelligence becomes an important and lucrative source of information. The small-unit



Army light aviation is most valuable in stability operations because of intimate familiarity with the area.

commanders and the battalion S2s become the most important people in the intelligence system. Rapid, accurate and factual reporting are the most important link in the intelligence chain. Reports of insurgent weapons, uniforms, state of supply, physical condition and unit identifications are gathered through contact, prisoner interrogation, and captured documents.⁹

Post-operation reports

This type of reporting keeps the now vacant battlefield from becoming an information vacuum for planning future operations. A file containing all intelligence information is prepared, complete with overlays of enemy positions, trail networks, and all landing zones marked to indicate aircraft capacities. A copy of each major unit intelligence summary (INTSUM), copies of each prisoner interrogation report, and prints of all aerial photography are added to the file.

Each subordinate unit down to company level should prepare a brief narrative of its experiences and summarize the lessons learned. When completed, this file represents a dynamic intelligence document to be consulted by each succeeding unit prior to initiating operations.¹⁰

INTELLIGENCE ADMINISTRATIVE AND OPERATIVE PERSONNEL

During the conduct of stability operations, US units will probably have the following intelligence and counterintelligence oriented specialists organic or attached:

INTELLIGENCE PERSONNEL

- Interrogators
- Interpreter/translators
- Counterintelligence agents
- Army Security Agency units
- Photo/image interpreters
- Signal photographers
- Censorship specialists
- Intelligence analysts
- Administrative personnel
- Scout/sentry dogs and handlers
- Psywar units
- Aerial surveillance units

The purpose of this enumeration is to inform intelligence officers that to properly utilize the magnitude of specialties a comprehensive knowledge of the capabilities and limitations of each individual specialist and type unit is mandatory. Without this knowledge, valuable tools are improperly used or allowed to "rust."

(The concluding portion of "Rx The Insurgent: Locate, Isolate, Eradicate" will be published in the January-February issue.)

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LIEUTENANT COLONEL JOHN C. GAZLAY, Armor, was commissioned in 1953 through the ROTC program at Pennsylvania State University. A graduate of the Command and General Staff College and a former instructor at the Special Warfare School, he has served as S2 of a mechanized infantry battalion and an armored cavalry regiment. He also served as an advisor to the South Vietnamese Army, and has recently returned from his second tour in Vietnam where he commanded the 2d Battalion (Mechanized), 8th Infantry, 4th Infantry Division and was Deputy G2 of I Field Force. He is currently the commanding officer of the 1st Training Battalion, 1st BCT Brigade, Fort Polk.



SERVICE ON THE STAFF AND FACULTY OF THE ARMOR SCHOOL

by Major General William R. Desobry
Commandant, US Army Armor School

The purpose of this article is to outline the benefits of a duty assignment on the staff and faculty of the Armor School. The article is specifically directed toward recent Armor Officer Advanced Course graduates or those who are scheduled to attend

AOAC in the near future.

First, and most important, I believe that this assignment does more to develop a competent, knowledgeable officer than any other non-troop duty available to an Armor captain. There are several reasons for this.

Nowhere else can one become so intimately involved with armor doctrine, tactics, hardware—weapons, automotive and communication equipment. This knowledge pays handsome dividends when you command or serve on the staff of a squadron, battalion or brigade size unit.

In authoring units of instruction, you will acquire a depth of knowledge of the subject not attainable in a student status. You research, write and submit to the critique of your peers and superiors until you become the known expert in your area. Equally important is the fact that your research invariably turns up ideas that may well develop into the tactics and techniques of the future. These, in turn, help establish materiel requirements. Thus, the instructor/author helps mold the future Army.

As an officer conceives, faculty boards, and presents his instruction, he gains invaluable experience in both individual and mass communication. He thinks on his feet, sells his subject, and in so doing, acquires a degree of confidence not easily obtained elsewhere. A corollary to this is the breadth of experience gained and the selectivity exercised in achieving expertise. As a matter of fact, the current personnel situation is such that officers who are selected for the faculty will, in most cases, be able to choose their department.

In addition to the instructional departments, one may, following a demonstrated ability in an area, subsequently be assigned to a staff agency. For outstanding performers I believe this is a must. As a consequence, it is my policy to attempt to move top instructors to the staff for their last year. Normally, they would go to either Doctrine Development, Literature and Plans Directorate, or the Office of the Director of Instruction. Service in these two directorates rounds out their experience.

In Doctrine Development, Literature and Plans, you work directly on matters dealing with research and development and formulation of armor doctrine and associated literature. You assist in the determination of future materiel requirements for the Army, and participate in monitoring such major efforts as MASSTER, the TRICAP Division and the development of the Main Battle Tank. The Armor School also has doctrine pronouncement for Air Cavalry and the attack helicopter; aviators should be particularly

interested in contributing to this effort. Thus, service in DDLP is a great prep course for later service with the Combat Developments Command or the Army staff in either OCRD or ACSFOR.

Service in the Office of the Director of Instruction can really be equated to duty in a large unit G3 section. You can gain invaluable experience in operations and planning, as well as in preparing staff actions. The wide range of courses offered by the School provides the officer assigned here a unique opportunity to learn more about the total armor scene.

In addition to the many professional benefits, there are some important fringe advantages.

The tour on the faculty is becoming more and more stabilized. Before long, we hope to be up to three years. This is an advantage to the officer's family from the dependent school viewpoint, and a chance to ride out the turbulence resulting from the post-Vietnam adjustments in our force structure. Couple this stability with the added advantage of available government quarters, and you have a very attractive package.

Educational facilities on post for college level work are continuously improving. Since the fall of 1971, we have had a degree-granting community college on post affiliated with the University of Kentucky. This enables officers who require a few hours toward degree completion to graduate. For those who desire to work toward an advanced degree, flexibility will increase. This program is beneficial to an officer's dependents as well.

One of the greatest fringe benefits of serving on the staff and faculty is the opportunity to meet and serve with a great number of Armor officers. In a normal three-year tour, well over a thousand AOAC students pass through the School. These are the officers with whom you will associate throughout your Army career. To know them, their capabilities and limitations, will stand you in good stead as you move up and are searching or recommending capable officers for key positions.

All I have written reinforces paragraph 2-14 of the DA pamphlet 600-3, *Career Planning for Army Commissioned Officers* which states "Instructor duty improves an officer's personal and professional qualification and contributes to the development of selfconfidence; consequently, assignment to instructor duty is given high priority in career development." I am sure that such ex-faculty members as Generals Abrams, Dolvin, Boye, Roseborough, and Cantlay would all agree that this tour can be very rewarding.

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Comparing APCs: USA's M113A1 vs.

Which is superior for employment in mobile warfare, the wheeled BTR-60? or the tracked M113A1

SINCE the sixties, the *M113* armored personnel carrier (APC) and its diesel twin, the *M113A1*, have become the most widely used APCs in the Free World. Their Soviet counterparts, the *BTR-60P* and its two derivative models, proliferated throughout the Soviet Army and Marines, and the Warsaw Pact nations, during the same time. Not only do the *M113A1* and the *BTR-60P* represent the western and eastern Super Powers, they also represent diverse concepts as well, for the *M113A1* is a tracked and the *BTR-60* series is wheeled.

Wheeled armored vehicles have raised little enthusiasm in the US Army for several decades, with the minor exceptions of the *Commando* armored

car in Vietnam and the development of the *SWAT* (Special Warfare Armored Transporter). Since a wheeled armored vehicle, much less a wheeled APC, is a novelty, the *BTR-60* series deserves exceptional scrutiny.

The *BTR-60P* is the original, open-topped model of the series. As do all models, it mounts four sets of 12.00 x 18 tires. In the mid-sixties, an armored-top version, the *BTR-60PK*, was introduced to provide overhead protection for the vehicle's occupants. This corrected the obvious deficiency and the *BTR-60PK* is now the most numerous model. Two cupolas and a turret were added on the third model, the *BTR-60PB*. Two machine guns, a 7.62mm and a 14.5mm,

The Soviet *BTR-60P*, the open-topped and original of the *BTR-60* series of wheeled APCs, develops a remarkable 45mph on land and 6mph in the water. Note the three oblong firing ports on the side.



USSR's BTR-60

by Lieutenant Colonel Roy F. Sullivan

are the normal armament but flare and rocket launchers may be added to the well-sloped sides of the *BTR-60*. Each side contains three firing ports so troops can use their individual weapons from within the carrier without exposing themselves.

Exposure, however, is necessary when dismounting from the *BTR-60* since the engine is in the rear and troops must clamber out over or through the top. All eight wheels of the *BTR* are driven and the front two pair steer. A pressure regulating device enables the driver to change the pressure in each tire as necessary. Water propulsion for the *BTR-60* is provided by a hydrojet mounted in the rear. Night vision devices for driving and surveillance round out the general description of the *BTR-60* series.

In comparing the *M113A1* and the *BTR-60*, the former gets the nod for the smaller silhouette. It is about eight feet shorter in length, almost one-half foot in width and approximately one foot shorter in height than the *BTR*. (Exact dimensions are in the accompanying comparison chart.)

Despite the smaller silhouette of the *M113A1*, the *BTR-60* has a better shaped hull. Its 10mm armor is sloped and its general configuration is that of a boat. Conversely, the form of the *M113A1* is often compared to that of a cigar box, a persistent complaint about this doughty performer. There is no appreciable difference between the ground clearances of the two APCs.

The *BTR-60* is superior in speed—slightly on land and appreciably in the water. The Soviet APC can do 45 mph on land and 6mph in the water. Not only does the hydrojet make the *BTR* faster in the water, it makes it a genuine amphibian, being more maneuverable and more stable in currents.

The *M113A1*'s maximum land speed is 42.5mph

and water speed is only 3.6mph. Regarding cruising range, the diesel-powered *M113A1* can go 500 kilometers or 311 miles, same as the gasoline-powered *BTR*.

Comparing cross-country mobility is doubly difficult. Such comparison is imprecise because of the differences between wheeled and tracked vehicles. Secondly, some data necessary for the comparison is not available. An example is the turning radius of the *BTR-60*. It is assumed to be less than the 13 feet in which the *M113A1* can turn, because of the length and wheels of the *BTR-60*.

Both APCs can climb forward slopes of 60 per cent and can negotiate vertical obstacles of 24 inches. The longer Russian vehicle has the edge on crossing trenches: it can manage a 79-inch trench while the *M113A1* can handle a 66-inch trench. Overall, the *M113A1* appears to have a slight advantage over the *BTR* in cross-country mobility because of the better traction of the tracked vehicle of similar weight on difficult terrain. But the amount of advantage cannot be determined because of intrinsic differences in the types of vehicles.

Both APCs are air-transportable. The *M113A1* can be parachute-delivered during phase I of the airborne operation, at an air drop weight of 18,860 pounds. The combat loaded weight of the *BTR-60* is about 22,000 pounds. That of the *M113A1* is slightly more at 24,080. In carrying capacity, the vehicles are again similar. The *BTR* has a crew of two and carries 13 or 14 men. The *M113A1* has a one man crew and carries 12 men.

Most of the differences between these two APCs are those of an excellent wheeled vehicle versus an excellent tracked vehicle of similar weight and armament. The US Army has been skeptical of the

COMPARING THE M113A1 AND BTR-60

	US M113A1 APC	USSR BTR-60 APC
GENERAL		
Mode	Tracked, 10 road wheels	Wheeled, 8 tires
Armament	.50cal mg	14.5mm mg 7.62mm mg
Water propulsion	Tracks	Hydrojet
Engine	1, 215hp diesel	2, 90hp gasoline
Firing ports	None	6
Weight, combat ld	24,080lb	22,000lb
Crew/troops	1/12	2/13 or 14
DESIGN		
Length	15.9ft	23.6ft
Width	8.8ft	9.2ft
Height w/o mg	6.6ft	7.45ft
Ground clearance	16.0in	15.8in
CAPABILITIES		
Land speed	42.5mph	45mph
Water speed	3.6mph	6mph
Cruising range	311mi	311mi
Slope climb	60%	60%
Vertical obstacle	24in	23.6in
Trench obstacle	66in	79.2in
Turning radius	13ft	Unkn

The doughty US *M113A1* and its predecessor, the *M113*, have seen service since the 1960s. Compared to the Soviet *BTR-60* series, the *M113A1* has a lower silhouette, better cross-country mobility and affords protection to troops dismounting for action through the rear ramp.



ability of a wheeled armored vehicle keeping up with and adequately supporting tanks in an all-weather, all-terrain environment. So use of wheeled armored vehicles has been restricted to special purposes like reconnaissance and security in built-up areas.

In 1967, the Soviet Union unveiled its newest APC, the *M1967*, which is tracked, low-silhouette and mounts a 76mm gun as well as a Sagger AT missile. Whether or not Soviet opinion about the usefulness of a wheeled APC, like the *BTR-60*, has changed depends upon the extent of employment of the new *M1967*.

In summary, comparison is difficult but the *M113A1* appears slightly superior to the *BTR-60* as an APC capable of world-wide employment with tanks. The *BTR-60* has better shaped armor and a hydrojet propulsion element. The major advantages of the *M113A1* are its better cross-country mobility, smaller silhouette and protection afforded dismounting troops. Perhaps one day the US will have a vehicle to compare with the newer Russian *M1967* APC.



LIEUTENANT COLONEL ROY F. SULLIVAN, Adjutant General's Corps, was commissioned in the Infantry in 1954 after graduating from Texas A&M. Since becoming interested in armored personnel carriers while with the 3d Armored Division in Germany, he has written three articles about APCs for *ARMOR*. LTC Sullivan, a graduate of the Command and General Staff College, is currently assigned to the Office of Assistant Chief of Staff for Force Development.

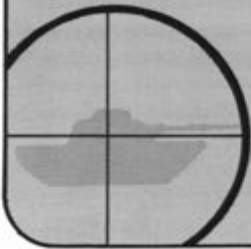
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This department is a range for firing novel ideas which the readers of ARMOR can sense and adjust. It seeks new and untried thoughts from which the doctrine of tomorrow may evolve. Items herein will normally be longer than letters but shorter and less well developed than articles—about 750 words maximum is a good guide. All contributions must be signed but noms de guerre will be used at the request of the author. ON THE WAY!!

RETIARIUS

by Lieutenant Colonel Samuel L. Myers Jr.
and
Major Patrick J. Quinlan

THE roar of blood-cries rises from the multitude in the Colosseum. Gates open at either end of the arena and two gladiators move towards each other to engage in mortal combat. One is armed as a Samnite with heavy shield and short, sharp sword. He has trained for close combat, to close in quickly on his adversary and hack him to pieces with swift strokes. The other is armed as a Retiarius; he carries a small net, a long, lethal trident and a dagger.

The Samnite eyes the lightness of his opponent's armor and feels the exultation of an impending victory. As he charges, he is suddenly upended by a swift flick of the net which catches his feet and trips him. Falling to the ground, his flailing struggles cause him to become further enmeshed in the net. His last view is of the Retiarius still standing beyond the reach of his own short sword as the trident is thrust into his throat.

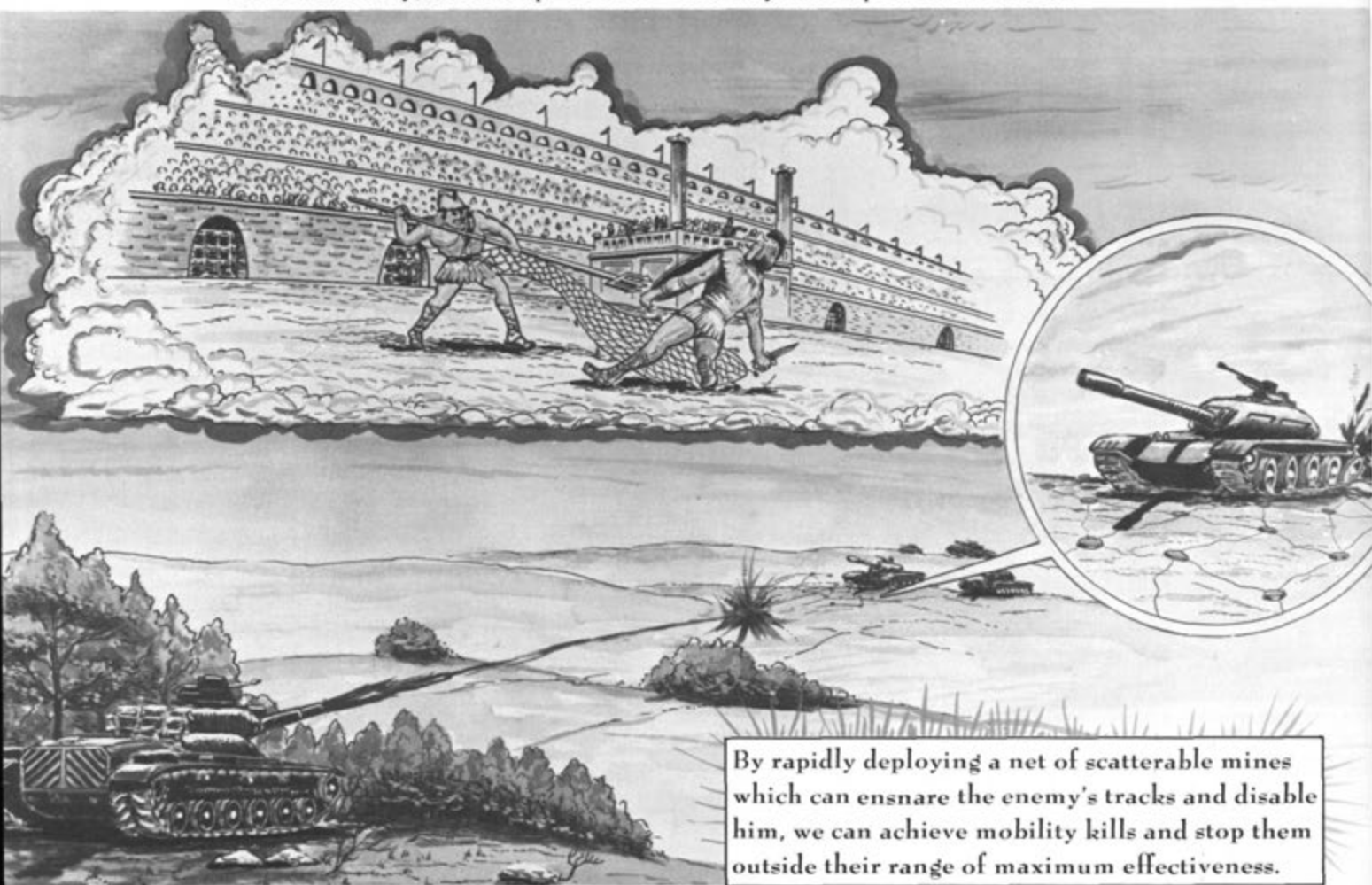
Two milleniums later, modern gladiators face each other in another arena in central Europe. The roar of the crowd is replaced by the din of exploding artillery falling on the defending force. To his front, the defender has placed a hasty mine-field and is firing indirectly-delivered, scatterable mines in the area where the enemy tank force is expected to appear. Suddenly, the platoon leader observes an unexpected force of tanks coming out of the tree line to his right front at 2,800 meters; a force which outnumbers him three to one and begins to rapidly move toward his position. He quickly alerts his platoon, issues fire commands, traverses his gun tube around and aims at the lead tank.

The enemy, flushed with the expectation of dashing across the intervening ground

to close and employ his conventional gun at near range, smiles to himself as the first volley from the defending platoon seems to fall short. The rounds explode 50 to 100 meters in front of him. Suddenly, his elation turns to consternation as he hears and feels a sharp explosion against the side of his tank and it veers to the left, its track broken. His last view is of the firing US tank, which is still out of effective range of his own smoothbore gun. A grim sense of doom creeps over him as he anticipates the rending crash of a lethal projectile penetrating his armor.

For many years, our continued emphasis on antitank weapons has been to increase our range and probability of single shot "K" kill, sometimes at the expense of rate of fire. While this is vital, it fails to address the most significant problem facing us—when outnumbered you cannot look at the antitank problem on only a *tank versus tank* duel basis. While we are engaging one tank, several others are both firing at us and closing to a more effective range. We continually say that we intend to offset a potential enemy's quantitative advantage by maintaining a qualitative advantage. But, to make our superior weapons systems and fire control devices provide this advantage, we must be able to slow down the tank battle and use the range advantage we possess.

One way to achieve this is to attain a mobility (or "M") kill on some of the attacking tanks, stopping them at long range so that the more immediate threats can be dispatched first. Mines are, of course, one way to accomplish this, but mining every avenue of approach in advance is difficult to say the least. A new approach to this problem is the concept of scatterable mines, to be delivered by aircraft or indirect-fire. Clearly, this concept offers new flexibility and responsiveness in creat-



By rapidly deploying a net of scatterable mines which can ensnare the enemy's tracks and disable him, we can achieve mobility kills and stop them outside their range of maximum effectiveness.

ing barriers to canalize and slow the enemy.

As a way to increase the effectiveness and responsiveness of this concept, we have proposed two new techniques for the use of scatterable mines. The first is that a scatterable mine munition be developed for tank direct-fire weapons systems. This would, of course, greatly increase the responsiveness of the technique, but flat trajectory fire creates problems of achieving a proper pattern on the ground to insure effectiveness.

How many tankers are familiar with what happens when you drive over commo wire or barbed wire? How many hours does it take to cut and pull the wire out of the tracks, road wheels and sprockets? Our second proposal is to connect these scatterable mines by wire, forming a web on the ground. By this method, the dispersion pattern of the direct-fired mines would be improved and, if the enemy tank did not hit a mine directly, the probability of his tracks catching the wire net and dragging the mines into the track would significantly increase the probability of achieving the "M" kill we desire.

By now the historical analogy is obvious. Retiarius used his net to achieve a mobility kill, staying out of range of the Samnite's sword, and then administered the coup de grace with his long trident. By rapidly deploying a web or net of small mines which can ensnare the enemy's tracks and disable him, we can achieve mobility kills on a percentage of the attacking force, stopping them outside their range of maximum effectiveness. This narrows the odds so that we can effectively engage the closing vehicles with accurate fire and stop them. The previously disabled vehicles can then be dispatched with long range accurate fire, and it is much easier to hit a stationary target than a moving target—at any range.

The use of mass is difficult to counter, but the Retiarius concept may allow us to turn this into a situation where we can defeat the enemy in detail, the classic path to success on the battlefield.



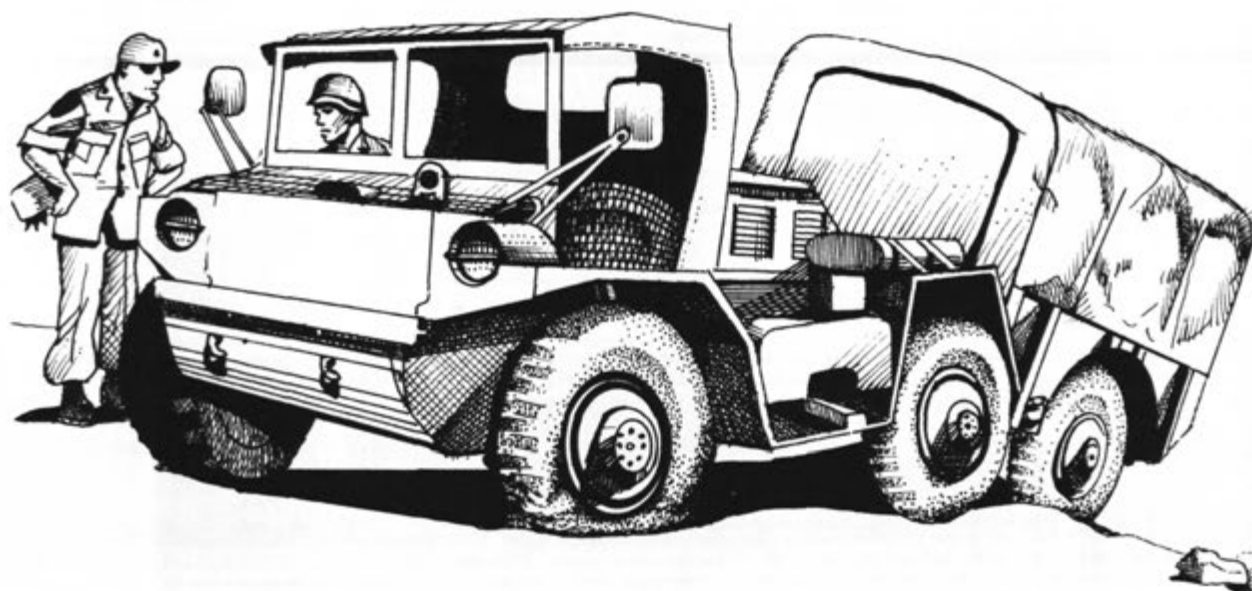
LIEUTENANT COLONEL SAMUEL L. MYERS JR. graduated from the United States Military Academy in 1958 and was commissioned in Armor. After completing the Armor Officer Basic Course, Ranger and Airborne Courses, he served as a platoon leader, troop executive officer, troop commanding officer, and regimental assistant adjutant in the 3d and 14th Armored Cavalry Regiments in CONUS and USAREUR. In 1963, he attended the advanced course at Fort Knox, and received a master's degree in mechanical engineering from the University of Michigan in 1966. From 1966 to 1969, he served in the Department of Ordnance at USMA as an assistant professor of automotive engineering. After a tour in Vietnam as executive officer, 2d Squadron, 1st Cavalry, he was assigned to the Combat Developments Command, Armor Agency, where he was a project officer and chief of the Doctrine Literature Branch. He is presently a student at the Marine Command and Staff College, Quantico, Virginia.



MAJOR PATRICK J. QUINLAN, Armor, served with the 1st Squadron, 11th ACR, in Germany after graduating from Central Michigan University in 1959. Upon completion of the Armor Officer Advanced Course in 1964, he was assigned to the 4th Armored Division in Germany, where he was an operations officer, aide-de-camp and executive officer. In Vietnam, Major Quinlan served as an operations officer to the G3 of II FFORCV and executive officer of the 2d Battalion, 2d Infantry (Mech.), 1st Infantry Division. In 1970, he graduated from the Command and General Staff College, and is currently assigned to the US Army Combat Developments Command, Armor Agency.

How Would You Do It?

US ARMY ARMOR SCHOOL PRESENTATION



SITUATION:

As executive officer for G Troop, 2d Squadron, 14th Armored Cavalry, you have the task of transporting a group of new arrivals to the 3d Platoon's field location. All of your $\frac{3}{4}$ -ton trucks have recently been replaced with the new M561 Gama Goat, and you now have your first opportunity to use this vehicle. You alert your driver and instruct the new arrivals to mount the vehicle. Within a few minutes after you start towards the 3d Platoon's location, your driver informs you that the vehicle is tugging sharply to his left. You instruct him to bring the vehicle to a halt and after a complete inspection you find that you are the victim of nothing more than a flat tire.

AUTHOR: CPT JOHN R. CUSHING

PROBLEM:

Under normal circumstances this would not cause you any great concern, but the M561 Gama Goat does not have a spare tire and your vehicle is sitting on unlevel terrain. Your troop commander is expecting the new arrivals to be in the 3d Platoon area in time for them to participate in the field training exercise scheduled for that day. You realize that time is running out and that you must repair your vehicle and deliver these people to the 3d Platoon as quickly as possible. HOW WOULD YOU DO IT?

ILLUSTRATOR: SP5 DAVID J. PEDLER

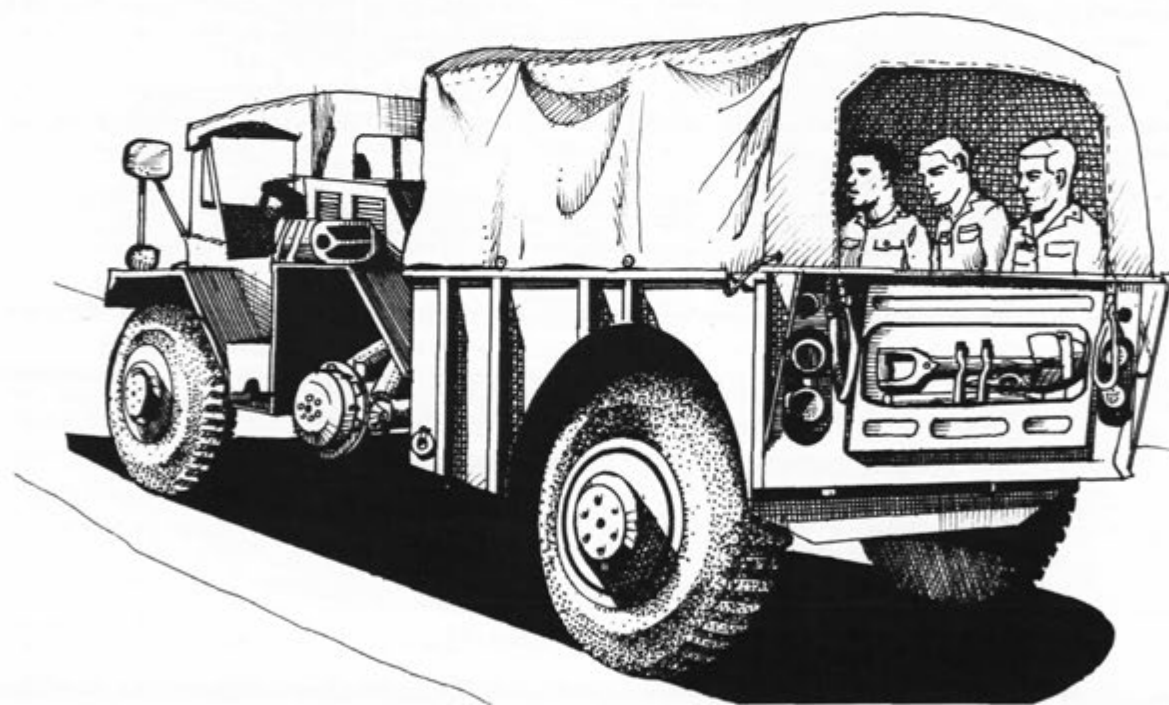
How Would You Do It?

SOLUTION:

After referring to the operator's manual, you discover that there is a method in which you can operate the M561 on five wheels. First of all you must move the vehicle to relatively flat terrain. After doing this, you would select either the left or right center wheel to replace the flat tire. Jack up the center wheel to use as a replacement and proceed with the installation of the brace assembly.

After the brace assembly installation is completed, remove the wheel. Lower and remove the jack from the center wheel location. Jack up the wheel with the defective tire and replace with removed center wheel. Store the wheel with the defective tire in the carrier and proceed with the

installation of the truss assembly. (Note: Both the truss assembly and the brace assembly are part of the basic issue items and are stored in the operator's tool bag behind the driver's seat. Instructions on the installation of both assemblies are explained in detail in the operator's manual, TM 9-2320-242-10). Note: Before moving the vehicle, make a complete check of the brace and truss assemblies to ensure proper suspension. The M561 cannot be operated in the five-wheel operational mode for an extended length of time due to possible damage to the hull and suspension system; however, you can complete your mission and assure yourself of the use of the M561 Gama Goat after a permanent repair.



*Coming in the next
issue of ARMOR . . .*

The Mechanized Infantry Assault Gun

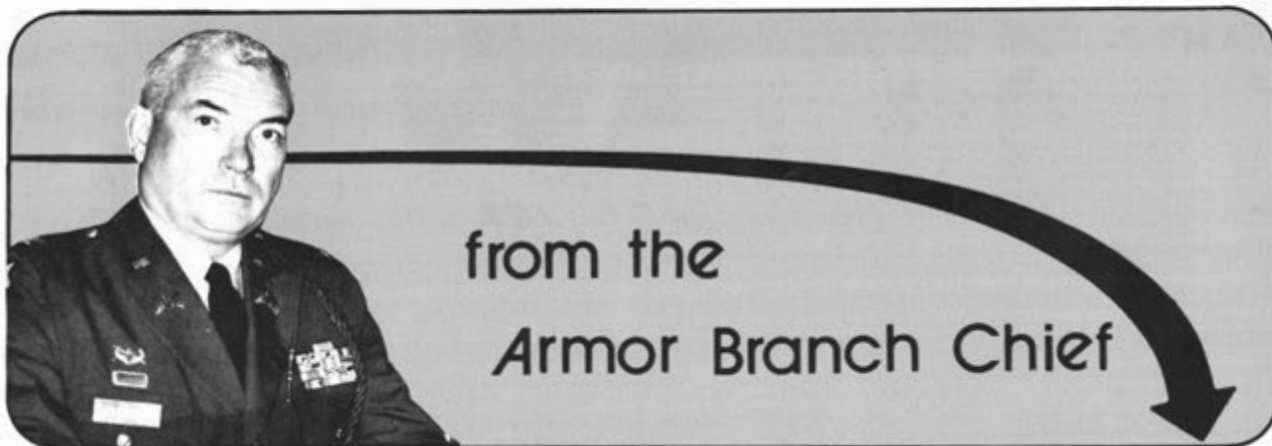
Captains Timothy P. O'Neill and Alfred T. Bowen Jr.

Books About Armor

Colonel Robert J. Icks, USAR-Retired

Waistward-Ho

Bill Herman



More on Civilian Education

In the July-August 1971 issue of *Armor*, we outlined the number of Armor officers who held each level of civilian education. With the continuing and increasing emphasis placed on education throughout the Army, more and more questions are being asked about the various programs available. In this issue, we will relate the opportunities for obtaining a bachelor's degree.

There are six prerequisites which must be met to qualify for consideration for civil schooling and they apply for either a bachelor's or a master's degree. They are: successful completion of the Advanced Course; successful company-level command; combat, if combat is available; competitive efficiency file; meet the prerequisites outlined in the applicable Army regulation; and be available to attend from the standpoint of the needs of the Army. Applications are required for participation in any of the programs; however, once an application is filed, it remains valid until the officer is selected, is no longer eligible, or withdraws his application.

Two programs for full-time attendance at a college or university are available for career oriented officers who do not have a baccalaureate degree. They are the Degree Completion Program (Bootstrap) and the Officer Undergraduate Degree Program (OUDP). The OUDP is fully funded and permits attendance up to two years, whereas the Degree Completion Program (Bootstrap), although it furnishes a PCS move, does not cover tuition costs and permits up to only one year of study. It follows that OUDP is more competitive if you qualify for both programs.

Degree Completion Program (DCP)—The DCP is a part of the overall General Educational Development Program of the Army. The objective of the program is to enable commissioned officers, warrant officers and enlisted personnel to satisfy degree requirements at an accredited college or university. Participants are enrolled on a full-time basis and must be able to complete their degree requirements within 12 months. Officer applicants must be serving on active duty, have a minimum of three years active Federal commissioned service, and possess high scholastic aptitude and career potential. A service obligation of two years is incurred. Participants are authorized PCS movement and receive normal pay and allowances. If qualified, participants may apply for VA funds to cover the costs of tuition, books and other school related expenses. Application procedures and eligibility criteria are outlined in AR 621-5.

Officer Undergraduate Degree Program (OUDP)—To be eligible for this program, an officer must be in a Voluntary Indefinite or RA status; have completed at least two, but not more than seven years active Federal commissioned service; and be able to complete the requirements for a degree within two years. Selection for OUDP is made by Branch. Officers are considered for selection if their performance and potential, particularly in combat, have been outstanding. Participants in the program incur a service obligation of two years for each year of schooling or

fraction thereof, but in no case less than three years. Currently, tuition costs plus a small amount for textbooks, etc., are borne by the Army, and normal pay and allowances are authorized during the period of training. Application procedures and additional information are contained in AR621-1.

**Armor Officer's
Pocket Guide**

Copies of the *Armor Officer's Pocket Guide*, a ready reference to frequently asked questions concerning a variety of personnel actions, are now available at Armor Branch. If you need a copy, or additional copies, please contact us. (OXford 3-1540)

**Regular Army
Applications**

Officers who wish to apply for appointment in the Regular Army are encouraged to read AR 601-100 and seek assistance with the administrative details from their personnel officer. Those desiring to apply may do so by submitting a letter through channels, using the appropriate format. A continued effort is being made by the Department of the Army, to reduce the processing time for Regular Army applications. In this regard, applicants should submit all documents listed in Change 2, AR 601-100, dated 3 February 1971, to assist in reducing processing time.

**Reduced Flight
Training Quotas**

Flight training quotas have been greatly reduced. Requests from qualified applicants will remain on file for consideration until the officer is selected or until he is notified of non-selection, becomes ineligible for selection, or withdraws his application. Selections are made on a best qualified basis. To be eligible, officers must have less than four years commissioned service at the time of entry into flight school. For further information, see AR 611-110.

Armor Ball in January

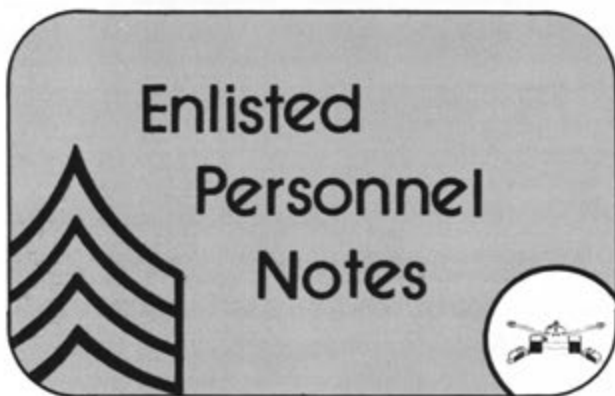
The Washington Area Armor Anniversary Ball is scheduled for 21 January 1972 at the Bolling AFB Officers' Club. If you are new in the Washington, D.C. area, did not receive an invitation last year, have moved, or are going to be around on 21 January, please send us your address and a contact phone number. You will be invited. Write or call: Secretary (Major Graves), 195th Armor Ball, Tempo A, Room 1344, 2d Ave. & V Streets, S.W., Washington, D.C. 20315 (OXford 3-0690)

**COMMANDERS
INFORMATION OFFICERS**

ARMOR needs and wants . . .

- A copy of your unit newspaper.
- Releases with photos on awards of DSCs to Armor people.
- Notice of assignments of field officers and sergeants major to key positions at battalion level and up.
- Results of military competitions.
- Articles, releases and photos of unit activities worldwide.
- All photos of armor, armored cavalry and air cavalry units. We are building archives which will be very valuable in the future.





From the Director of Enlisted Personnel

ARMOR VOLUNTEERS ENCOURAGED FOR VIETNAM

As the size of the Army decreases and qualitative management takes effect, soldiers with combat experience will naturally have an advantage over non-combat veterans in retention, promotion and career development.

Among Armor soldiers, there is a sizable group of NCOs who, due to relatively low requirements, have never been assigned to Vietnam. These soldiers are strongly encouraged to volunteer for Vietnam at this time to gain valuable combat experience and enhance their careers.

Personnel may volunteer in an Armor or any other MOS in which they are qualified, by submitting a DF through channels in accordance with AR 614-30, Chapter 2. No application for Vietnam may be disapproved at any level below Department of the Army, so all volunteers are guaranteed full consideration. Final action on an application may be expected in six to eight weeks after submission.

If you are an Armor NCO who has not been to Vietnam, you have a lot to gain by volunteering.

MONETARY INCENTIVES FOR ENLISTED COMBAT ARMS MOS

Three proposals of a financial nature have been under consideration to improve enlistment, reenlistment and enhance professionalism in the enlisted combat skills. Following is a summary of these proposals and their current status:

Enlistment Bonus—Authority for payment is contained in H.R. 6531 and Senate approval is still to be obtained. The effective date will be established by DOD; implementing directives are in the final draft stage. Indications are initial application will be in Army combat arms specialty Career Groups 11 and 13 on a test basis with a \$3,000 limit payable in three equal installments for a three year commitment. The bonus will serve as the monetary incentive for new combat arms accessions; however, soldiers already serving in their first term of service would be given the chance to participate in the program on a pro-rata basis.

Maximum Variable Reenlistment Bonus (VRB)—This

proposal was implemented on 1 July 1971 and raised the VRB multiplier from two to four for the MOS in Career Groups 11 and 13. Soldiers qualified in Infantry-Armor or Field Artillery Cannon MOS, who reenlist for the first time after completing at least 21 months of active service, will now receive their regular reenlistment bonus plus an amount four times the regular bonus up to a maximum of \$10,000. The maximum VRB will serve as the monetary incentive for retaining qualified combat arms soldiers beyond their first term of service.

Special Proficiency Pay—Due to the unfavorable reaction by DOD and Congress to the Army's proposal for paying a special proficiency pay in combat arms MOS, it has been placed into contingency status pending evaluation of the effectiveness of increased VRB and the enlistment bonus. No FY 1972 funds are available, but FY 1973 funds will be earmarked tentatively should the need develop.

EMPHASIS ON QUALITY

The fact that the Army is currently directing much effort toward achieving its goal of being a truly volunteer organization by no means implies that anything short of a highly professional, quality Army will be acceptable. There may currently be some confusion among enlisted personnel as new policies are arriving in the field. It may appear at first glance that some of the new policies are inconsistent. Why, for example, is the Army seeking higher enlistment rates while, at the same time, it is involuntarily releasing other personnel? The answer, of course, lies in the need to place decreased reliance on the draft as the primary source for younger soldiers while concurrently attempting to phase the overall Army strength down to lower authorized levels.

The Qualitative Management Program which was announced in Change 41, AR 600-200, is a major feature of the new program. The first phase of this program extended to 30 June 1971 with phase two commencing on 1 July 1971. The total impact of this program will have a far reaching effect on the enlisted force. With career tenure governed by a combination of time-in-grade and time-in-service while qualitative screening of the enlisted force continues, personnel with a history of mediocre performance will no longer be retained in the Army. Complement this with the recent announcements raising promotion and reenlistment criteria and one soon gets the message that professionalism and discipline will not be compromised. All of these new policies point to the fact that the "automatic reenlistment environment" is a thing of the past.

Since under the new programs an individual must establish and maintain his military and technical performance and qualifications at a level which will insure his tenure as a career soldier, the logical question uppermost in the minds of most career soldiers is, "How am I rated among my contemporaries and how can I stay on top?"

The answer to the first part of the question lies partly with the Enlisted Evaluation System set forth in Chapter 5, AR 600-200 and the Enlisted Efficiency Report and Rating System set forth in Chapter 8.

AR 600-200. The former provides an objective measure of the technical knowledge of an individual in his Military Occupational Specialty Code while the latter is a subjective evaluation by the individual's supervisor of his job performance and potential. They are both given appropriate weight and together serve to determine if minimum qualifications have been met. They also rank the individual among his contemporaries by grade and MOS. Placing consistently low can deny an individual the opportunity to compete for promotion, reenlistment and other career opportunities.

This, then, brings us to the final point of which commanders, personnel managers and enlisted personnel should be continuously aware. In order for an individual to be in the best possible position to compete in this highly competitive environment, he must be placed, within Army requirements, in a career field and MOS best suited to his prior experience, aptitudes and potential. He must then be allowed to develop this potential to the maximum. Only then do both the Army and the individual benefit. The commander's responsibility to accomplish his mission is well understood and fully appreciated. However, now more than ever before, commanders and personnel managers must assess the potential impact on the careers of their personnel prior to any reclassification action between career fields or MOS. Additionally, misutilization of personnel, whether through misassignment or mismanagement may seriously jeopardize an enlisted man's career in that personnel not actively engaged in the application of their primary skills tend to lose these skills. This places them at a disadvantage with their contemporaries during annual MOS testing. They may even fail to achieve the minimum score necessary to verify in their PMOS. Failing to verify twice consecutively results in mandatory reclassification action while three consecutive failures to verify in an MOS can result in elimination from the service as set forth in Chapter 2, AR 600-200.

In addition, a low score will have a tremendous impact on the individual soldier in many other areas. For example:

- A score below 70 in the preceding 12 months bars reenlistment. (To reenlist a soldier must have been tested in the preceding 12 months unless specifically exempted by HQ, DA.)
- A score below 70 is a bar to the award of Specialty Pay.
- A score below 100 is a bar to promotion qualification.
- A score below 130 (Combat Support MOS) or 120 (Combat MOS) is a bar to the award of Superior Performance Pay.

Since MOS evaluation has such an important impact on the individual, commanders and personnel managers must insure, as well as the individual, that prior study and timely testing, as announced by DA, is completed. This, of course, includes the accurate and timely submission of the Enlisted Efficiency Report. Absence of current evaluation data can also have an adverse impact on many personnel actions and will result in loss of Proficiency Pay unless testing has expressly been excused by DA.

In summary, today's Army is moving rapidly towards a highly qualified, competitive profession where commanders and personnel managers must apply sound personnel management principles and individual soldiers must work hard to maintain their skills and a high level of performance.

CAP III BEGINS

Personnel managers at Department of the Army have a new tool to assist them in making assignments of enlisted personnel. Called Centralized Assignment Procedures (CAP) III, it now affects only senior grade, Intelligence and Special Category Personnel, but eventually all enlisted personnel will be included in this comprehensive assignment system.

CAP III is a computer system which compares available personnel assets with known field requirements and then "nominates" one through nine candidates for each assignment. The system also provides for complete manual assignment selection, by-passing the nomination process, for such categories of personnel as command sergeants major, and WACs. After a personnel manager chooses the best man for the job, regardless of whether he was nominated by the system or manually selected, the assignment instructions are automatically sent to the field via AUTODIN. The utilization of electrical communications equipment is eventually expected to provide individuals with earlier notification of assignments.

CAP III is expected to improve every phase of assignment making, i.e., the validation of requisitions, the systematic application of established priorities, and the desired world-wide distribution of all enlisted personnel.

You will be hearing more about it from your personnel shop in the future.

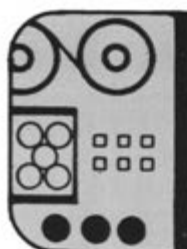
SPECIAL MOS EVALUATION TESTING FOR REENLISTMENT, PROMOTION

The Enlisted MOS Evaluation System has been expanded and is now more important than ever. In fact, many soldiers will not be eligible for promotion or reenlistment without taking one of the new Special Qualification Tests. The tests are in the same form as the regular MOS Evaluation Tests, and if you meet the following requirements, you'll have to take one of them.

To be promoted in an MOS other than your PMOS, you must take the Promotion Qualification Test. To take the test, you will need your commanding officer's recommendation and a score of 100 or higher on your most recent PMOS test. Procedures for Promotion Qualification Testing are contained in DA (COPO-EPPME) msg 221314Z Jun 71.

If you want to reenlist and you do not have a PMOS evaluation score of 70 or higher in the last twelve months, you must take a Reenlistment Qualification Test. Procedures for this testing are contained in DA (COPO-EPPME) msg 141335Z Jul 71.

These two special testing programs are aimed at further improving the quality of the enlisted career force. They also emphasize that MOS qualification is the responsibility of every soldier as well as his CO and personnel office.



ARMOR CENTER INNOVATIONS

Officers Get a Dirty Deal

Officers attending the Motor Officer Course at the Armor School have been getting a dirty deal from the Periodic Services Division of the Automotive Department. The PSD instructors are convinced that the students will be better motor officers if they have an appreciation for the amount of time and effort required to maintain the Army's vehicles. In order to accomplish this, the officer students are required to perform a semiannual service on a *M151* 1/4-ton truck and a quarterly service on a *M113A1* armored personnel carrier. The objective is to make the officer a better supervisor, although the immediate result is a group of officers covered with dirt, grime and grease. At the completion of the Motor Officer Course, most of the officers agree that the hands-on-equipment instruction is the most enjoyable and beneficial that they have received—dirty deal included.

Automotive Dept. Introduces Hydraulics Instruction

The Automotive Department of the Armor School has implemented a new unit of instruction on hydraulic systems to support a requirement in the program of instruction for the Track Vehicle Mechanic Course, MOS-63C20. The purpose of this unit is to teach the mechanic procedures for inspecting, troubleshooting, adjusting, and repairing or replacing components of a hydraulic system applicable to organizational maintenance.

The 16-hour block of instruction begins with a 3-hour conference in which an explanation is given concerning basic principles, advantages and components of hydraulic systems. The crane hydraulic system of the *M543* wrecker truck is an example of a relatively simple system, and contains the components present in other vehicle hydraulic systems. Additional instruction is required in other hydraulic systems due to construction, components to be operated, and some different applications of the same basic principles. The remaining 13 hours are devoted to the practical exercise on inspecting, adjusting, repairing, replacing and troubleshooting malfunctions in main and auxiliary systems, to include the main and hoist winches, boom, spade, impact wrench, fuel transfer pump and lockout cylinder. This is highlighted by the students being required to apply recently-learned principles and procedures to troubleshooting the hydraulic systems of the *M88* and *M578* medium and light recovery vehicles, respectively, the *M543* wrecker truck and the *M113A1* armored personnel carrier. Students are divided into four 6-man groups and are afforded an opportunity to operate each system to detect improper operating conditions. The value of organizational mechanics being able to inspect and properly test hydraulic systems to ensure efficiency of operation cannot be overemphasized.

The hydraulics instruction will certainly enhance the mechanic's ability to quickly and efficiently troubleshoot and repair systems when malfunctions occur, as well as provide time-saving information to support level maintenance units concerning the nature of malfunctions beyond the repair capability and authorization found at organization level.

Reservists Contribute to Army Team Concept

The Armor Center team concept of instruction has come of age in the Radio School of the 6th Battalion, 2d Brigade, and reservists who teach there during their summer duty have fit right into the system.

The purpose of this concept, first introduced in the Armor School in MOS-related

training, is to provide a small, highly knowledgeable team of instructors to teach all subjects scheduled for a particular MOS class of trainees. In this way, a closer and more effective instructor-trainee relationship is attained than was possible under the previous system which employed a variety of specialists, each of whom only taught a limited number of hours. In implementing this teaching technique, the Radio School has established teams of three instructors as factotums. These instructors take an entire class through its ten weeks of training, to include such subjects as procedures, equipment, Morse Code and the entire family of radios. Adoption of this concept has not only improved the caliber of instruction presented, but has also proved beneficial to the Regular Army and reservist instructors who present the instruction.

Maintenance Support Positive (MS+)

As a major element of the maintenance portion of the logistics offensive, DCSLOG, DA as initiated Maintenance Support Positive (MS+), a comprehensive program to revise and improve the current Army maintenance system. This program has the objective of providing optimum materiel readiness of Army equipment while minimizing the maintenance burden, especially in the forward areas. Far reaching changes are envisioned in certain maintenance practices, with possible savings in manpower and materiel.

Current and anticipated Army equipment is becoming more complex. It is creating a vast gap between the availability and the requirement for skilled maintenance personnel. Additionally, an accelerated increase in the number of repair parts allocated to forward area maintenance activities have caused an increase in resources at multiple locations. Factors influencing this program include: the current and anticipated trends toward "modularized maintenance"; increased availability of logistics airlift in both supply and retrograde of materiel; and the current and anticipated financially austere environment. Consideration must include not only cost effectiveness and efficiency, but also timely and responsive support of the operating element.

Current and future maintenance of all equipment must include the idea of the module replacement concept, especially those which can be easily fault-isolated, and rapidly removed and replaced. It is envisioned that future conventional equipment development will incorporate the idea of easy-to-replace modules.

In effect, the overall impact of this program is to reorient our maintenance concept and shift the major maintenance repair burden to the rear. Selected modules will be replaced in the forward area, thus maintaining end item availability and readiness. The replaced module will be discarded or returned to the appropriate repair facility. Repaired modules will be returned through maintenance and supply channels as required. Cost savings will be realized in having small parts located in a central location instead of numerous lower echelon shops.

Revised MACs for Army Aircraft

The US Army Aviation Systems Command (AVSCOM) is currently undergoing a program to revise Maintenance Allocation Charts (MAC) for Army aircraft and associated end items. These revisions are a result of an Army-wide meeting that was conducted by AVSCOM to update the MACs and bring them in alignment with new equipment in the inventory and current maintenance support concepts.

Major changes to the MACs include:

- Deletion of replacement parts that are established in applicable RPSTLs.
- Publication of MACs for power plants in the power plant technical maintenance manual rather than in the manual for the basic aircraft.
- Standardized functional group coding for general support equipment (GSE) MACs in the same format as for the aircraft and power plants.
- Transfer of repair parts coded for general support overhaul to depot level overhaul. These forthcoming changes will simplify the use of the aircraft technical maintenance manuals and will be in consonance with maintenance support positive (MS+).

news notes

LTG SURLS BECOMES COMMANDING GENERAL OF SIXTH US ARMY

Lieutenant General Alexander D. Surles Jr. has assumed command of the Sixth US Army, replacing Lieutenant General Stanley R. Larsen.

General Surles has had a variety of troop and administrative assignments during his 34-year career. After graduating from the United States Military Academy in 1937, he served as a cavalry platoon leader and troop commander. Upon completion of the Command and General Staff College in 1942, he was assigned to the Sixth Armored Division.



LTG Alexander D. Surles Jr.

After World War II, General Surles served on the Joint Chiefs of Staff with the Military Staff Committee of the United Nations until 1948. During the Korean War, he commanded the 5th Regimental Combat Team.

General Surles, a graduate of the Army War College and the Harvard School of Business Administration, has served as the assistant commandant of the Infantry School, and the commanding general of the Armor Center and commandant of the Armor School.

In 1965, he commanded the 4th Armored Division. His most recent assignments have been chief of staff, US Continental Army Command, and chief of staff, US European Command.

LTG SENEFF NEW COMMANDER OF III CORPS

Lieutenant General George P. Seneff Jr. has succeeded Lieutenant General Beverly E. Powell as commanding general of the III Corps and Fort Hood.

General Seneff began his military career in 1936 when he enlisted as a private in the Army. After serving one year as an enlisted man, he was selected to attend the United States Military Academy and was commissioned a second lieutenant, Field Artillery, in 1941

(transferred to Armor Branch in 1948). He served in the European Theater of Operations during World War II with the 14th Armored Division.

After World War II, General Seneff served as a tactical officer at West Point from 1946 to 1948, and as assistant Army attache in London from 1950 to 1953. He commanded the 82nd Reconnaissance Battalion of the 2nd Armored Division in Europe in 1953. In 1956, he qualified as an Army Aviator and was subsequently assigned to the Office of the Chief of Research and Development in Washington, where he was in charge of the Army Aviation Research and Development Program.

In 1960, General Seneff joined the US Delegation to the North Atlantic Treaty Organization (NATO) in Paris. In 1963, he commanded the 11th Air Assault Aviation Group at Fort Benning. Two years later, he became the director of Army Aviation.



LTG George P. Seneff Jr.

After commanding the 1st Aviation Brigade in Vietnam, he was assigned to command the 3d Infantry Division in Europe. His most recent assignments include serving as director of operations with the US Strike Command and deputy commanding general of MASSTER.

General Seneff was promoted to his present rank on the day that he assumed command of III Corps and Fort Hood.

MG CANTLAY COMMANDS 2D ARMOR DIVISION

Major General George Gordon Cantlay, a 1943 graduate of the United States Military Academy, is the new commander of the 2d Armored Division at Fort Hood.

General Cantlay comes to Fort Hood after a tour as deputy commanding general of the Armor Center. His World War II service was with the 24th Tank Battalion

of the 13th Armored Division as a platoon leader and light tank company commander.



MG George Gordon Cantlay

During the Korean War, he was a general staff officer with the 7th Infantry Division. This was followed by a tour on the faculty of the Armor School; attendance at the Command and General Staff College; and duty on the faculty of the USMA.

In 1960, General Cantlay attended the Army War College and served from graduation until 1965 on its faculty. In Vietnam, he had tours with the 1st Infantry Division and the Delta Military Assistance Command.

PROJECT MAST PROVES SUCCESSFUL

Project MAST (Military Assistance to Safety and Traffic) has now been in operation at Fort Lewis for more than one year and has logged over 100 missions to date.

MAST is a Department of Defense sponsored program using military helicopters to evacuate civilian highway accident victims and other emergency patients to hospitals within the local area. In addition to Fort Lewis, MAST is currently underway at four other military installations in the western United States.

At Fort Lewis, the 3d Armored Cavalry Regiment has the responsibility for MAST and provides all helicopters, pilots, crewmen and medical personnel. The project has proven so successful that it has been extended indefinitely. MAST crews have rescued victims of heart

attacks, gunshot wounds, farm injuries, and mountain-climbing and traffic accidents.

The 3d Armored Cavalry has made several changes during MAST's first year in order to make the program more effective. The entire crew of the helicopter now receives medical training; previously only the medic was qualified. Hoists have been added to the helicopters to rescue people from otherwise inaccessible areas such as mountainous and heavily-wooded terrain. Civilian mountain rescue teams now stand-by with the MAST crews on weekends to assist in rescuing victims of mountaineering mishaps.

The MAST crews, on stand-by 24 hours a day, initially responded to emergencies only within 60 miles of Fort Lewis. Now they reach out 100 miles or more in a critical case, as they did during a recent midnight rescue from a glacier near Mt Hood, Oregon.

COL GRAHAM COMMANDS 2D ARMORED CAVALRY REGIMENT

Colonel Charles P. Graham has assumed command of the 2d Armored Cavalry Regiment, succeeding Colonel Matthew R. Wallis. His previous assignment was executive officer to the Commander in Chief of USAREUR and 7th Army.

A 1952 West Point graduate, Colonel Graham has had assignments with Headquarters, Allied Forces, Central Forces; 64th Armor, 3rd Infantry Division; Office, Assistant Vice Chief of Staff; and commanded the 2d Squadron, 1st Cavalry in Vietnam.

Colonel Graham has graduated from the Command and General Staff College, Army War College, and holds a master's degree in mechanical engineering from the University of Michigan.

ARMY GUARD RECEIVES SHERIDANS

New and rebuilt materiel continue to be supplied to Guard units as 54 *Sheridan* light tanks, that have been released due to inactivation of Regular Army armored cavalry organizations, are scheduled for use by Ohio's 107th Armored Cavalry.

The model the 107th received is *Shillelagh*-oriented, rather than with the smoothbore main armament. *Shillelagh* is a 152mm gun/launcher that fires either conventional rounds or guided missiles. The 16-ton amphibious reconnaissance vehicle can climb 60 per cent grades or three-foot vertical walls, cross trenches wider than eight feet, and travel 43mph on land. Its secondary armament comprises both .50 caliber and 7.62mm machine guns, and grenade projectors.

In addition, California, Kentucky, New Jersey, New York, Pennsylvania and South Carolina units will be receiving 119 *M48A3* tanks, which are close to the *M60* in modernity.

MONUMENT TO HONOR THE LATE CONGRESSMAN RIVERS

Admirers of the late Congressman L. Mendel Rivers of South Carolina will erect a monument in his honor.

General Mark W. Clark, president emeritus of The Citadel, is chairman of the committee of distinguished





Bell's new *KingCobra*, which is being proposed to the Army and Marines, can perform anti-armor missions, day and night, in the most adverse weather, terrain and threat environment.

citizens who will commission the preparation of the monument, ensure its proper placement, and raise the funds with which to underwrite the project. General Clark said, "We want all who admired this great American to have an opportunity to contribute to the monument. Large contributions will be welcomed. However, we hope for thousands upon thousands of small donations from those Mendel affectionately called 'My People.'"

According to General Clark, the monument will be an exquisite bust of Mr. Rivers on a substantial but simple pedestal. It will be the only monument in what the General termed "A beautiful little park in the heart of Old Charleston."

Funds remaining after monument expenses will be placed in one of the scholarships already established in memory of Congressman Rivers.

Donations of any amount are welcomed. Gifts should be mailed to Rivers Monument, Charleston, South Carolina 29401.



Sergeant First Class Charles McGrath has been chosen First Army Outstanding Drill Sergeant for 1971. The Manfield, Ohio native and veteran of 13 years service has trained approximately 2,200 Armor reconnaissance students at the U.S. Armor Center since January 1969.



The front view of the *KingCobra* shows the variety of armament it can expend, including three-barrel 20mm cannon in turret and rockets, and antitank missiles on wing stores.

the tarpaulin

Covers a bit of everything gleaned from the service press, information releases, etc. Contributions are earnestly sought.

TAKE COMMAND

MG George G. Cantlay, 2d Armd Div . . . MG Joseph E. Pieklik, Army Tank-Automotive Command, Warren, Mich . . . COL Charles P. Graham, 2d Armd Cav Regt . . . COL Frederick E. Tibbetts, Seventh Army Tng Ctr . . . COL Dan H. Williamson, DISCOM, 1st Armd Div . . . LTC Thomas Birriel-Carmona, MC, 15th Med Bn, 1st Cav Div . . . LTC Edward H. Bonsall, 1st Sqdn, 3rd Armd Cav Regt . . . LTC James A. Damon, 4th Bn, 1st Bde, USATCA . . . LTC Edward H. Day, 2d Bn, 5th Bde, Ft. Leonard Wood . . . LTC Bernard J. Doneski, 1st Bn, 72d Armor, 2d Inf Div . . . LTC David D. Gilpatrick, 4th Sqdn, 7th Cav, 2d Inf Div . . . LTC Robert M. Gomez, 2d Sqdn, 1st Cav, 2d Armd Div . . . LTC William M. Hadly, Inf, 2d Bn, 16th Inf, 1st Inf Div . . .

LTC John W. Hudachek, 1st Sqdn, 10th Cav . . . LTC Richard G. Hyde, 5th Recon Sqdn, 2d Bde, USATCA . . . LTC Bernard M. Landau, 3d Sqdn, 2d Armd Cav Regt . . . LTC Claude D. Linkous, 6th Bn, 2d Bde, USATCA . . . LTC Roger Price, 2d Bn, 32d Armor, 3d Armd Div . . . LTC Allen D. Raymond, 1st Sqdn, 4th Cav, 1st Inf Div . . . LTC Benjamin B. Russell, 1st Bn, 73d Armor, 2d Inf Div . . . LTC Donald E. Sparks, 4th Bn, 70th Armor, 4th Inf Div . . . LTC Bertin W. Springstead, 1st Bn, 63d Armor, 1st Inf Div . . . LTC William M. Stokes, 2d Sqdn, 11th Armd Cav Regt . . . MAJ Hilbert H. Chole, 170th Avn Atk Co, 1st Sqdn, 9th Cav, 1st Cav Div.

ASSIGNED

LTG George M. Seignious II, Deputy Assistant Secretary of Defense for Military Assistance and Sales . . . MG James F. Hollingsworth, Dep CG, XXIV Corps . . . BG Hugh J. Bartley, ADC, 3d Inf Div . . . BG John L. Gerrity, ADC, 1st Armd Div . . . BG Homer S. Long Jr., Dep CG, Ft. Knox . . . BG Jack MacFarlane, Dep CG, Ft. Jackson . . . COL James P. Cahill, ACofS GI, HQ Eighth Army . . . COL Donald E. Eastlake, Ft. Lee . . . COL Daniel W. French, Dep CO, Seventh Army Tng Ctr . . . COL Maurice C. Greene, MAAG, Belgium . . . COL J.A. Manning, Plans Div, ACofS G3, HQ Eighth Army . . . COL O. W. Martin Jr., *Military Review*, Ft. Leavenworth . . . COL C. R. McFadden, MIS, HQ Sixth Army . . . COL Carmelo P. Milia, Dir, Wpns Dept, USA Armor School . . . COL Clyde H. Patterson Jr., Ex Div, ODCSOPS, HQ USAREUR . . . COL Abram V. Rinearson III, Dir, AMTD, TECOM . . . COL John Walker, CofS, TACOM . . . COL William L. Webb Jr., Inf Tng Ctr, Ft. Ord . . . LTC Charles M. Canedy, Dir, DDLP, USAARMS . . . LTC Robert F. Carr, G3, 101st Abn Div . . . LTC Gene E. Clark, Dep CO, 2 Bde, USATCA . . . LTC Ronald Ellefson, 29th GS Gp, USARV . . . LTC J. Lynn Fleming, Armor Mobility Rep, US Standardization Gp (UK) . . . LTC Ervin E. Madisen, XO, DISCOM, 2d Armd Div. 1st CAVALRY DIVISION: CSM Edward R. Bonds, HQ, DISCOM . . . CSM Roberto Carreras, 3d Sqdn, 1st Cav . . . CSM Ernest G. Graham, 1st Bn, 77th Bn, 77th Arty . . . CSM Howell D. Hutchison, HQ, 4th Bde . . . CSM Kenneth L. Long, HQ, 27th Maint Bn . . . CSM Johnny E. Love, 1st Sqdn, 9th Cav . . . CSM Nathaniel R. McElroy, 2d Sqdn, 7th Cav . . . CSM Robert L. Taylor, 13th Sig Bn . . . CSM Shafter Tomlin, 1st Sqdn, 8th Cav . . . CSM Sterling Wheeler, 1st Bn, 13 Armor . . . 2D ARMORED DIVISION: CSM Thomas Carruthers, 1st Bn, 66th Armor . . . CSM Carl M. Schoening, 17th Engr Bn . . . CSM John F. Sublousky, 2d Bn, 67th Armor . . . CSM Raymond H. Upp, 2d Bn, 41st Inf.

VICTORIOUS

The 1971 award winners for tank and M551 gunnery in the 3d Armd Div are: High Cavalry Troop—A Trp, 3d Sqdn, 12th Cav, CO: CPT Robert Phillips, 1ST: PSG William Tillman; High Tank Company—B Co, 2d Bn, 32d Armor, CO: CPT Alfred Dobilla, 1SG: 1SG Jack Duloncez; High Tank Battalion—3d Bn, 32d Armor, CO: LTC William M. Jewell Jr., CSM: CSM George Showell . . . The Combat Development Command Creative Thinking Award was recently presented to CPT Craig

N. Herget for suggesting a modification on fuel tank condensation removal for the M60 tank series . . . Distinguished Graduate of AOAC 501-71 was CPT Wesley K. Clark (who wrote "The Elusive Concept of Honor," *ARMOR*, September-October 1971); Honor graduates were: CPT Van B. Cunningham, MAJ Wayne A. Rush, CPT James V. Smith Jr. and CPT William S. Huff II . . . Distinguished Graduate of Aviation Maintenance Course 17-71 at the USA Transportation School was CPT Larry M. Robinson . . . Motor Officer Course Distinguished Graduates were: 2LT Philip D. LaChapelle (Course 15-71) and CW2 Billy R. Leedy (Course 1-72) . . . AOB Distinguished Graduates were 2LT Ronald S. Ching (Course 17-71), 2LT David L. Boucher (Course 18-71), and 2LT Fred E. Brown (Course 1-72) . . . Distinguished Graduate for Armor Crewman NCO Basic Class 1-71 was SGT Randy D. Halcomb.

AND SO FORTH

The 800 men of the 3d Sqdn, 3d Armd Cav Regt, who participated in maneuvers with the German 12th Panzer Div, drew high praise from LTG Arthur S. Collins Jr. for their professional performance while in Germany . . . The II ARVN Armor Bde has been formed and trained over a year earlier than planned, and is now on station as a major subordinate element of II Corps . . . The 1st Sqdn, 8th Cav, 1st Cav Div recently participated in a NATO-related exercise to test the cooperation between Norwegian and US Forces. EXERCISE BARFOOT '71 took place in Troms County, Norway, which is within the Arctic Circle . . . The 1st Cav Div celebrated its golden anniversary on 12 September. The First Team was organized at Ft. Bliss in 1921 and has seen action in World War II, Korea and Indochina . . . COL Thomas J. Cunningham Jr., 27th editor of *ARMOR*, is the new director of communications for the Retired Officers Association. . . The colors of the 1st Bn, 77th Armor, the last US tank battalion in Vietnam, were recently returned to Ft. Carson and turned over to the 2d Bn, 34th Armor for safekeeping. The unit is currently at zero strength . . . The 2d Armd Div recently welcomed its newest unit, the 8th Bn, (Chapparral-Vulcan) (Self-Propelled) 60th Arty. The battalion commander is LTC J. Hollis V. McCrea . . . Over 750 former members of the 3d Armd Div attended the 24th reunion in Cincinnati, Chicago is the site for next year's reunion . . . MAJ Nguyen Von Loc, ARVN Liaison officer, who is departing the Armor School, was presented a Master Tanker Certificate . . . 1LT Jim D. Edwards, Trp C, 2d Recon Sqdn, USATCA, was a member of the six-man US Army Rifle Team that won the National Team Match trophy held at Camp Perry, Ohio . . . Our apologies to Lieutenants John F. Lilley and John S. Brown for having mixed up their photographs and captions in the September-October issue . . . US Army Civil Affairs School moved from Ft. Gordon to Ft. Bragg in early fall, and became a part of the John F. Kennedy Center/Institute for Military Assistance . . . The 10th Armd Div Association Div recently held its 20th reunion at Ft. Lauderdale, Florida. Next year's reunion will be held in Philadelphia over the Labor Day weekend.



FROM THE JAWS OF VICTORY: A History of the Character, Causes and Consequences of Military Stupidity, from Crassus to Johnson and Westmoreland.

by Charles Fair. Simon and Schuster. 445 pp. 1971. \$8.95

Should men ever swear off war, such a significant renouncement could be brought on only by widespread, universal revulsion of war's horrible wastage. Much of battle's devastation is heightened, if not created, by the blundering of those who direct it. Therefore, military leaders whose stupidity comes to public view in some martial catastrophe serve an important social need—they accentuate the trauma of war to the extent that man may eventually come to reject it as a means of social intercourse. This is the thesis of *From the Jaws of Victory*.

Having decided he disliked the war in Vietnam, it was an easy step for Charles Fair to categorize all war as equally stupid, and with a little imagination to amplify his thesis with some highlights of military blundering through the ages. Crassus of Rome, defeated by the Parthians at Carrhae; Totila the Goth, defeated by the Romans at Taginae; Philip VI of France, defeated by the English at Crecy; Montcalm, losing French America at Quebec; and so on to Charles XII, Peter the Great, Philip II of Spain, McClellan, Burnside, Haig, Ian Hamilton, and General Westmoreland and President Johnson; all are names high on Fair's list of "clumsy, wanton, single-minded men who during the few thousand years of our history have framed the policies and directed the battles which have brought such an extremity of trouble upon the rest of us."

Since it is in vogue with the contemporary spree of fault finding with the military, *From the Jaws* . . . has been acclaimed as a companion to *The Peter Principle*, a sequel to *Parkinson's Law*. It is neither. It has been hailed as a preview of what is in store

now that "the American Republic has gone a good part of the way toward becoming a military state." It is not such a preview. The subtitle promises it to be a "history of the character, causes and consequences of military stupidity." It is none of these. A military reader is inclined to write it off as just another voice in the chorus of bellowing against the military. But it is probably more than that.

Avid historian Fair obviously has an eye for military minutiae—they beclutter most of his book. As an historian, he rates mediocre marks; his work is uneven and spotty. Ambrose Burnside rates a chapter, while but a few words are adequate to treat French military blunders in World War I. There is neither a line on anyone in World War II, nor a name in Korea. The majority of the battles Fair uses to support his thesis do not exactly rate a place among the fifteen, or even the fifty, decisive battles of the world. So one could almost charge Fair with having selected his axe to grind, then having carefully chosen the scapegoat stones on which to grind it. But perhaps this is not the case, perhaps Fair is indeed an earnest, well-meaning fellow. If so, then his book has a far more sombre lesson, one that is highlighted by a look at the names of the authorities with which he documents his case for military stupidity.

Fuller, Froissart, and Spaulding; Mattingly, A.T. Mahan, and D.S. Freeman are familiar, respected references. Even his Clausewitz is not too badly used. But his conclusions about Vietnam come from Corson, Duncan, and Salisbury—neither objective

reporters, nor authoritative historians. Herein is the root problem, for Fair uses them all as authorities of equal consequence. In addition, had he read his more reliable sources carefully he might have concluded that certainly as much havoc has been wrought by victors in battles that have virtually remade the world—sometimes for the better, as by those unfortunate enough to blunder away their fortunes, and lives, in some ill fated encounter of little overall significance. It is one thing to select from the record less than capable performances that have abetted some disaster; it is quite another to set aside and ignore redeeming developments that have in many cases grown from war's ruining wins and losses in order to prove out a thesis. Furthermore, it is easy to find fault with a performance in retrospect; how much more difficult it is to put oneself in the performer's place on history's moving train, and to test rationally, in context, the judgments that lead to disaster or glory—and in war the two are but a thin fringe apart. Finally, while it is easy to pontificate about history's vainglorious blunders, it is presumptive to apply the same sort of judgments to men who directed part of a war not yet ended. In all wars but Vietnam, Fair's blunders in tactics, strategy, and politics are essentially those recounted by historians of caliber. But the Vietnam war is stupid because Corson and Duncan say so—search and destroy tactics are the Johnson-Westmoreland contribution to the lexicon of military stupidity. But no one—Duncan, Corson, or much less Charles Fair seems to have a suitable alternative.

So if Charles Fair is for real, then his book is an alarming testimony for what can happen to a well educated contemporary man whose knowledge of Vietnam is limited to a few highly acrimonious accounts (one wonders how he missed Halberstam!).

And so his book should be both a warning and a challenge. For unless some perspective objectivity can be brought to bear on the United States experience in Vietnam, well-meaning Charles Fair's will forevermore believe it a waste and a mismanaged farce which ranks equal with a selected list of military *faux pas* in sort of tradition of military imbecility that has historic roots and continues even unto our time. And if this happens, it will all have been a waste—the generations of lives lost, the worlds of treasure spent, the dedicated and convinced citizens who, in the end, watched their country's strength and resolution slip away for lack of national purposefulness, dedication and maturity. And that, in the end, will be the greatest blunder of them all.

Brigadier General Donn A. Starry

WILLIAM TECUMSEH SHERMAN

by James M. Merrill. Rand McNally & Company. 445 pages. 1971. \$10.00

Through his spectacular and innovative march to the sea from Atlanta to Savannah in November-December 1864, Major General William Tecumseh "Uncle Billy" Sherman gave the world a preview of what would become the total warfare concept of twentieth century wars, and earned for himself a lasting place in American history books. Beyond that singular campaign, however, the Sherman image is faint and blurred, except for his reputation as a hard-nosed campaigner—which he was. Sharpening the focus on the Sherman personality on an intimate basis, as a husband, father and businessman, as well as a soldier, is the overall purpose of this "popular biography" written by Dr. James Merrill, professor of history at the University of Delaware and the author of *Spurs to Glory: The Story of the United States Cavalry*.

Aided by the recent discovery at Notre Dame University and the Ohio Historical Society of voluminous correspondence from Sherman to his family and friends, to which the author was granted first access, Doctor Merrill has fashioned an interesting, sympathetic and quite readable picture of Sherman through success and failure in peace and war. Sherman's early life is treated superficially, and perhaps rightly so, because before the onset of the Civil War, Sherman meandered about as soldier and businessman, with not much success in either field. That the Sherman character was ready to be tested cannot be denied. While sitting out the Mexican War in California, Sherman wrote, "I cannot reason myself into the belief that it is better that I should be clear of this war, for whether it is just or unjust, it is in the interest of every officer to gain experience in his profession and this can only be done in action . . ."

Answering the call to the colors in 1861, Sherman's early Civil War record was spotted with unsatisfactory results primarily due to inexperience, the highlight of which was his relief from command of the Department of the Cumberland in late 1861. His remarkable recovery and reassignment to a combat command within one year was mainly due, the author points out, to the patronage of President Lincoln and General Halleck. This in itself was a singular achievement since Halleck had earlier reported Sherman to Washington as physically and mentally unfit for duty. Sherman's note to his brother, John, during this period summed up his despondency: "I do think I should have committed suicide were it not for my children."

Studded throughout this book are innumerable incidents that reflect the human Sherman for good and bad. From his grief over the death of his oldest son Willy (after a visit with his father following the Vicksburg campaign); from his anger and frustration over battles with politicians and the press as the Army's top soldier during the Grant Administration; from his wrath over his son Tom's decision to become a Roman Catholic priest; from his attitudes toward the black man and, later, the red man: from these and other incidents emerge a rare glimpse of Sherman the man.

Unfortunately, the author's treatment of Sherman's military exploits are ridden with serious omissions and oversights. Admittedly basing this biography principally upon Sherman correspondence, the author then nearly omitted the most famous of the Sherman correspondence—his messages to Grant which precipitated the march to Savannah. Between 10 September 1864 and 6 November 1864, Sherman proposed and explained to General Grant his strategic idea for bringing war to the people of the Confederacy—by cutting a 40-mile wide swath through the heartland of Dixie to the sea. Initially against such a move, Grant finally but reluctantly agreed, after considerable correspondence between them. In this book, where this correspondence would have aided considerably if reprinted in its entirety, the author dismissed the episode by stating incorrectly that Sherman made the proposal on 1 October 1864 and Grant merely wired approval.

The absence of any account of Sherman's influence upon, and patronage of Emory Upton, one of the most brilliant military minds ever produced by America, is a glaring deficiency. A commandant of cadets and an instructor of tactics at West Point who was sent by Sherman to Asia and Europe to study their military forces, Upton wrote *The Military Policy of the United States*, which became, after its publication in 1904, the standard work on American military policy.

Sherman's deep, longstanding interest and involvement in Army officer education (he started the Command and General Staff College at Fort Leavenworth, Kansas) also received short shrift—one paragraph and no specific accomplishments.

The book does contain, however, an exhaustive 18-page bibliography containing, among other works, two earlier biographies of Sherman (by B. H. Liddell Hart and Lloyd Lewis), either of which would be of more value to the military reader than Dr. Merrill's latest effort.

Major John G. Fowler Jr.

OFFICIAL HISTORIES:

Essays and Bibliographies from Around the World.
Edited by Rogin Higham. Kansas State University Library. 644 pages. 1970. \$12.00.

A bit more than five years ago the editor of this work, himself an eminent military historian, realized that there was no comprehensive guide to the official histories of the world. In order to fill a need, he sent queries to all possible sources of information of these histories to include the producing agencies and also scholars who are authorities in the field. As one might imagine, the resulting essays or articles are by no means uniform in style, quality or degree of importance to scholars. But the real point is that with its strong and weak points, this is a competent, sole source of invaluable information for those interested in history, personally and professionally.

And, significantly, this volume is strongest in the fields of military and naval history. Included among the factual, if uninspiring, official accounts of various state holdings and publications are some superb chapters written by leading historians. These are not only absorbing, but in many cases are amusing, as well as being fine examples of style. It is dismaying that this unique work has received so little notice in either historical or military journals. It is entirely too useful not to be more widely known and owned.

Colonel O. W. Martin Jr.

STILWELL AND THE AMERICAN EXPERIENCE IN CHINA, 1911-45

By Barbara W. Tuchman



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