My experiences with a strategic CI unit revealed just how critical special operations training is to successful mission accomplishment. When I was assigned in Germany we routinely conducted training in surveillance, surveillance photography and standard and nonstandard communications. Since the hostile intelligence services were very active in our area it was imperative that we were proficient in these skills. We often scheduled all day surveillance training exercises which allowed us to test our ability to operate in teams in an urban setting. In practicing as often as we did, we quickly became familiar with the intricacies of trying to conduct CI special operations over an extended period of time. Although it often looks quite simple on television, surveillance is an extremely difficult undertaking. Proficiency is only developed through practice, coordination and teamwork. On occasion, we trained with a NATO unit in Germany. Through such training, our soldiers were exposed to several new techniques, many of which have been successfully employed in an actual LIC. Our counterparts recognized the extreme importance of sound CI special operations.

We as intelligence professionals must work to ensure that our young CI soldiers are exposed to as much special operations training as possible. Commanders of intelligence organizations must actively seek out challenging training programs which will serve to develop their soldiers' proficiency in these areas. Since they are largely technical in nature and dependent on a large amount of practice, CI special operations will require training time to be allocated in sufficient proportions. While some commanders may be reluctant to do this in the garrison environment, not to do so invites many problems should a LIC require their soldiers to function once deployed.

In summary, the time we invest in CI special operations training now will pay great dividends in the future. Commanders must seek out available military and civilian training programs. REDTRAIN and live environment training (LET) opportunities with OCONUS strategic CI units are excellent means for further enhancing your CI soldiers' skills. Far from being "James Bondish" in nature, CI special operations techniques are certain to play a critical role in any LIC we may see ourselves involved with in the next decade. In preparing now, we will be able to live up to the motto of our corps - ALWAYS OUT FRONT.

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The Army's Stepchild - Technical Intelligence

ESSAY

by Lieutenant Colonel (Ret.) William L. Howard

One of our most glaring weaknesses during World War II was our inability to collect technical intelligence. Although the basic role of the soldier has not significantly altered over the centuries, the weapons he uses have changed drastically. Only a few people in the U.S. Army at the time of World War II understood that technological innovations in weaponry could have dramatic effects on the outcome of combat operations. This small group considered it imperative that the Army stay abreast of the current weapon system developments of our Allies, as well as the enemy.

With the advent of the war, the requirements for information on foreign military technology began to come from the highest levels of the Army. The most immediate requirements dealt with information on the German use of radar and rockets and their progress in developing an atomic bomb. Other intelligence requirements were limited to troop dispositions, logistical support and potential capabilities. Information on the design and development of tanks, artillery and small arms remained a low priority.

Most information on the technical capabilities of German weapons came from the analysis of materiel recovered from the battlefield. The Foreign Materiel Branch at Aberdeen Proving Ground, Md., did the detailed analysis of the captured enemy gear.

The Ordnance Corps and other technical services set up enemy equipment identification units that traveled to the combat theaters to study captured weapons and equipment. In many cases these units conducted battlefield training programs on the use of enemy equipment. Such training had little appreciable impact on operations until after the Normandy invasion in June 1944.

However, as the war progressed and U.S. forces encountered new equipment, technical intelligence units moved with the combat elements and evacuated considerable quantities of materiel. Although jet airplanes, long-range rockets and nuclear weapons cap-

tured the imagination of most high-level planners, the Allied combat developers continued to seek out information on more mundane materiel.

After the war was over, the postwar technical intelligence organization in this country reverted to its prewar size. The Ordnance Intelligence Unit at the Pentagon continued its work on a smaller scale, and a technical intelligence team at Aberdeen Proving Ground conducted extensive research into foreign ordnance which was dominated by captured German equipment. Compared to today's technical intelligence work, their efforts were limited in scope and would prove of little value until the Korean War.

Military intelligence agencies did interview captured German officers to determine combat methods used against the Russians, and they prepared numerous classified studies. In 1947, the Army developed the Aggressor Program to add realism to training, but because of political reasons and a lack of Soviet equipment, the program was not as effective as today's Opposing Forces Program.

Korea and Its Aftermath

During the Korean war when U.S. and South Korean forces began to use captured Soviet artillery weapons, the ordnance technical intelligence experts supplied appropriate technical details, and artillery officers provided guidance on artillery procedures. But in retrospect, American technical intelligence in the Korean War was slow to rise to the occasion. Because of the short duration of the conflict the mission was of little value to the combat troops. However, the work proved of definite value in later years.

In attempting to understand Soviet military capabilities, technical intelligence operatives provided the basic analysis of Soviet equipment and industrial capabilities. The foreign weapons training they conducted paved the way for training innovations such as the present program at the National Training Center.

The Korean War also pointed out some serious shortcomings in our materiel acquisition process. These problems would be resolved in 1962 with the reorganization of the Army, but it would take several more years before the analysis of captured Soviet weapons would have any impact on U.S. weaponry.

The two decades following World War II witnessed several events which on the surface seem to have little to do with weapons design or tactics. But they provided the impetus for future development. One key event was the Russian success with *Sputnik*, which orbited the earth in 1958. Responding to this technological surprise, the Department of Defense created the Defense Advanced Research Projects Agency, an organization of scientists and engineers who worked on developing advanced concepts in science and technology which might yield important military applications.

By 1961, the Defense Intelligence Agency (DIA) was coordinating U.S. and allied intelligence and managing the defense attaches worldwide. DIA drew information together and analyzed it for the Joint Chiefs and the Secretary of Defense.

In 1962, the various technical services were reorganized under the new Army Materiel Command, which included the new Foreign Science and Technology Center (FSTC) as a subordinate command. This organization centralized control and coordination of information coming in from a variety of sources. Unfortunately, the 1962 reorganization had a serious weakness; the lowest level at which a technical intelligence element was authorized was at corps. This element's function was to advise the corps commander, through the G2, about the capabilities of enemy weapons encountered in the field.

The Vietnam Era

As U.S. involvement in Vietnam began to expand, the 519th Military Intelligence Battalion deployed to Saigon. The unit staffed the Combined Materiel Exploitation Center (CMEC) which included Ordnance, Signal, Chemical, Medical and Engineer detachments and also fielded five "go teams" assigned to collect captured materiel.

Because the early stages of the Vietnam War were primarily infantry-artillery operations, the weapons collected were down side — Soviet Bloc small arms, RPG-7 antitank rounds and RKG-3M antitank hand grenades, for example.

That soon changed when the first enemy rockets hit Danang air base shortly before dawn on February 27, 1967. "First light" aerial reconnaissance discovered the firing positions in an open area northwest of the base. A reaction force quickly recovered some launchers and unfired Soviet 140-mm M14-OF(HE) rockets. The launchers were individual sheet metal tubes, attached to 1x8 planks. There was a simple ratchet device at the rear of the tube to retain the rocket when the tube was elevated. Information at CMEC indicated the easily transportable launcher tubes may have been obtained by disassembling a truck-mounted, multiple-tube rocket launcher of the Soviet BM-14 type.

When incoming rockets hit Camp Carroll, an Army-Marine Corps fire base near the demilitarized zone, identification of the enemy hardware was not so easy. Patrols were unable to recover any launchers or duds. The low dud rate in Soviet artillery projectiles and rockets is strong testimony in favor of the Soviet design. Soviet fuses are rugged and simple, containing only the most essential safety mechanisms.

The appearance of a significant "new" North Vietnamese attack capability was not a total surprise. There had been several hints from captured enemy documents and prisoner interrogation reports that something new was being introduced. However, these hints were vague and pinpointed no particular weapon or weapons system. Then, late in 1966, personnel from Military Assistance Command Special Operations Group returned from a deep penetration mission with two samples of a previously unreported Soviet fuse — the DKZ-B. A quick examination at CMEC revealed that the new fuse was similar to the Soviet GVMZ-7 fuse used on 120mm mortar projectiles and also contained a centrifugal arming device with a delay pellet for bore safety.

CMEC realized that the presence of such fuses in

ammunition caches in Eastern Laos was a clear warning of future employment of a new weapon. But the U.S. intelligence community was unable to identify the new threat because the DKZ-B fuse was simply unknown.

The breakthrough finally came in May 1967. During a rocket attack on the Bien Hoa airbase, an American aircrew spotted the rocket back-blasts and brought fire on the launcher positions. The Viet Cong immediately aborted the attack. When a reaction force went out to search the launch area, they recovered the first complete 122mm rocket and it had a DKZ-B fuse installed in the warhead.

According to CMEC, the rocket recorded a diameter of exactly 122mm. When the FSTC received the information, they suggested that the rocket be measured again because it had to be either 115mm or 132mm — the known calibers of the smaller Soviet artillery. When friendly forces recovered more of these new rockets, FSTC finally conceded that there might be both 115mm and 122mm rockets in the Soviet inventory.

Friendly forces still hadn't captured a 122mm rocket launcher, but the Combined Military Interrogation Center discovered a prisoner who had been a crew member on a 122mm rocket launcher. This prisoner drew a good sketch of the launcher, which he described as having a "single rifling in the tube." There was no apparent or logical explanation for needing a rifled tube to launch a rocket which had both a canted rocket nozzle and spring-loaded canted fins to stabilize it in flight. When a rocket launcher was finally captured, the reason for these unusual features became clear.

Translating the prisoner's words from Vietnamese to English was very difficult because there were no Vietnamese equivalents for most technical terms. What was translated as "one rifling" was actually a spiral cover welded to the outside of the launcher tube, which enclosed a continuous slot in the tube. The stud and roller assembly rode in the slot, imparting a very positive clockwise rotation to the rocket as it was launched. In seeking increased accuracy from an inherently inaccurate weapon, the Soviets had called in the mechanics rather than the engineers. And they had provided a simple fix for a very complex problem. Examination of available photography revealed that the exterior spiral cover was clearly visible in some of the photos of the "115mm rocket launcher." The designation was changed to 122mm.

The next major incident that brought technical intelligence to the Field Artillery's aid occurred just after the TET offensive. Infantry units near the demilitarized zone began receiving incoming fire from mortars across the ridge line. The unit heard the rounds leave the tube and seconds later the rounds impacted. Neither counterbattery units nor observation patrols could locate the enemy artillery unit. Finally, shell fragments were sent to CMEC for analysis. They revealed that the rounds were from a 120mm field artillery piece, not from a mortar. The North Vietnamese artillery had been firing at a maximum range of 18 kilometers; and the incoming shells, when their speed decayed below the speed of sound, produced a "plop" which misled the observers. Once reconnaissance patrols extended their radius out to 18 kilometers, the enemy artillery was quickly located and silenced.

Ordnance specialists also developed fragment identification guides to assist field soldiers in identifying incoming rounds. In the post-Vietnam era, shell fragments recovered in Vietnam were used to produce training aids for crater analysis classes.

Technical intelligence collection activity continued in Vietnam until late 1971 when the vast bulk of the technical intelligence personnel withdrew from the war zone. Collection efforts recovered new Soviet equipment such as the IMP mine detector, artillery weather instruments and a battery commander's scope. These finds provided the intelligence and fire support communities an indication of an ever-improving enemy force. At the national level, it provided the intelligence community with the basic information needed to modify U.S. estimates of Soviet capabilities and to begin work on developing countermeasures. The multiple launch rocket system was one of the Field Artillery systems to profit from the study of foreign technology.

Post-Vietnam

The Soviets' commitment to the sustainment of "wars of liberation" is nowhere more evident than in the designs of their equipment. Their weapons are simple, reliable and extremely durable. Such materiel is ideally suited for equipping military or paramilitary personnel who have a minimum of training and few or no mechanical skills. On the other hand, some U.S. equipment requires so much maintenance that it requires operators with extensive mechanical backgrounds.

We will most likely continue to see obsolete Soviet weapons and equipment in Central America and other areas of Soviet interest. The Soviets' use of the 9M22M 122mm rocket in Afghanistan is well documented. More significantly, the Soviet troops fighting in Afghanistan carried a new series of infantry weapons. They are part of the third post-World War II generation of materiel.

In the training arena, programs such as those begun by the Red Thrust Detachment and the National Training Center do an excellent job of providing realistic training on threat tactics and what might be called close-combat equipment. But, we seem to be handicapped in the area of artillery fire. Should an actual conflict take place, infantry units under fire from unknown and unlocated enemy artillery will naturally contact the nearest artillery unit for help and advice. Field Artillery officers of all ranks must have a working knowledge of technical intelligence operations and where to go for the necessary help or information.

Summary

History teaches us that there will be considerable delays in getting captured enemy materiel to the rear for analysis. Apart from the normal hazards of combat, there are the problems of transporting the materiel, pilferage of war souvenirs and lack of quali-

fied technical intelligence personnel at the combat unit level. Hopefully, the next major conflict will find us better prepared and better equipped to conduct accurate and timely technical intelligence.

Lieutenant Colonel (Ret.) William L. Howard received his commission from the Citadel. He is a graduate of the Tank-Automotive Maintenance Officer Course and the Command and General Staff College. He served as the commander of the 11th Military History Detachment in France and the Combined Materiel Exploitation Center in Vietnam. He later transferred to Armor and was an instructor in the Armor Officer Advanced Course. Howard has also served as a consultant on Soviet armor and antitank weapons at Battelle Memorial Institute. He assisted in establishing 96B MOS training at Fort Dix, N.J.

Ordnance Corps Certificate of Affiliation

The ordnance Corps Certificate of Affiliation is ready for distribution to all Ordnance soldiers. To be eligible to receive a certificate, the individual must hold an Ordnance MOS or area of concentration. All Ordnance commissioned officers, warrant officers and enlisted personnel are eligible to receive a certificate. Beginning in the 1st QTR of FY 89, certificates will be issued by schools awarding MOSs or AOCs; therefore, units only need to request the number of certificates for soldiers currently in their units.

Requests for these certificates must be consolidated at battalion level or higher and forwarded to: Office Chief of Ordnance, ATTN: ATSL-O-S, Aberdeen Proving Ground, Md. 21005-5201. The following information must be included in the request: Name of unit, UIC, military address, POC, telephone number and number of certificates required.

Enemy Prisoner of War Operations

by Major William A. Doyle

Conventional mobile warfare over the last 50 years has usually resulted in the capture of large numbers of prisoners of war by both sides. The law of land warfare and international agreements stipulate the capturing power's responsibilities and codify the great demands prisoners of war place on the support system of an army in the field. Within the Department of Defense, the U.S. Army is responsible for handling prisoners of war for all U.S. forces.[1] Despite extensive U.S. Army historical experience, present Army doctrine is not sufficient to properly perform the prisoner of war handling mission in a theater of war.

As history has shown us, the major combatant powers in World War II and Korea were ill-equipped to properly handle prisoners of war. One analysis of the situation sums up the American experience: "In almost every war in which the United States has been involved, EPW operations have assumed the dimension of an afterthought."[2]

The handling of EPW in future warfare could quickly take on an ethical dimension as men and women in captivity starve to death, die of exposure or die of simple, otherwise curable, medical problems due to a lack of medical treatment. These things have happened to prisoners of war held by Germans, Soviet Russians, Japanese, North Koreans, Chinese Communists, North Vietnamese and it has happened to prisoners of war in U.S. custody as late as 1945.

Towards the end of World War II, the U.S. Army established a prisoners of war camp at Bad Kreuznach, Germany. Here, perhaps 100,000 German prisoners lived for one year in the open with no fixed shelter, no proper food and only limited medical treatment. Sometimes 100 prisoners died every day. Much of this occurred *after* hostilities had ended.[3]

Several problems surfaced from the U.S. World War II prisoners of war handling experience. First, the Army found that responsibility for prisoners of war planning had been divided between the Provost Marshal General in the European theater and the commanding general of the theater's Services of Supply. This division of responsibility resulted in coordination problems that were eventually solved by the transfer of all staff and actions to the commanding general of Ser-