lowing year, AGF proposed the assimilation of the tank destroyer arm by the Field Artillery. It took the combined protests of the Tank Destroyer Center and the Field Artillery School to thwart the merger. Even so, Field Artillery became the official branch of all tank destroyer enlisted personnel.[71]

In 1944, the War Department announced a plan to consolidate the Tank Destroyer School with the Armored School, and it did in fact merge the Tank Destroyer Officer Candidate School with that of the Armored Command at Fort Knox. The training activities remaining at Camp Hood were detached from Tank Destroyer Center control and placed directly under the authority of AGF's Replacement and School Command. Even the Tank Destroyer Board was lost to the center when it became an appendage of Headquarters, AGF.[72]

The tank destroyer establishment felt its decline most keenly when it began to lose the freedom to determine and promulgate tank destroyer doctrine. The confusion over "offensive action" that marred tank destroyer operations in Tunisia led AGF to demand that the Tank Destroyer Center rewrite FM 18—5.[73] The work was promptly undertaken, and by May 1943, General Bruce possessed a revision of the original manual that he expected would soon be published. However, over a year would pass before the center, AGF, and the War Department could agree on a new version of FM 18—5.[74]

The leaders of the tank destroyer establishment would not admit that their much maligned doctrine was, in truth, fundamentally flawed. General Bruce claimed that the problems with tank destroyer doctrine were "a misinterpretation of words more than anything else."[75] He explained that the motto—Seek, Strike, and Destroy—had always meant vigorous reconnaissance and destruction of tanks by gunfire, not chasing or charging tanks.[76] Although Bruce continued to believe in the basic tank destroyer concepts, during May 1943 he made a number of important doctrinal concessions. In a significant departure from the original tank destroyer doctrine, Bruce told the instructors of the Tank Destroyer School that "our tank destroyer mission is to *protect* other troops from tank attacks . . . ,"[77] whereas FM 18—5 (1942) had stated unequivocably that the mission was the destruction of enemy tanks. Bruce used the same phrase in the cover letter to a Tank Destroyer Center training circular dated 15 May 1943 that was sent to all tank destroyer units for guidance until a revised FM 18—5 appeared. The circular employed the words "aggressive spirit," rather than "offensive action," to describe tank destroyer characteristics. It further stated that "stealth and deception" characterized tank destroyer tactics and warned that tank destroyers were "particularly vulnerable to antitank fire."[78]

Thus, Bruce and the Tank Destroyer Center, under pressure from overseas criticism and from AGF, wrote "offensive action" out of tank destroyer doctrine, but they stood fast on the viability of high-mobility, high-firepower tank destroyers. When AGF ordered the center to begin testing a towed tank destroyer battalion in January 1943, Bruce resisted. General McNair agreed with the veteran commanders of the Tunisian campaign that at least some battalions should be armed with the more easily concealed towed gun,

but in the eyes of the tank destroyer establishment, the self-propelled gun remained the centerpiece of doctrine. The specially designed M-18, upon which the hopes of tank destroyer advocates rested, was still a year away from full production.

Bruce's objections proved futile and on 31 March 1943, AGF ordered the conversion of fifteen battalions then in training at Camp Hood from self-propelled to towed. Eventually, AGF ordered that half of all tank destroyer battalions adopt the towed gun.[79] A table of organization for the towed battalion became official on 7 May 1943. It was similar to that of the self-propelled battalion except that there was no reconnaissance company; instead, two reconnaissance platoons were placed in the battalion headquarters company. The need for larger gun crews and more security troops raised the battalion's complement to 816 officers and men.[80] Ordnance quickly produced a version of the three-inch gun, towed by a half-track troop carrier, to arm the new battalions (see figure 8).[81]

The towed tank destroyer battalion demonstrated significant drawbacks almost immediately. Instructors at Camp Hood found that towed units required a completely new program of tactical and technical instruction.[82] When towed battalions first entered combat in Italy, they compared unfavorably to self-propelled tank destroyers. Battalion commanders generally

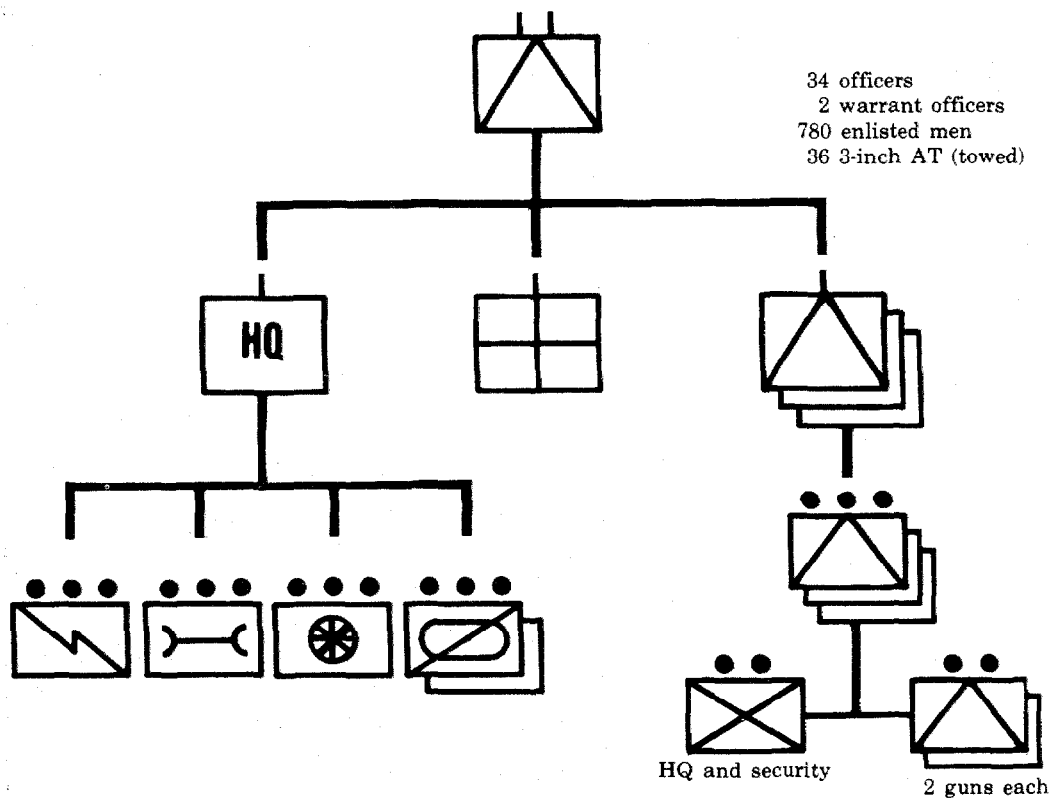


Figure 8. Tank destroyer battalion (towed), 1943

agreed that the towed gun was easier to conceal than the M-10 or M-18 but found that it was harder to man and fire in the forward areas and that it was not readily adaptable to the secondary missions that made self-propelled tank destroyers so valuable.[83] The towed gun was simply a less versatile weapon, and it appeared at a time when the versatility of the self-propelled tank destroyer was one of the few bright spots of the entire program.

Ironically, the day of the towed antitank gun was passing on all fronts of the European war. The difficulty of concealing the self-propelled tank destroyer in the open terrain of North Africa, which had generated many calls for towed guns, was not common to Italy or western Europe. In the east, both the German and Soviet Armies were turning to self-propelled antitank guns in increasing numbers, even as the U.S. Army adopted towed tank destroyers.

In sum, the advent of the towed tank destroyer did nothing to resuscitate the declining tank destroyer establishment. The credibility of the tank destroyer program had been badly and permanently tarnished by adverse reaction to a doctrine predicated on inaccurate notions of armored warfare and flawed by a dangerous and unwarranted advocacy of "offensive" tactics. An apologist could claim that the tank destroyer concept had yet to be fairly tested, given the piecemeal employment of German armor, the use of expedient tank destroyer equipment, and the supposed misuse of tank destroyers by higher commanders. However, it must be noted that enemy tanks were present in both Tunisia and Italy, and that tank destroyers alone failed to nullify them, in part because tank destroyer doctrine lacked the flexibility to provide for unanticipated circumstances. Thus, doctrine was largely abandoned, and the rationale underlying the existence of a tank destroyer arm brought into question.

The Tank Destroyer Center and Headquarters, AGF, were islands of faith surrounded by seas of doubt. With the departure of General Bruce to assume command of the 77th Division in May 1943 and the tragic death of General McNair in July 1944, the tank destroyer establishment lost its strongest advocates. The future of tank destroyers in the U.S. Army would hinge upon their performance in the invasion of northwest Europe, scheduled for 1944. The invasion would bring the Allies face-to-face with the masters of blitzkrieg in the decisive campaign of the war.

The European Theater: A Pyrrhic Victory

4

The tank destroyers that fought in the climactic campaigns of World War II operated under an official doctrine much changed since 1942 and the days of Seek, Strike, and Destroy. On 18 July 1944, more than a year after AGF directed the Tank Destroyer Center to revise its doctrine, the War Department published a completely new edition of FM 18—5 entitled *Tactical Employment, Tank Destroyer Unit.* The new manual covered the tank destroyer battalion and company and was accompanied by four smaller manuals that dealt individually with the self-propelled tank destroyer platoon, the towed platoon, the reconnaissance platoon, and the pioneer platoon.[1]

The changes in tank destroyer doctrine were much more than organizational in nature. The new manuals incorporated a number of revisions that reflected the battlefield lessons of North Africa and Italy. For example, the 1944 version of FM 18—5 made no reference to Seek, Strike, and Destroy or to "offensive" tank destroyer tactics. Instead, it indicated that the "action of tank destroyers is characterized by an aggressive spirit . . . . They employ stealth and deception in opening fire."[2] Also, *"Tank destroyers ambush hostile tanks but do not charge or chase them."*[3]

Tactical mobility, once the keystone of the tank destroyer concept, was also de-emphasized in FM 18—5 (1944). Whereas the 1942 manual had indicated that mobility, rather than heavy armor, would protect the tank destroyer from enemy fire, the 1944 edition stressed the use of cover and concealment to compensate for the acknowledged "vulnerability of tank destroyers to hostile tank, antitank, and artillery fire."[4] Tank destroyers were advised to fight from their primary firing positions until those positions became untenable,[5] rather than automatically shifting to alternate positions after firing three or four rounds, as FM 18—5 (1942) had suggested.[6] This change was in keeping with General McNair's belief that tanks were best fought "by sticking, not maneuvering."[7]

To compensate for the new restrictions placed on maneuver, the 1944 manual called for the positioning of tank destroyers in depth, in a manner reminiscent both of the prewar antitank box and of antitank techniques employed by the Germans in North Africa. Specifically, FM 18—5 (1944)

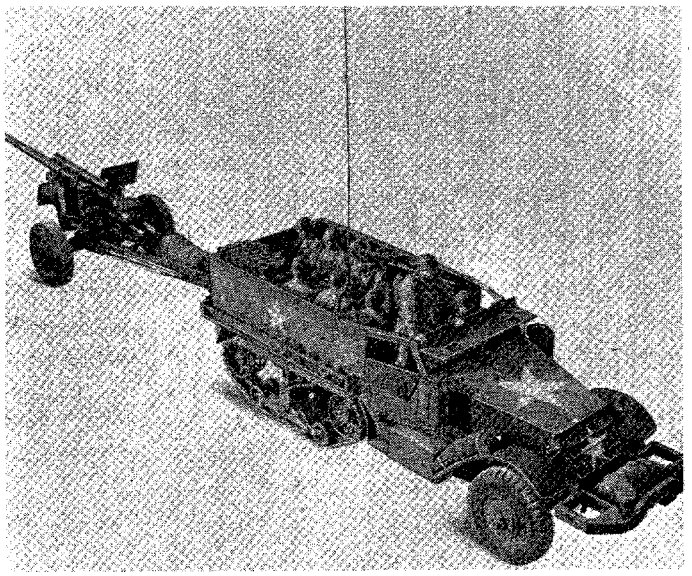
recommended that the tank destroyer company commander position two of his platoons forward and one to the rear and that only one platoon (sometimes the rear one) open fire first, with the other two remaining silent until the enemy made himself vulnerable by maneuvering against the active guns.[8]

FM 18—5 (1944) made no reference to the "semi-independent" nature of tank destroyer operations but rather laid increased emphasis on combined arms: "[Tank destroyers] are not capable of independent action, hence they cooperate closely with other troops."[9] The new manual made clear that since enemy tanks would often be strongly supported by infantry, tank destroyers should be near, or with, friendly infantry whose plans and dispositions were known to the tank destroyers.[10] "The tank destroyer commander takes advantage of infantry dispositions to protect [his tank destroyers] against enemy infantry. In turn, the tank destroyer guns help protect the infantry."[11] Another indication of the shift away from the semi-independent operations postulated in 1942 was the dramatic increase in the amount of text devoted to the subject of operations conducted directly under division or corps control—twenty-two pages in FM 18—5 (1944) as opposed to only five in the 1942 edition.

FM 18—5 (1944) expanded slightly upon the secondary missions that tank destroyers were capable of executing when not confronted by enemy armor. Among the missions discussed were those of direct and indirect artillery, roving artillery, pillbox destruction, and direct support of infantry.[12] The new manual also offered some helpful guidance on tying tank destroyer companies in to field artillery units for employment in the artillery role.[13]

In North Africa and Italy, the extensive employment of tank destroyers in secondary missions had predisposed higher commanders to fragment tank destroyer units and to detach elements from their battalions. FM 18—5 (1944) suggested that tank destroyer battalions should be employed intact[14] but also conceded that fragmentation would occur during secondary missions[15] and when the enemy used his armor locally in small-scale operations, necessitating the distribution of tank destroyers among the forward lines.[16]

The towed tank destroyer, with characteristics differing radically from those of the self-propelled weapon, had required different methods of employment on the battlefields of Italy. Accordingly, the 1944 manuals provided the towed tank destroyer with what amounted to a separate doctrine. The towed platoon merited a field manual (FM 18—21) similar to, but distinct from, the manual for the self-propelled platoon (FM 18—20). FM 18—5 (1944) treated the towed company and battalion concurrently with their self-propelled counterparts but suggested methods of employing the towed units that allowed for their lesser mobility and greater vulnerability: towed guns were declared to be unsuitable for use in isolated outposts; towed tank destroyers were more likely to be pre-positioned and left in position once sited; and towed battalions would generally be employed to reinforce the organic antitank guns of a host division and in such a role would engage enemy tanks within the area occupied by friendly infantry.[17] (The planners for the



The three-inch towed tank destroyer with its prime mover

Normandy invasion would make the towed – self-propelled dichotomy complete by assigning towed battalions to each infantry division and retaining the self-propelled battalions under higher echelons for employment in the vintage tank destroyer role.)[18]

As the foregoing examples demonstrate, FM 18—5 (1944) incorporated a number of the doctrinal modifications that tank destroyer units had developed in battle and was thus more realistic in tone and content than the 1942 edition it replaced. Taken as a group, these modifications brought tank destroyer doctrine into closer conformity with the purely defensive doctrine developed by the Infantry for the antitank elements organic to the infantry battalion and regiment.[19] Both doctrines stressed "sticking" rather than maneuvering, the use of cover and concealment, and close coordination with the rifle elements.

In other respects, however, FM 18—5 (1944) adhered doggedly to the original, unproven, tank destroyer concept. In 1943, General Bruce had indicated that the mission of tank destroyers was the protection of friendly forces from enemy tanks, but the 1944 manual returned to the original idea that the "primary mission of tank destroyer units is the destruction of hostile tanks by direct gunfire."[20] Moreover, FM 18—5 (1944) perpetuated the notion that massed tanks constituted the primary threat, and that tank destroyers should respond by massing into large units that would travel at high speeds to intercept the armored penetration behind friendly lines.[21] The new field manual retained a section on tank destroyer groups (and even brigades) despite the fact that only one group headquarters had seen combat to date, and that group had served merely to relay orders from the division to tank destroyer battalions.[22]

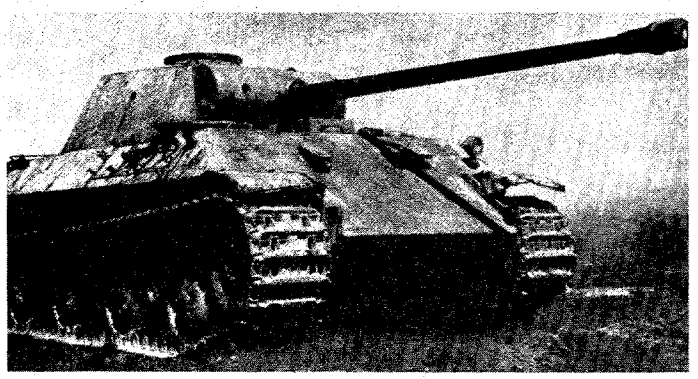
It is true that the concern with massed tanks exhibited in FM 18—5 (1944) was not substantiated by combat experience in Tunisia and Italy, but it was in accordance with the widely held belief that the liberation of Europe would provoke the Germans into the massed employment of armor on a large scale. British General Bernard L. Montgomery, commander of Allied ground forces for the invasion of Normandy, drew up a plan of operations that postulated significant armored action by both sides early in the campaign. Allied intelligence accurately estimated that the German forces in western Europe included ten panzer divisions, all of which could reach the Allied beachhead within five days of the first landings. Montgomery correctly assumed that Field Marshal Rommel, the German commander charged with defending the coast, planned to launch those panzer divisions in heavy attacks aimed at breaking up the beachheads before the Allies could consolidate their positions. To forestall the Germans and retain the initiative, Montgomery's plan called for Allied armored thrusts designed to seize key terrain and keep Rommel's forces off-balance.[23]

These cut-and-thrust sallies on the part of major armored formations promised much work for the tank destroyers. Original planning estimates allocated a total of seventy-two tank destroyer battalions to the European theater (a figure later reduced by about twenty), half of which were to be towed and half to be self-propelled. The actual invasion forces that sailed for Normandy included eleven towed and nineteen self-propelled battalions, although only one of the towed battalions landed with the assault elements, owing to the vulnerability of the towed weapons system during amphibious operations. As noted earlier, towed battalions were attached directly to infantry divisions, while self-propelled battalions were retained in reserve under group headquarters at the corps and army echelons.[24] Ultimately, fifty-six tank destroyer battalions, thirteen group headquarters, and one brigade headquarters would see service in the European theater,[25] with tank destroyer personnel accounting for roughly 6 percent of the manpower making up the four field armies in the theater.[26]

On the basis of tank destroyer numbers, it would seem that the American forces in Europe should have been adequately protected from the German panzers, even given the massive armored assaults that the Germans were expected to launch against the Allies. In terms of weapons capabilities, the future looked equally bright. Ordnance tests indicated that tank destroyer guns would be able to penetrate the frontal armor of the massive Mark VI Tiger tank at a comfortable two thousand yards.[27] Prior to the invasion, the headquarters of the European Theater of Operations, in response to a query from AGF about the need for a more powerfully armed tank destroyer, indicated that the existing weapons would be adequate.[28] Even the armored units preparing for the invasion, including veterans of Tunisia, were satisfied with the current version of the M-4 tank, which carried a short, general-purpose 75-mm gun.[29]

Unfortunately, the ordnance tests were in error, and the confidence residing in tank and tank destroyer armament was misplaced. American troops in Normandy would find themselves unexpectedly vulnerable to the

German panzers. Events would prove that no tank destroyer could reliably stop a Tiger at any more than fifty yards.[30] The Mark V Panther was not much easier to destroy. Firing tests conducted in Normandy, utilizing actual Panther hulks, were to demonstrate that only the 90-mm antiaircraft gun and the 105-mm howitzer, firing shaped charges, could penetrate the Panther's frontal armor with any regularity.[31] To destroy a Panther, a tank destroyer with a three-inch or 76-mm gun would have to aim for the side



The German Mark V Panther tank

or rear of the turret, the opening through which the hull-mounted machine gun projected, or for the underside of the gun shield (which would occasionally deflect the round downwards into the top deck of the tank).[32] Moreover, the Tiger's superb 88-mm gun and the Panther's high-velocity 75-mm piece could destroy any American armored vehicle with ease. The lapse in technological planning that sent American tanks and tank destroyers into Europe with inadequate armament occurred despite the fact that American troops in the Mediterranean theater had been fighting both the Tiger and the Panther since 1943.

Almost by accident, a remedy was at hand. In 1942, the Ordnance Department on its own initiative (and against the wishes of the Tank Destroyer Center, which disapproved of expedients) experimentally mounted a 90-mm antiaircraft gun in the modified turret of an M-10 tank destroyer. The design was standardized as the M-36 in June 1944.[33] On 6 July, exactly one month after the Normandy landings and less than two months after assuring AGF that the existing tank destroyers were adequate, the European Theater of Operations requested that all battalions equipped with the M-10 be converted to the M-36.[34]

The M-36 would not arrive in Europe until September 1944, but once it reached the front, it proved to be the only American armored vehicle that could match the heavier German tanks in firepower. One M-36 destroyed a Panther with one round at a range of 3,200 yards,[35] and another fired five rounds at a tank 4,600 yards distant, scored two hits, and disabled the tank.[36] The M-36 was equally impressive in the secondary missions. In the direct-fire role, a 90-mm armor-piercing shell could penetrate 4.5 feet of non-

The M-36 tank destroyer with 90-mm gun

reinforced concrete,[37] while in the indirect-fire mission, the M-36 could throw a projectile 19,000 yards.[38]

Until the M-36 arrived in quantity, however, the M-10 and M-18 constituted the best available antitank weapons in the American arsenal. Crews spoke highly of the M-10, despite its firepower disadvantage, calling it "a great weapon." They especially admired the M-10 for its versatility and for the reliability of its twin diesel engines, although they felt that it would be improved by the addition of a power-traverse turret, a machine gun mounted for employment against ground targets, and a turret cover for protection against small-arms fire. Some crews created improvised turret covers, removed the antiaircraft machine gun from the rear of the turret, and remounted it facing forward.[39]

British troops also used a version of the M-10, called the Achilles, that mounted a 17-pounder gun and with which they were extremely satisfied. The British recognized, though, that even with the high-velocity 17-pounder, "it [was] suicide deliberately to try to engage in a battle of fire and movement with an enemy tank."[40]

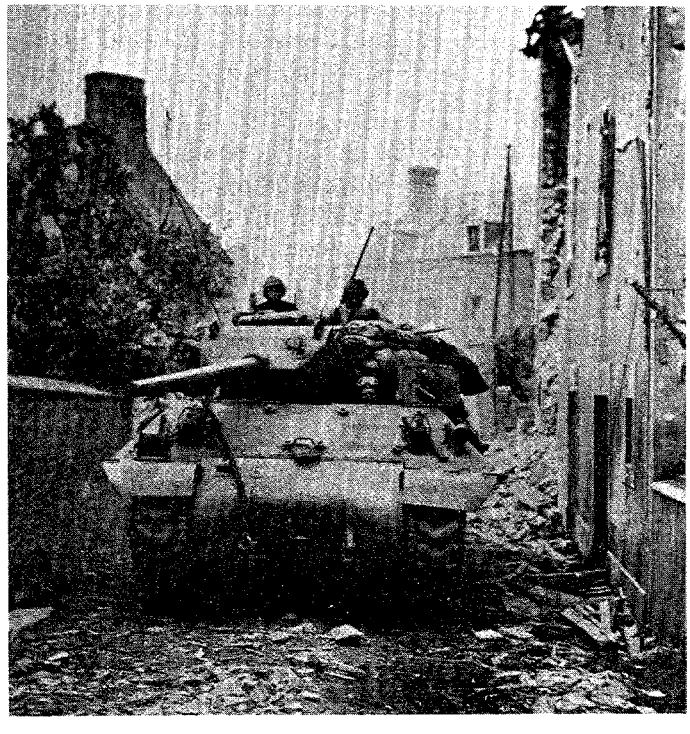
Tank destroyer crews spoke highly of the M-18 as well. The M-18, with its 76-mm gun, was equal to the M-10 in firepower, was more mobile, but it carried less armor. One observer in Europe noted that the First Army placed more value on frontal armor than on speed and thus preferred M-10 battalions. On the other hand, the freewheeling Third Army valued the M-18 for its extraordinary mobility, which even enabled it to accompany cavalry units on reconnaissance missions.[41]

Notwithstanding the praise of tank destroyer crews, the fact remained that once landed in Normandy, the tank destroyers found it highly inadvisable to react aggressively to enemy armor, even though every German tank encountered was by no means a Panther or a Tiger. Fortunately, the full-blooded panzer counterattack against the beachhead never materialized, for reasons that included divisiveness in the German high command, Allied deception measures, French Resistance activities, and Allied control of the air. The Germans opted instead for a strategy of attrition, whereby they

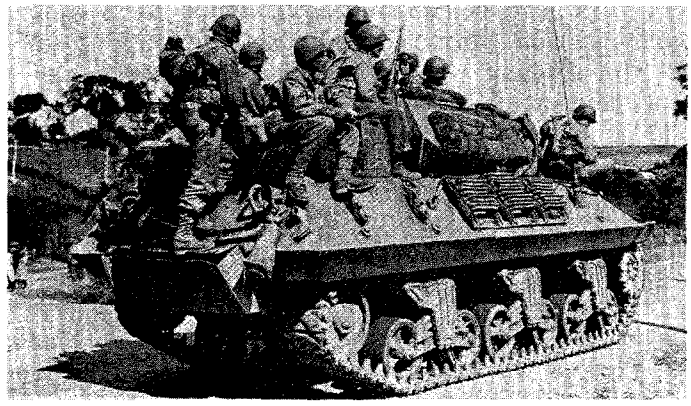
"roped in" the beachhead with a static defense-in-depth. Thus, the major problem confronting American troops in Normandy was not the staving off of massed tanks but rather the rooting out of a stubborn, entrenched enemy.

The terrain in Normandy is dominated by hedgerows—banks of earth and tangled vegetation bounding every field—that the Germans converted into a maze of defensive positions. There, American infantry elements were bled white in fighting reminiscent of World War I at its worst. The foot troops desperately needed armored support to facilitate their advance. According to Army doctrine, this support should have come from independent tank battalions attached to the divisions at need, but there were not enough tank battalions to go around. In the European theater there were, ultimately, only thirty-seven such battalions, whereas there were forty-seven infantry and armored divisions,[42] all of which needed additional support.

As a consequence, very early in the Normandy campaign, tank destroyers were once more sent directly to the front to fill a void in firepower. Under the prevailing tactical conditions, towed tank destroyers proved to be of little use. They could not fire over the hedgerows, could not be pushed up among the forward positions, and could not displace once they disclosed their positions. Among the tank destroyer battalions assigned to First Army during the Normandy fighting, towed battalions on the average accounted for 5.8 enemy tanks and 4.0 pillboxes each, whereas the average self-propelled battalion in Normandy destroyed 22.5 panzers and 23.2 pillboxes.[43]



An M-10 tank destroyer in Normandy



Infantry riding an M-10 after the breakout from Normandy

Of necessity, the self-propelled battalions held in corps reserve were sent to the front and attached to divisions. These battalions theoretically remained a part of the corps tank destroyer pool, but in practice, their attachment to the respective divisions became virtually permanent. Long-term attachment facilitated the development of teamwork and confidence between the tank destroyers and the other arms, which prompted tank destroyer officers to observe that the self-propelled battalions should have been made organic to the divisions from the outset, so that training and familiarization could have been accomplished *prior* to combat.[44]

Once attached to a division, the tank destroyer battalion was typically assigned by companies to the infantry regiments, whereupon the regiments generally assigned a tank destroyer platoon to each battalion. Under these circumstances, tank destroyer doctrine was fundamentally unworkable and justifiably abandoned.

The primary task of the tank destroyer became infantry support. When the infantry attacked, tank destroyers would roll with the advance some five hundred to eight hundred yards behind the assault elements, shooting up all potential enemy positions in the path of the infantry. The infantry, in turn, neutralized antitank positions that threatened the tank destroyer.[45] The armor on the M-10 and M-18 tank destroyers was adequate to protect their crews from small-arms fire, and the high velocity and flat trajectory of their guns made them very effective against enemy strongpoints. The presence of rapid-firing tank destroyers noticeably eroded enemy morale and bolstered that of the assaulting infantry.[46]

In the course of heavy fighting around Saint Lô, the 654th Tank Destroyer Battalion and the 35th Division to which it was attached developed an especially effective technique for penetrating hedgerow defenses. One platoon of four M-10s was assigned to each regimental sector, where engineers blew gaps in the hedgerows to bring the tank destroyers up to the front line of infantry. Tank destroyer observers, on foot with the infantry, guided the M-10s into position and directed their fire onto enemy machine-gun nests in the hedgerow to the front. With enemy fire thus suppressed,

the infantry attacked and cleared the enemy hedgerow. Engineers then opened paths to bring the tank destroyers forward again to repeat the process against the next hedgerow.[47]

Following the breakout from Normandy and the race to the German frontier, tank destroyers replayed their success in direct support missions, but this time American troops confronted the interlocking fortifications of the Westwall (known to the Allies as the Siegfried Line), rather than hedgerows. From a range of one thousand yards, ten rounds from a tank destroyer gun would penetrate a small pillbox or jam the shutters of a larger work and would often cause the pillbox crew to surrender. The penetrative effect of tank destroyer fire was enhanced by aiming all four guns of a platoon at the same point and firing simultaneously. The 629th Tank Destroyer Battalion (M-10) discovered that the easiest way to reduce a pillbox was from the rear—where one three-inch round would blow in the entrance and one high-explosive round sent through the open doorway invariably induced the survivors to surrender.[48]

The 803d Tank Destroyer Battalion supported infantry in the reduction of Westwall fortifications by assigning a platoon of four M-10s to each infantry assault battalion and providing the tank destroyers with infantry radios so they could be controlled by the infantry company commanders. The tank destroyer platoon then engaged a pair of pillboxes at a time, with one M-10 firing at the embrasure of each pillbox, and with two M-10s standing by in an overwatch role. The three-inch rounds did not usually penetrate the fortifications, but they did prevent the enemy from manning

An M-10 firing as artillery

his weapons, thus enabling the American infantry to reach the blind side of the fortifications. On a radio signal from the infantry company, the tank destroyers ceased fire, and the infantry assaulted the pillboxes.[49]

Tank destroyers not employed in the front lines often found themselves providing indirect fire in support of division or corps artillery. Prior to the invasion, battalions received the training and equipment that enabled them to conduct basic surveys and perform fire direction without outside help. In the course of the fighting in Normandy, 87 percent of the ammunition expended by self-propelled tank destroyers in VIII Corps was fired in indirect missions. VIII Corps' towed tank destroyers, unemployable in direct-support roles, fired 98 percent of their ammunition as indirect-fire artillery.[50]

An outstanding example of tank destroyers employed as artillery occurred in February 1945, when XIX Corps mounted a set-piece two-division assault across the Roer River. XIX Corps called upon the 702d (M-36) and 801st (towed) Tank Destroyer Battalions, under the control of the 2d Tank Destroyer Group, to reinforce the fire of division and corps artillery. When the crossing began, the towed tank destroyer battalion placed neutralization fire on all known German positions in the assault sector, and three of the M-36 platoons delivered interdiction fire at the rate of one hundred rounds per platoon per hour on three highways leading to the crossing area. Meanwhile, the other six M-36 platoons provided direct fire on call from tank destroyer observers who crossed the river with the infantry. When the assault elements passed beyond effective direct-fire range, these platoons also shifted to indirect fire. After three and one-half hours of planned fires, the tank destroyers became available for on-call fire missions designated by a tank destroyer fire direction center collocated with the corps fire direction center. Missions included interdiction, harassment, and neutralization fires. The tank destroyers were prepared (but not called upon) to execute "time on target" fires, rather sophisticated procedures that would result in the shells from every gun arriving on the target at the same time.[51]

The extensive use of tank destroyers in secondary missions invoked certain penalties that were all too familiar to the veterans of Tunisia. Tank destroyers sent to the front lines quickly drew heavy German artillery and mortar fire upon themselves and upon the adjacent infantry. Tank destroyer crews in forward positions found it necessary to strap sandbags onto their vehicles as protection against German "bazooka" rounds.[52] Some infantry commanders preferred to use tanks rather than tank destroyers in the immediate front lines because snipers and hand grenades took a heavy toll among the crews of the open-topped tank destroyers.[53] Unfortunately, other infantry officers were unaware of tank destroyer limitations and attempted to employ tank destroyers exactly as they would use the better-armored tanks.[54] Overall, tank destroyers "misused" in this manner suffered greater losses and obtained less-impressive results than units in which the tank destroyer commanders were encouraged to exercise judgement and initiative.[55]

Even though tank destroyer doctrine and occasional directives from higher headquarters urged that tank destroyer battalions be used as units,[56]

M-10 tank destroyers carrying sandbags to augment their armor

the long-term employment of tank destroyers in secondary missions inevitably resulted in the chronic fragmentation of tank destroyer elements. With tank destroyer companies attached to each infantry regiment or armored combat command, and with tank destroyer platoons often distributed among infantry battalions and armored task forces, the tank destroyer battalion headquarters lost all tactical control over its fighting elements. Frequently, the battalion even surrendered control over supply and administration to the host units, which were not always capable of looking after the tank destroyer elements.[57] Early in the European campaign, battalion headquarters were careful to maintain contact with their tank destroyer companies and to develop contingency plans for reconcentrating the battalion in case of a major panzer attack. As the campaign progressed, the tank destroyer battalion commanders realized that their companies were not likely to be returned to them, particularly not in times of crises, when the frontline troops would need all available support. Gradually, contingency planning ceased, and the tank destroyer battalion headquarters became, for tactical purposes, largely superfluous.[58]

The tank destroyer group headquarters attached to each corps was also intended to be a tactical headquarters and, as such, had even less to do than the battalion. (The role played by the 2d Tank Destroyer Group in the Roer River crossing was a rare exception.) Of thirteen group headquarters sent to the European theater, nine functioned primarily as corps-level special staff sections for antitank affairs. Other functions that tank destroyer group headquarters performed at various times included supervision of antiairborne forces, command of corps rest centers, coordination of corps headquarters security forces, and protection of communication lines.[59] The one tank destroyer brigade sent to Europe was attached to Third Army, where it served as a task force headquarters on one occasion and spent the rest of the war as Third Army's antitank section.[60] In other field army headquarters, tank destroyers fell under the artillery sections for planning and administrative purposes.

Extensive employment as assault guns and indirect-fire artillery did not excuse the tank destroyers from their primary mission of destroying enemy armor. Even though the German panzers in western Europe generally fought in small numbers and were limited to shallow penetrations in conjunction with infantry operations, the American infantry remained terribly vulnerable to tank attack. By 1944, the 57-mm antitank gun had replaced the 37-mm in the infantry battalion antitank platoon and regimental antitank company, but this weapon was as inadequate in 1944 as the 37-mm gun had been in 1942. Predictably, tank destroyers were again called upon to provide frontline antitank defense for the infantry divisions. This mission bore relatively little relation to the doctrine concerning massed tanks described in FM 18—5; rather, it merged imperceptibly with the direct-support mission. Close cooperation with infantry facilitated mutual support among the arms, but it also meant that tank destroyers assigned to infantry support did not enjoy the luxury of choosing ideal terrain upon which to meet enemy armor when called upon to perform the antitank mission. According to one battalion commander,

> Often the TD cannot remain on the reverse slope of a hill and let the [enemy] tanks come to them [sic]. It may be necessary for the infantry to organize their positions on a forward slope. No infantry commander is going to allow tanks to run over his men if he has any way of driving them off. The TDs will be ordered out on the forward slope to take the oncoming tanks under direct fire. This must be done even in the face of what seems certain destruction for men and vehicles.[61]

When given the option, tank destroyers chose to ambush tanks from positions that provided flank shots and to fight it out in place, for it was "far more dangerous to withdraw or to move forward than to fight in position when attacked by armor."[62] Experienced tank destroyers never fought alone but always in pairs or more; conversely, they refused to be "suckered in" by a "lone" German tank, for there was usually another lurking nearby.[63]

On several rare but noteworthy occasions, the Germans broke with their policy of small-scale armored operations and massed their tanks for large-scale attacks. These attacks came unexpectedly and invariably caught the tank destroyers in a dispersed state. In no case were tank destroyers able to mass into groups or brigades as prescribed by doctrine. Inasmuch as they possessed the best available antitank guns, tank destroyers, nonetheless, played an important part in stopping the panzers each time they came out in force.

On 7 August 1944, elements of three understrength panzer divisions and one *panzergrenadier* (mechanized infantry) division launched an attack at Mortain, France, aimed at cutting off the American forces breaking out of the Normandy beachhead. The brunt of the attack fell upon the 30th Infantry Division, with the 823d Tank Destroyer Battalion (towed) attached. The guns of the 823d had been hastily sited and were not in mutually supporting positions. Some platoons were without infantry support. First, the defenders fought off an infantry attack and then an assault mounted by panzers

accompanied by infantry. The tank destroyers fought stubbornly but without coordination, for all of the 823d's fighting elements had been parceled out to the regiments, and tactical control was in the hands of the infantry commanders. Those tank destroyers supported by other arms did well; those not supported were quickly overrun. Companies A and B, 823d Tank Destroyer Battalion, received the Presidential Unit Citation for the part they played in stopping the Mortain counterattack, but the cost had come high, prompting the 823d to train its gun crews to fire the three-inch weapon with two or three men, freeing the remainder of the crew to fight off enemy infantry.[64]

One month later, Third Army's crossing of the Moselle River and capture of Nancy provoked another German counterattack that involved significant panzer elements. Combat Command A of the 4th Armored Division, with Company C, 704th Tank Destroyer Battalion (M-18) attached, occupied an exposed position at Arracourt, when it was attacked by the 113th Panzer Brigade on 19 September. Heavy fog blanketed the area, which aided the Germans in gaining surprise, but which also negated the superior range of German tank armament. On the other hand, the nimble M-18 was at its best at Arracourt. The tank destroyers were able to maneuver quickly on the muddy, rough ground, giving them the opportunity to seize commanding terrain and occupy successive firing positions in the path of the panzers. One tank destroyer platoon claimed the destruction of fifteen enemy tanks, although three of its four M-18s were put out of action.[65]

The supreme test of the tank destroyer forces in Europe came in December 1944 when German Army Group B launched a full-scale offensive through the Ardennes—the scene of the great blitzkrieg of 1940. Ten panzer divisions were among the twenty-four German divisions that shattered the overextended lines of U.S. First Army. According to doctrine, First Army's tank destroyer battalions should have formed up into groups, raced to the scene of the attack, and ambushed the panzer spearheads. But, of course, the tank destroyers were dispersed beyond recall, and with hundreds of panzers on the loose, their host divisions were most unlikely to release them. Moreover, with the roads clogged by retreating American units, it seems unlikely that massed tank destroyers could have played out the "fire brigade" scenario in any case. The Americans actually stopped the German onslaught by denying transportation chokepoints to the enemy and separating the panzer spearheads from their follow-on elements, and not by ambushing the panzer spearheads themselves, as tank destroyer doctrine would suggest. By and large, the two dozen tank destroyer battalions that participated significantly in the Ardennes campaign fought in small units and in relatively static, defensive roles.

Two towed tank destroyer battalions in the center of the American line were among the first units to feel the weight of the German attack. The 820th, attached to the ill-fated 106th Infantry Division, was unable to put up much of a fight. The Germans overran one entire company because the towed guns could not be hitched up and removed from danger. Other elements fell back to Saint-Vith and participated in the defensive battle fought

there.[66] The 28th Infantry Division's attached tank destroyer battalion, the 630th, also had elements deployed in the path of the initial German onslaught. By companies and platoons, the 630th added its fire to the desperate delaying actions in which the 28th Division sacrificed itself to buy time for the reinforcement of Bastogne. Three days of fighting reduced the 630th to the battalion headquarters and one company without guns.[67]

On the northern shoulder of the German breakthrough, the 99th and 2d Infantry Divisions, with the aid of a number of tank destroyer elements, defended a vital terrain feature known as Elsenborn Ridge against repeated heavy assaults. The Germans attacked in company-size task forces consisting of both panzers and infantry. The defenders responded by first breaking up the enemy formations with artillery fire and then striking them from the flanks with tank and tank destroyer fire. The fighting surged back and forth through villages and rough terrain, a circumstance that provided ample opportunities for tank destroyer ambushes and cut ranges down to as little as twenty-five yards. One company of the 644th Tank Destroyer Battalion (M-10) destroyed seventeen tanks with the loss of two tank destroyers. Towed tank destroyers, being unable to maneuver for flank shots or to evade enemy thrusts, fared less well at Elsenborn. The 801st Tank Destroyer Battalion (towed) lost seventeen guns and sixteen half-track prime movers in two days because the guns bogged down in the mud and fell easy prey to German artillery and infantry.[68]

The stubborn American defense of two crossroad towns in the throat of the German advance, Saint-Vith and Bastogne, disrupted the German offensive with fatal results. Elements of three tank destroyer battalions, including some M-36s, participated in the 7th Armored Division's epic battle at Saint-Vith. The tank destroyers provided a powerful base of fire for the hard-pressed defenders, with the M-36 proving to be especially valuable as a "sure kill" against enemy armor.[69] At Bastogne, it was the 705th Tank

A Third Army M-36 in Metz during the autumn campaign of 1944

The three-inch towed tank destroyer was difficult to manhandle

Destroyer Battalion (M-18) that bolstered the fragile perimeter held by the soldiers of the 101st Airborne Division.[70]

Tank destroyers emerged from the Ardennes campaign with a mixed reputation. On the positive side of the ledger, statisticians credited the tank destroyer battalions with the destruction of 306 enemy tanks.[71] Many of these kills came during the decisive engagements of the campaign. On the negative side, the towed tank destroyer had proved to be a failure. Whereas self-propelled tank destroyers scored the most kills, towed battalions suffered the heavier losses: in the first critical week of the campaign, First Army lost seventy-seven tank destroyers, sixty-five of which were towed.[72] At five thousand pounds, the towed three-inch gun was five times heavier than the old 37-mm gun, was extremely difficult to manhandle, proved highly vulnerable to all enemy fire, and still could not destroy enemy tanks with certainty. Any lingering support for the towed tank destroyer evaporated in the chaos of the Ardennes campaign, following which all towed battalions were scheduled for conversion to self-propelled weapons.[73]

It must also be noted that of the self-propelled tank destroyers, only the M-36 had shown itself to be wholly satisfactory in terms of firepower, and even the M-36 suffered the disadvantages of thin armor and an open turret, a fault common to all self-propelled tank destroyers. After the Ardennes campaign, M-10 battalions began exchanging their weapons for the M-36.[74] Ordnance developed overhead armor for tank destroyer turrets[75] that, when taken together with the common practice of sandbagging tank destroyers to augment their armor, made the tank destroyer more like a tank than like the weapon initially envisaged by General Bruce. In the minds of higher commanders, tanks and tank destroyers became increasingly interchangeable as the European war drew to a close.

The same was true in the Pacific theater, where tank employment and tank destroyer employment were essentially identical. Because of the minimal threat posed by Japanese tanks, the three tank destroyer battalions that saw combat in the Philippines operated almost exclusively as assault guns and supporting artillery.[76] In preparation for the invasion of Japan,

the Tank Destroyer Center at Camp Hood turned away from the problems of killing tanks and devoted its experimental efforts instead to the use of tank destroyers in reducing Japanese-style fortifications.[77] The battalions scheduled to participate in the invasion considered their tank destroyers to be tanks in every way, save for their open turrets.[78]

As the distinction between tank and tank destroyer faded, the only advantage that the tank destroyer could claim over the tank was the superior firepower of the M-36. In February 1945, even that advantage disappeared when the first M-26 heavy tanks arrived in the European theater. The M-26 mounted the same 90-mm gun as the M-36 tank destroyer and was, of course, better armored. It is true that tank destroyers, especially the M-18, retained an edge over the tank in terms of mobility, but by the end of the war, American soldiers, for the most part, preferred firepower and armor plate to mobility.[79]

The M-26 medium tank

With the cessation of hostilities in Europe, a Theater General Board composed of senior field artillery officers convened to evaluate the contributions of the tank destroyer to the war effort. They based their study in part upon the after-action reports of forty-nine tank destroyer battalions that had fought in Europe. In its report, the board noted that the tank destroyer was "a most versatile weapon on the battlefield" and admitted that there existed a need for self-propelled, high-velocity guns within the infantry division, a function that the tank destroyers had fullfilled admirably.[80] The battalions sampled had destroyed, on the average, 34 German tanks and self-propelled guns, 17 artillery and antitank guns, and 16 pillboxes apiece, with one battalion claiming 105 tanks destroyed.[81] However, the board recognized the fact that tank destroyers had never validated the tank destroyer doctrine and, in fact, had not adhered to it on the battlefield.[82] The Theater General Board closed its report by recommending that high-velocity self-propelled guns be made organic to the infantry division, that Field Artillery assume responsibility for antitank defense-in-depth, that

the Armored Force modify and adopt certain aspects of tank destroyer doctrine, and that "the tank destroyers as a separate force be discontinued."[83]

The report of the Theater General Board corresponded with the sentiments of General Jacob L. Devers, who became the commanding general of AGF in June 1945. Devers had never been a proponent of the tank destroyer concept. As head of the Armored Force in 1941, he had responded to the antitank victories in the GHQ maneuvers with the remark, "We were licked by a set of umpire rules."[84] The report he filed following his 1943 tour of Tunisia stated that the "tank destroyer arm is not a practical concept on the battlefield."[85] It came as no surprise that Devers simply allowed the tank destroyer program to expire in the great demobilization that followed World War II.

On 10 November 1945, the Tank Destroyer Center terminated its few remaining activities and, without fanfare, ceased to exist.[86] Officers commissioned in the tank destroyers found themselves transferred to the infantry. The mass inactivation of tank destroyer battalions began in the fall of 1945 and continued into the winter and spring of 1946. The very last tank destroyer battalion, the 656th, was inactivated at Camp Campbell, Kentucky, on 1 November 1946.[87] Although many of these battalions were later reactivated as tank formations, thus perpetuating the lineage of proud fighting units,[88] the tank destroyers were no more.

Conclusion

5

The tank destroyer concept, initiated by George C. Marshall, nurtured by Lesley J. McNair, and implemented by Andrew D. Bruce, was the U.S. Army's response to the revolution in warfare known as the blitzkrieg. It prescribed massed antitank elements, high-mobility units and vehicles, and high-velocity gunfire as the antidotes that would defeat massed tanks. The historian of the Tank Destroyer Center, writing in 1945, claimed that "tank destroyer doctrine as conceived and developed by Tank Destroyer Center in 1942 was so basically right in its vision and prescience that it stood all tests of combat missions."[1] However, as the foregoing chapters have demonstrated, the tank destroyer concept was never fully realized in combat, and, in fact, the successes attained by tank destroyer units in battle came about despite tank destroyer doctrine, not because of it.

In truth, tank destroyer doctrine was a fundamentally flawed set of principles. Today, the U.S. Army utilizes a methodical process for the development of new programs known as the Concept Based Requirements System (CBRS). Although no such process existed in 1942, by using CBRS as a model, one can identify the inconsistencies that attended the development of the tank destroyer concept.

In simplified form, CBRS consists of three major developmental stages. In the first stage, the Army identifies its mission and the opposition that the enemy can be expected to offer, with full consideration being given to past experience and to technological advances plotted for the future. Stage two involves translating that Army mission into specific battlefield and service functions to be performed by the various branches. The third stage consists of the simultaneous and integrated development of the doctrines, force structures, equipment, and training programs necessary for executing the battlefield functions that will fulfill the Army's mission. Thus, CBRS ensures that the Army's doctrines are attuned to the mission, the threat, and to each other.[2] By contrast, the development of the tank destroyer concept resulted in a product that was inapplicable to the battlefield and was poorly synchronized with the other arms.

In terms of the CBRS model, the tank destroyer's defects originated in stage one, with the identification of mission, threat, and technological trends. The U.S. Army's mission in World War II was overwhelmingly offen-

sive in nature, but the very existence of a major antitank program implied a war in which the enemy held the initiative. Logically, this suggested that if the Army successfully pursued its mission, the tank destroyers would have little to do, and if the tank destroyers were fully engaged, the Army as a whole would be failing in its mission. In addition, the enemy threat was viewed primarily in terms of the blitzkrieg, even though the Germans would be on the strategic defensive by the time American troops encountered them in force. Tactically, the formulators of the tank destroyer concept acted on the assumption that the enemy fought in all-tank masses. As has been shown, German panzer doctrine actually encompassed all arms. Moreover, only 10 percent of the German Army was ever mechanized. Another fundamental lapse occurred in the realm of technological forecasting. Due in part to the lack of a central research and development agency, the Army completely failed to anticipate the advances in tank armor and armament that would occur as the war continued.

Given the misconceptions relating to the identification of mission, threat, and technological trends that occurred as part of the evolution of the tank destroyer, it follows logically that the development of battlefield functions would be flawed. Owing to the branch rivalries and obstructionism within the Army, antitank functions were not integrated into the activities of the existing arms but were instead assigned to the domain of a new tank destroyer quasi-arm. This encouraged the older arms to ignore the possibility that they might play a role in antitank combat. Inasmuch as the armored threat had been identified solely in terms of massed tanks, the new tank destroyer arm defined its battlefield function simply as that of stopping the tank—a rather narrow, technical task. The defeat of combined arms mechanized forces, which is a different matter altogether, was never perceived to be a tank destroyer function.

According to the CBRS paradigm, the final stages in developing the tank destroyer concept should have been the coordinated, simultaneous manifestation of force structures, equipment, and doctrine. In the case of tank destroyer development, however, the press of time and the bureaucratic nature of the Army fragmented these efforts among several agencies, but once undertaken, the tasks were at least addressed quickly. But due to the erroneous assumptions already built into the overarching tank destroyer concept, force structuring, doctrine formulation, and weapons development could not help but go astray.

The first task accomplished was the creation of a force structure. The tank destroyer battalion was essentially a single-arm antitank organization. Some tank destroyer advocates have suggested that the tank destroyer battalion was actually a precedent-setting combined arms team, but this was not the case. The tank destroyer battalion possessed the equivalent of only one infantry company (distributed among nine security sections) to support three tank destroyer companies, and it controlled no general purpose artillery. By contrast, the 1943 armored division, which was, indeed, a balanced, combined arms force, had the resources to pair up an infantry company and a howitzer battery to each tank company. The tank destroyer battalion

was a single-arm force by intent because the assumption had already been made that the tank destroyer's function was a narrow one—the destruction of unsupported tanks.

The same assumption shaped the writing of doctrine. FM 18—5 (1942) exhorted the single-arm tank destroyer elements to defeat the single-arm threat through "offensive action" and "semi-independent" operations. The formula for potential tragedy was thus laid, for the real enemy was a master of combined arms warfare, not a single-arm threat. Experience in battle quickly showed that tank destroyers were, in reality, highly dependent on other arms for support, and that "offensive action" for them was often suicidal. The Tank Destroyer Center learned of these battlefield findings through the reports of AGF observers[3] and incorporated the lessons of combat in the 1944 edition of FM 18—5. This edition emphasized cooperation with other arms and made it clear that tank destroyer action was essentially defensive in nature. However, the gap between experience and doctrine never completely closed. FM 18—5 (1944) perpetuated the notion of massed, mobile tank destroyers but at the same time advocated closer coordination with the other arms, a policy that implied some degree of dispersal. Predictably, commanders in the field rectified this contradiction by quietly abandoning the theory of massing tank destroyer forces.

Finally, the failure to forecast technological advances early in the development of the tank destroyer concept resulted ultimately in the equipping of tank destroyer units with inadequate weapons. Neither the Tank Destroyer Center, nor AGF, nor the Ordnance Department ever fully appreciated the necessity of designing weapons for the future, not the present. Tank destroyer weapons designed in 1942 were largely unchanged in 1944, despite the fact that the Germans engaged in a furious arms race with the Soviets during the same period. However, the inadequacy of equipment was not a fatal blow to the tank destroyer concept. Even the finest weaponry would not have compensated for the conceptual and doctrinal flaws deeply embodied in the tank destroyer program. As evidence, witness the fact that the advent of the well-armed M-36 did little to reverse the abandonment of tank destroyer doctrine in the field. On the other hand, U.S. tanks were even less well armed than the tank destroyers, but because the armored establishment possessed a sound doctrine by 1944, armored formations succeeded on the battlefield in spite of their equipment. The historical evidence does not show that the tank destroyers tried to implement their doctrine but failed for the lack of proper equipment. Rather, it is clear that tank destroyer doctrine was never really executed because it rested on false premises and thus had little application on the battlefield.

For all of the conceptual blunders and doctrinal inadequacies that plagued the tank destroyer effort, the basic idea of massing antitank elements to defeat enemy armor was not necessarily disproven in World War II and did not die out completely with the inactivation of the tank destroyer force. Although the postwar Army officially adopted the premise advanced by General Devers that the best antitank weapon was the tank itself,[4] tank destroyer advocates continued to insist that, doctrinally and psychologically,

German Jagd Panther
tank hunter

tanks and tank destroyers were not interchangeable.[5] Technological advances made in recent years hold out renewed promise for the revival of certain tank destroyer concepts. Antitank guided missiles might offer the sure-kill capability that a latter-day tank destroyer would require, and they would, in portable form, provide the infantry with a degree of antitank self-sufficiency that would permit the massing of tank destroyer elements. Another modern antitank system, the attack helicopter, combines the firepower of the guided missile with a degree of mobility that the World War II tank destroyer could never approximate. The attack helicopter companies and battalions found within the divisions and corps of today's Army are the closest doctrinal heirs to the World War II tank destroyer concept.

Variations on the tank destroyer theme have met with considerable success in a number of foreign armies. During and after World War II, both the Germans and the Soviets produced large numbers of turretless tank hunter-assault guns, based on existing tank designs, that combined the virtues of high firepower, effective armor, and ease of production. (These fighting vehicles are sometimes called "tank destroyers," but they differed greatly from the American tank destroyer both in design and in doctrine.) The German and Soviet tank hunters were no more mobile than the tanks they were derived from, but they could stand and fight it out with enemy tanks, something that American tank destroyers were not always able to do.

The incentive to revive the tank destroyer weapons system grows proportionally with the rising price of the main battle tank. There might well be a place on the battlefield for a self-propelled weapon that can perform many of the direct-fire missions that do not require the full sophistication of the main battle tank. In recent publications, Richard E. Simpkin has proposed replacing the expensive and vulnerable main battle tank with two smaller and less-expensive types, one being a general purpose fire-support tank and the other a tank destroyer.[6]

Under what conditions would a modern doctrine analogous to the World War II tank destroyer concept prove successful? Combat experience showed that a single-arm tank destroyer force was ineffective against a combined arms foe. In 1973, however, massed Egyptian antitank elements scored a stunning success in combat along the banks of the Suez Canal, primarily

Soviet SU 100 assault gun

because Israeli doctrine had strayed from the principles of combined arms, with the result that Israeli tanks faced the Egyptian antitank missiles without support.

In cases where the enemy is not so obliging as to send out unsupported tanks, the same effect must be produced by breaking up the enemy's combined arms team. As noted in an earlier chapter, this tenet was first recognized in World War I: "Tanks unaccompanied by infantry cannot achieve desired success; they must be supported by infantry, who alone can clear and hold ground gained."[7] Moreover, "If the tanks succeed in penetrating the line, the [friendly] infantry must hold out and concentrate all their efforts on stopping the advance of the enemy's infantry, while the hostile tanks are dealt with by our artillery."[8] The World War II tank destroyers focused their efforts solely on stopping tanks, but current doctrine maintains that in antimechanized operations, the "first dictum is to destroy the *combined arms integrity of the enemy at all levels while keeping the combined-arms integrity of your force intact.*"[9] Thus, the first precondition for any revival of the tank destroyer concept is that tank destroyers must be closely integrated with the other arms. The tank destroyer veterans of World War II would urge that tank destroyer elements must be made organic to the division. A tank destroyer unit held at the corps or army echelon must be a combined arms force in its own right.

A second precondition would be the provision of the infantry with adequate organic antitank and direct-fire support weapons. Otherwise, it would once again prove difficult to withdraw tank destroyers from the line for the purpose of massing them against major tank attacks.

The tank destroyer must mount a weapon superior to that of the tanks it will face and should be armored about as well as a tank. For any armored fighting vehicle to be completely effective as an antitank weapon, it must be able to trade blows with the enemy. The German and Soviet experience shows that both a revolving turret and superior mobility can be sacrificed to gain firepower and armor protection.

Another precondition would be the ability to develop operational and tactical intelligence that will allow tank destroyer elements to be emplaced prior to the enemy's mechanized attack. The World War II tank destroyers

learned that elements not on hand when the enemy attack commenced did not arrive in time to affect the tactical outcome.

Any tank destroyer revival must include doctrinal provisions for the use of tank destroyers in secondary roles when massed enemy armor is not a threat. The value of tank destroyers in secondary missions during World War II was beyond question. As weapons grow in sophistication and cost, it is increasingly unlikely that any army could afford to field large specialized antitank elements that can perform no other functions in battle.

Finally, the successful reintroduction of a tank destroyer arm would require that higher commanders understand and accept the capabilities and limitations of tank destroyer forces. The best means of ensuring the development of rapport between the tank destroyers and the higher commander would be to make the tank destroyer unit an organic part of the formation with which it will go to war. Above all, it must not be forgotten that successful armored operations are conducted by combined arms forces, and that any attempt to counter them must involve the employment of tank destroyers as one part of a combined arms team.

Even if the tank destroyer concept is never revived, the tank destroyers of World War II should not be forgotten, for they dealt telling blows to the armies of the Axis nations. On battlefields ranging from Tunisia to Luzon, tank destroyers were a highly valued asset, whether employed on direct-fire, indirect-fire, or antitank missions. The tank destroyer program also made a psychological contribution to the war effort by reducing the unreasonable fear of the tank that permeated all ranks and branches in the early days of the war. This victory of the mind was accomplished through a bold and convincing insistence that the tank, too, had its vulnerabilities. Even on the few occasions when technologically superior panzer forces assailed American arms in strength, the presence of tank destroyers helped curb the panic that had swept away earlier victims of the blitzkrieg.

When viewed in the context of the overall American war effort, the U.S. Army's tank destroyer program represented a reflexive response to the stark threat posed by mechanized warfare. Like the human body's reaction to sudden danger, the tank destroyer reflex was neither perfectly coordinated nor fully thought out. In many respects, it tended toward excess. However unmethodical and misguided the tank destroyer response may have been, in 1942 it was far preferable for the U.S. Army to overreact to the armored threat than to ignore the tank or to assume that it could not be defeated. The damage done to the American military effort by diverting tank destroyers to secondary missions and inactivating surplus battalions was minimal compared to that which might have been caused by the absence of any antitank program whatsoever. Seek, Strike, and Destroy ultimately failed as a doctrinal concept, but the tank destroyers themselves created success where it counted most—on the decisive battlefields of World War II.

Notes

Chapter 1

1. John Weeks, *Men Against Tanks, A History of Antitank Warfare* (New York: Mason/Charter 1975), 22—25.

2. U.S. War Department, War Plans Division, "Instructions for Anti-tank Defence (Provisional—February 1918) from an Official British Document," War Department Document no. 783 (April 1918), 7.

3. Ibid., 9.

4. Ibid., 12.

5. Ibid., 9.

6. Quoted in Mary Stubbs and Stanley R. Connor, *Armor-Cavalry,* pt. 1, *Regular Army and Army Reserve,* Army Lineage Series (Washington, DC: Office of the Chief of Military History, U.S. Army, 1969), 50.

7. Weeks, *Men Against Tanks,* 31.

8. For an analysis of the panzer division, see Richard M. Ogorkiewicz, *Armoured Forces* (New York: Arco, 1970), 72—75. Kenneth Macksey, *Tank Pioneers* (New York: Arco, 1981) is a recent reinterpretation of armored development through World War II that sheds some fresh insight upon early tank developments.

9. Kent Roberts Greenfield, Robert R. Palmer, and Bell I. Wiley, *The Organization of Ground Combat Troops,* U.S. Army in World War II: The Army Ground Forces (Washington, DC: Historical Division, United States Army, 1947) 174—75. For details of the 1937 division tests, see L. Van L. Naisawald, "The U.S. Infantry Division, Changing Concepts in Organization 1900—1939" (Baltimore: Operations Research Office, Johns Hopkins University, 1952).

10. U.S. Army Command and General Staff School, *Antitank Defense (Tentative)* (Fort Leavenworth KS, 1936), and U.S. Army Command and General Staff School, *Antimechanized Defense (Tentative)* (Fort Leavenworth, KS, 1939). See, for example, *Antimechanized Defense,* 14—15 for a summary of the proposed doctrine.

11. U.S. War Department, FM 100—5, *Tentative Field Service Regulations: Operations* (Washington, DC: U.S. Government Printing Office, 1939), 77.

12. Ibid., 77—78.

13. Weeks, *Men Against Tanks,* 30—34; Harry C. Thomson and Lida Mayo, *The Ordnance Department: Procurement and Supply,* U.S. Army in World War II: The Technical Services (Washington, DC: Office of the Chief of Military History, Department of the Army, 1960), 80—84.

14. Weeks, *Men Against Tanks,* 96.

15. Greenfield, Palmer, and Wiley, *Organization,* 274—75.

16. FM 100—5 (1939), 6.

17. Alistair Horne, *To Lose a Battle, France 1940* (Boston: Little, Brown and Co., 1969), 182.

18. Robert A. Doughty, "French Antitank Doctrine 1940: The Antidote that Failed," *Military Review* 56 (May 1976):36—48.

19. Quoted in ibid., 36—37.

20. Ibid., 40.

21. Jean Dupont, "Fighting the Panzers," *Field Artillery Journal* 31 (August 1941):538—43.

22. Basil Henry Liddell Hart, *The German Generals Talk* (New York: W. Morrow, 1948), 94.

23. "Artillery and the Tank," *Field Artillery Journal* 30 (July—August 1940):243—48.

24. O. F. Marston, "Fast Moving Targets," *Field Artillery Journal* 30 (July—August 1940): 264—67.

25. Ralph Van Wyck, "Antitank Battery Training," *Field Artillery Journal* 30 (January 1941): 6—10.

26. Greenfield, Palmer, and Wiley, *Organization,* 274—75; "Newly Approved Organization, Divisional Artillery—Triangular Division," *Field Artillery Journal* 30 (September—October 1940): 336.

27. See Emory A. Dunham, "Tank Destroyer History," Army General Forces Study no. 29 (N.p.: Historical Section, Army Ground Forces, 1946), 1.

28. U.S. War Department, FM 100—5, *Field Service Regulations; Operations* (Washington, DC: U.S. Government Printing Office, 1941), 160.

29. Dunham, "Tank Destroyer History," 1.

30. Quoted in U.S. Army Tank Destroyer Center, "Tank Destroyer History" (Camp Hood, TX, 1945?), pt. 1, chap. 1,3. This document is available on microfilm from the Library of Congress.

31. Memo, Assistant Chief of Staff, G-3, to Chief of Staff, 19 April 1941, Subject: Creation of Additional Antitank-Antiaircraft Units, Andrew D. Bruce Papers, U.S. Army Military History Institute, Carlisle Barracks, PA (hereafter cited as MHI).

32. Memo, Chief of Staff to Assistant Chief of Staff, G-3, 14 May 1941, Subject: Defense Against Armored Forces, George C. Marshall Papers, George C. Marshall Research Library, Lexington, VA (hereafter cited as Marshall Library).

33. Tank Destroyer Center, "History," pt. 1, chap. 1, 7—8.

34. Untitled document, item 4327, microfilm reel 287, Marshall Library.

35. A. C. Wedemeyer, "Antitank Defense," *Field Artillery Journal* 31 (May 1941):258—72. Wedemeyer's article also appears as "Stopping the Armored Onslaught," *Infantry Journal* 48 (May 1941):22—31.

36. Quoted in Tank Destroyer Center, "History," pt. 1, chap. 1, 3—4.

37. Tank Destroyer Center, "History," pt. 1, chap. 1, 5, 7—8.

38. For a discussion of streamlining and pooling, see Greenfield, Palmer, and Wiley, *Organization,* 276—80.

39. Adjutant General, GHQ, to Commanding General, Third Army, 8 August 1941, Subject: GHQ Antitank Units in GHQ Directed Maneuvers, 353 Training Directives, GHQ, entry

57, Record Group 337, National Archives, Washington, DC (hereafter cited as NA); U.S. Army, GHQ Provisional Antitank Groups, Performance of Antitank, entry 57D, Record Group 337, NA.

40. Comments by Lt. Gen. L. J. McNair, 1st Phase, GHQ-Directed Maneuvers, Camp Polk, Louisiana, 14—19 September 1941, Bruce Papers, MHI. For an operational analysis of the 1941 maneuvers, see Christopher R. Gabel, "The U.S. Army GHQ Maneuvers of 1941" (Ph.D. dissertation, Ohio State University, 1981; microfilm, Ann Arbor, MI: University Microfilms International, 1981).
41. See Gabel, "GHQ Maneuvers," 83—85, 206—13.
42. Maneuvers Memo No. 49, HQ First Army, 31 October 1941, Subject: Special Task Forces, First Army Maneuvers 1941 Final Report, entry 57D, Record Group 337, NA.
43. Gabel, "GHQ Maneuvers," 243—49.
44. Matters to be covered in critique, Maj. B. P. Purdue, Performance of Antitank, entry 57D, Record Group 337, NA.
45. Second Phase 1 and 2 Armored Divisions, entry 57D, Record Group 337, NA.
46. Maj. Gen. Jacob Devers, quoted in "Second Battle of the Carolinas," *Time*, 8 December 1941:66.
47. Memo for the Secretary [of War], Notes on Conference, 4 December 1941, item 2714, microfilm reel 116, Marshall Library.
48. Tank Destroyer Center, "History," pt. 1, chap. 1, 15.
49. Conference in the Office of the Chief of Staff, 7 October 1941, item 4327, microfilm reel 287, Marshall Library.
50. Tank Destroyer Center, "History," pt. 1, chap. 1, 16.
51. Ibid., pt. 1, chap. 2, annex A; and pt. 1, chap. 1, 17.
52. Ibid., pt. 1, chap. 1, 16.

Chapter 2

1. See Greenfield, Palmer, and Wiley, *Organization*, for a thorough treatment of AGF's role and activities.
2. Quoted in Greenfield, Palmer, and Wiley, *Organization*, 389.
3. Quoted in Tank Destroyer Center, "History," pt. 1, chap. 1, 13.
4. Dunham, "Tank Destroyer History," 9.
5. Memo, Col. A. D. Bruce for the Assistant Chief of Staff, G-3, 21 January 1942, Subject: Report on the Maneuver Experiences of Provisional Antitank Battalions (First Army), item 4327, microfilm reel 287, Marshall Library.
6. Tank Destroyer Center, "History," pt. 1, chap. 2, 16.
7. "New Tank Destroyer Battalions," *Infantry Journal* 50 (January 1942):56—59.
8. Tank Destroyer Center, "History," pt. 1, chap. 6, 30.
9. Robert W. Green, to the author, 22 May 1977. Green was a first lieutenant at the Tank Destroyer Center during World War II.
10. Tank Destroyer Center, "History," pt. 1, chap. 1, 4.
11. Memo, Chief of Staff to Assistant Chief of Staff, G-3, 14 May 1941, Subject: Defense Against Armored Forces, Marshall Papers, Marshall Library.

12. Quoted in Tank Destroyer Center, "History," pt. 1, chap. 1, 13.

13. Adjutant General, GHQ, to Commanding General, Third Army, 8 August 1941, Subject: GHQ Antitank Units in GHQ Directed Maneuvers, 353 Training Objectives, GHQ, entry 57, Record Group 337, NA.

14. Maneuvers Memo No. 49, 31 October 1941, First Army Maneuvers 1941, First Report, entry 57D, Record Group 337, NA.

15. Provisional Tank Destroyer Battalion GHQ, "Standing Operating Procedure" (Fort George G. Meade, MD, 1941), item 4327, microfilm reel 287, Marshall Library; Tank Destroyer Center, "History," pt. 1, chap. 2, 12; Dunham, "Tank Destroyer History," 21.

16. Tank Destroyer Center, "History," pt. 1, chap. 2, 12—14; and pt. 1, chap. 8, 1.

17. Ibid., pt. 1, chap. 1, 13.

18. Conference in the Office of the Chief of Staff, 7 October 1941, item 4327, microfilm reel 287, Marshall Library.

19. U.S. War Department, FM 18—5, *Tank Destroyer Field Manual, Organization and Tactics of Tank Destroyer Units* (Washington, DC: U.S. Government Printing Office, 1942), iv.

20. Ibid., 3—5.

21. Ibid., 2, 5.

22. Ibid., 19.

23. Ibid., 7.

24. Ibid., 22, 69.

25. Ibid., 52.

26. Ibid., 20—23, 53—54.

27. Ibid., 20—21, 29—30, 32.

28. Ibid., 28.

29. Ibid., 7.

30. Ibid., 19—20.

31. Ibid., 188.

32. Ibid., 14.

33. Ibid., 8.

34. Ibid., 23, 94.

35. Ibid., 23.

36. Charles M. Baily, *Faint Praise: American Tanks and Tank Destroyers During World War II* (Hamden, CT: Archon, 1983), 21—22.

37. Ibid.

38. Tank Destroyer Center, "History," pt. 1, chap. 6, 15.

39. Baily, *Faint Praise,* 27, 31; Brig. Gen. W. B. Palmer to Maj. Gen. A. D. Bruce, 9 December 1942, Bruce Papers, MHI.

40. Peter Chamberlain and Chris Ellis, *British and American Tanks of World War II* (New York: Arco, 1981), 147—48. A comparable medium tank, the M-4 Sherman, had a top speed of about twenty-five miles per hour and weighed approximately thirty-three tons. Chamberlain and Ellis, *Tanks,* 115.

41. Maj. Gen. Andrew D. Bruce to Commanding Officer, 307th Infantry, 10 May 1945, Bruce Papers, MHI.
42. See Baily, *Faint Praise,* 48—50, and 67—68, for the evolution of the M-18.
43. Tank Destroyer Center, "History," pt. 1, chap. 1, 12; pt. 1, chap. 2, 8—9; Baily, *Faint Praise,* 39.
44. See Baily, *Faint Praise,* 39—47, for a thorough discussion of the expedient weapons.
45. Maj. Gen. A. D. Bruce to Brig. Gen. W. B. Palmer, 26 January 1943, Bruce Papers, MHI; Baily, *Faint Praise,* 45—47.
46. Dunham, "Tank Destroyer History," 11.
47. For a detailed chronology of tank destroyer activities at Camp Hood, see Tank Destroyer Center, "History," and a derivative study, Dunham, "Tank Destroyer History."
48. FM 18—5 (1942), iv.
49. Ibid., 128.
50. Ibid., 123—26.
51. Tank Destroyer Center, "History," pt. 1, chap. 8, 25—28.
52. Ibid., pt. 1, chap. 2, 20; and pt. 1, chap. 3, 22.
53. Maj. Gen. A. D. Bruce to "Westy" [Col. Wendell Westover?], 6 March 1945, Bruce Papers, MHI.
54. Green, to author, 22 May 1977.
55. A total of four battalions in the North African campaign used the M-3. Shelby L. Stanton, *Order of Battle: U.S. Army World War II* (Novato, CA: Presidio Press, 1984), 333—38.
56. Dunham, "Tank Destroyer History," 26.

Chapter 3

1. Maj. Allerton Cushman, [Army Ground Forces] Observer Report, 29 March 1943, 2—3, Documents Collection, Combined Arms Research Library, U.S. Army Command and General Staff College, Fort Leavenworth, KS (hereafter cited as CARL).
2. Allied Forces G-3 Training Section, "Training Notes from Recent Fighting in Tunisia: Experiences, Observations, and Opinions Collected from Officers and Men of Front Line Units, March 18—30, 1943," 62—63, CARL.
3. Ibid., 63.
4. "Provisional Instructions for Leadership and Action of the Tank Regiment and Tank Battalion," 13, 17, captured German document translated by Great Britain, Army, General Headquarters, Middle East, GSI, Box 56, [19]21—41, Armored Tactics, Patton Collection, Library of Congress. See also Great Britain, War Office, General Staff, "German Armoured Tactics in Libya," Periodical Notes on the German Army no. 37, February 1942, CARL.
5. Baily, *Faint Praise,* 152—55, offers technical data of tank destroyer weapons.
6. Cushman, [Army Ground Forces] Observer Report, 3 May 1943, CARL, 6.
7. FM 18—5 (1942), 14.
8. Allied Forces, "Training Notes," 23—24.
9. Cushman, Observer Report, 29 March 1943, 5.
10. Allied Forces, "Training Notes," 26.

11. See Baily, *Faint Praise,* 154, for technical data.

12. Gilbert A. Ellman, "Panther vs. Panzer," *Military Review* 24 (August 1944):21—26.

13. Ibid.

14. U.S. Army Tank Destroyer School, "Tank Destroyer Combat," Camp Hood, TX, n.d., Bruce Papers, MHI, 16.

15. Ibid.

16. For details on the German attack at Sidi-bou-Zid, see George F. Howe, *Northwest Africa: Seizing the Initiative in the West,* U.S. Army in World War II: The Mediterranean Theater of Operations (Washington, DC: Office of the Chief of Military History, Department of the Army, 1957), 410—15; and William R. Betson, "Sidi-Bou-Zid—A Case History of Failure," *Armor* 91 (November—December 1982):38—44.

17. Ibid.

18. Howe, *Northwest Africa,* 430—35; Cushman, Observer Report, 3 May 1943, 2; Cushman, Observer Report, 29 March 1943, 4.

19. Howe, *Northwest Africa,* 460—64.

20. Howe, *Northwest Africa,* 559—60; Tank Destroyer School, "Tank Destroyer Combat," 17—30; Cushman, Observer Report, 3 May 1943, 1.

21. U.S. Army Ground Forces Board, North African Theater of Operations, Report A-165, 20 June 1944, CARL; U.S. Army Ground Forces Board, Mediterranean Theater of Operations, "Tank Destroyer Conference, Florence, Italy," November 1944, CARL, 8.

22. U.S. Army Ground Forces Board, Mediterranean Theater of Operations, "The Tank Destroyer Battalion in Action," Report A, Misc-21, 24 May 1944, 4—5, CARL.

23. Ibid., 4.

24. AGF Board Report A-165.

25. AGF Board MTO, "Tank Destroyer Conference," 3.

26. Green, to the author, 22 May 1977.

27. E. N. Harmon, "Notes on Combat Experience During the Tunisian and African Campaigns," 11, typescript, Library, U.S. Army Armor School, Fort Knox, KY.

28. AGF Board MTO, "Tank Destroyer Conference," 6.

29. Ibid.

30. Allied Forces, "Training Notes," 71.

31. FM 18—5 (1942), 109.

32. Harmon, "Notes," 9.

33. AGF Board MTO, "Tank Destroyer Battalion," 7—8; AGF Board MTO, "Tank Destroyer Conference," 8.

34. Ibid.

35. U.S. Army, 5th Army, Training Memo no. 60, "Employment of Tank Destroyer Units as Reinforcing Artillery," 24 August 1943, CARL; P. C. Meachem, "A New Fighting Team," *Field Artillery Journal* 34 (November 1944):778—80.

36. AGF Board MTO, "Tank Destroyer Battalion," 7—8.

37. Ibid., 5—9.

38. Training Memo no. 60.

39. AGF Board Report A-165.

40. Ibid.

41. AGF Board MTO, "Tank Destroyer Conference," 7.

42. AGF Board MTO, "Tank Destroyer Battalion," 6—7.

43. AGF Board MTO, "Tank Destroyer Conference," 6—7.

44. Ibid.

45. Bruce to "Westy," 6 March 1945.

46. Tank Destroyer Center, "History," pt. 1, chap. 8, 15—16.

47. FM 18—5 (1942), 19.

48. Maj. Gen. A. D. Bruce to Lt. Gen. Lesley J. McNair, 5 June 1943, Bruce Papers, MHI; AGF Board MTO, "Tank Destroyer Battalion," 6.

49. Allied Forces Training Memorandum no. 23, "Employment of Tank Destroyer Units," 21 March 1943, CARL.

50. Cushman, Observer Report, 3 May 1943, 1.

51. Ibid., 20.

52. Ibid., 21.

53. Ibid., 1, 21.

54. Maj. Gen. J. P. Lucas, Extract from Report on Sicilian Campaign, 8 September 1943, Bruce Papers, MHI.

55. Greenfield, Palmer, and Wiley, *Organization*, 425, 427.

56. Harmon, "Notes," 13.

57. Extract of General Devers' Report, 9 February 1943, Bruce Papers, MHI.

58. George C. Marshall, Chief of Staff, to Maj. Gen. A. D. Bruce, 30 January 1943, Bruce Papers, MHI.

59. Lt. Col. George M. Dean to Maj. Gen. A. D. Bruce, 19 June 1943, Bruce Papers, MHI.

60. Brig. Gen. B. M. Sawbridge to Maj. Gen. A. D. Bruce, 19 March 1943, Bruce Papers, MHI.

61. Greenfield, Palmer, and Wiley, *Organization*, 414.

62. Tank Destroyer Center, "History," pt. 1, chap. 3, 21.

63. Ibid., pt. 1, chap. 1, 15.

64. Greenfield, Palmer, and Wiley, *Organization*, 161.

65. Stanton, *Order of Battle*, 333—38.

66. Memo, G-3 War Department General Staff for the Chief of Staff, 20 January 1944, quoted in Greenfield, Palmer, and Wiley, *Organization*, 237.

67. Stanton, *Order of Battle*, 333—38.

68. Tank Destroyer Center, "History," pt. 1, chap. 4, 21.

69. Cushman, Observer Report, 3 May 1943, 2.

70. U.S. Army, Armored School, "The Employment of Four Tank Destroyer Battalions in the ETO," student research report by Committee 24 (Fort Knox, KY, May 1950), Figure 1; U.S. Army Command and General Staff School, FM 101—10 (Tentative), *Staff Officer's*

Field Manual: Organization, Technical, and Logistical Data (Fort Leavenworth, KS, 1943), para. 126.

71. Greenfield, Palmer, and Wiley, *Organization*, 402, 430; Dunham, "Tank Destroyer History," 333—35.
72. Tank Destroyer Center, "History," pt. 3, chap. 1, 14—15, and pt. 2, chap. 1, 5—6.
73. Greenfield, Palmer, and Wiley, *Organization*, 426—27.
74. Ibid; Speech by General A. D. Bruce on Field Manual 18—5, Hood Road Theater, 21 May 1943, Bruce Papers, MHI.
75. Maj. Gen A. D. Bruce to Lt. Col. James P. Barney, Jr., 1 May 1943, Bruce Papers, MHI.
76. Speech by General Bruce on FM 18—5, 21 May 1943.
77. Ibid.
78. FM 18—5 (1942), iv.
79. Dunham, "Tank Destroyer History," 27; Greenfield, Palmer, and Wiley, *Organization,* 427.
80. FM 101—10 (Tentative), [1943], para. 127—28.
81. Baily, *Faint Praise,* 65—66.
82. Tank Destroyer Center, "History," pt. 1, chap. 8, 16.
83. AGF Board MTO, "Tank Destroyer Conference," 4.

Chapter 4

1. FM 18—20, FM 18—21, FM 18—22, and FM 18—23, respectively.
2. U.S. War Department, FM 18—5, *Tactical Employment Tank Destroyer Unit* (Washington, DC: U.S. Government Printing Office, 1944), 5.
3. Ibid.
4. Ibid.
5. U.S. War Department, FM 18—20, *Tactical Employment of Tank Destroyer Platoon Self-Propelled* (Washington, DC: U.S. Government Printing Office, 1944), 26.
6. FM 18—5 (1942), 32.
7. Lt. Gen. Lesley J. McNair to Maj. Gen. Orlando Ward, 2 August 1943, Orlando Ward Papers, MHI.
8. FM 18—5 (1944), 51—52, 55—56.
9. Ibid., 5.
10. Ibid., 52—53, 76.
11. Ibid., 52.
12. Ibid., 3.
13. Ibid., 65.
14. Ibid., 6.
15. Ibid., 65.
16. Ibid., 4, 81.
17. Ibid., 79, 84—85, 87, 89.

18. U.S. Forces, European Theater, General Board, "Report on Study of Organization, Equipment, and Tactical Employment of Tank Destroyer Units" [1946?], 2 (hereafter cited as USFET, General Board, "Tank Destroyer Units").

19. See U.S. War Department, FM 7—35, *Antitank Company, Infantry Regiment and Antitank Platoon, Infantry Battalion* (Washington, DC: U.S. Government Printing Office, 1944).

20. FM 18—5 (1944), 3.

21. Ibid., 3—4, 6—8.

22. Cushman, Observer Report, 3 May 1943, 15.

23. Matthew Cooper, *The German Army, 1933—1945* (New York: Bonanza, 1984), 496—97; Carlo D'Este, *Decision in Normandy* (New York: E. P. Dutton, 1983), 74—75; Nigel Hamilton, *Master of the Battlefield: Monty's War Years 1942—44* (New York: McGraw-Hill, 1983), 583.

24. USFET, General Board, "Tank Destroyer Units," 2.

25. Stanton, *Order of Battle*, 326—38.

26. U.S. Army Field Forces, "Type Field Army," 1 July 1949, para. 504, CARL.

27. Baily, *Faint Praise*, 90.

28. USFET, General Board, "Tank Destroyer Units," 2.

29. Baily, *Faint Praise*, 2—3.

30. Ibid., 90.

31. Ibid., 106.

32. U.S. Army, 1st Army, "Artillery Information Service," September 1944, 61.

33. Baily, *Faint Praise*, 70—74.

34. USFET, General Board, "Tank Destroyer Units," 2.

35. U. S. Army, 1st Army, "Artillery Information Service," December 1944, 82.

36. U.S. Army, 814th Tank Destroyer Battalion, After-Action Report, December 1944, CARL.

37. First U.S. Army, "Artillery Information Service," December 1944, 63.

38. Ibid., 82.

39. U.S. Army Ground Forces, Immediate Report no. 63, HQ, 12th Army Group, 24 September 1944, comments of Col. L. E. Jacoby; 1st Army, "Artillery Information Service," December 1944, 64.

40. Great Britain, War Office, *Notes From Theatres of War, no. 20: Italy 1943/1944* (N.p., 1945), 39; Great Britain, Army, 21st Army Group, "Extracts of 21st Army Group AFV Technical Report 26," 22 May 1945.

41. Col. C. R. Landon to Commanding General, European Theater of Operations, U.S. Army, 9 November 1944, Bruce Papers, MHI.

42. Stanton, *Order of Battle*, 47—69, 75—188, 299—302.

43. First U.S. Army, "Artillery Information Service," December 1944, 89—90.

44. Capt. Frederick H. Parkin, "The Employment of the Tank Destroyer Battalion with the Infantry Division," 12 March 1945, CARL.

45. Ibid.

46. John Lemp and Ernest C. Hatfield, "Tank Destroyers as Assault Guns," *Field Artillery Journal* 35 (April 1945):244—45.

47. First U.S. Army, "Artillery Information Service," September 1944, 57.

48. U.S. Army Ground Forces, Immediate Report no. 58, 16—17 September 1944. See also 1st Army, "Artillery Information Service," July 1944, 61.

49. First U.S. Army, "Artillery Information Service," December 1944, 62.

50. USFET, General Board, "Tank Destroyer Units," 23—24; U.S. Army Ground Forces Report no. 20 309, 25 November 1944, CARL.

51. Paul B. Bell, "Tank Destroyers in the Roer River Crossing," *Field Artillery Journal* 35 (August 1945):497—98.

52. First U.S. Army, "Artillery Information Service," September 1944, 57—58.

53. U.S. Army Ground Forces, Immediate Report no. 6, European Theater of Operations, 3 February 1945, CARL.

54. U.S. Army Ground Forces, Immediate Report 88, European Theater of Operations, 12th Army Group, 30 October 1944, CARL.

55. Eugene T. Oborn, "Proper Use and Abuse of Tank Destroyers," *Field Artillery Journal* 35 (July 1945):398—99.

56. U.S. Army, 1st Army, Operations Memo no. 37, 9 July 1944, Subject: Employment of Tank Destroyers, found in U.S. Army Ground Forces Board Report no. C-100, European Theater of Operations, 25 August 1944, CARL.

57. USFET, General Board, "Tank Destroyer Units," 14—15.

58. Ibid., 14—16.

59. Stanton, *Order of Battle*, 328—31; USFET, General Board, "Tank Destroyer Units," 6.

60. U.S. Army, 3d Army, After-Action Report, pt. 24, Tank Destroyers, April 1945, CARL.

61. U.S. Army Ground Forces, Immediate Report no. 88, European Theater of Operations, 12th Army Group, 30 October 1944, comments Lt. Col. H. L. Davisson, Commanding Officer, 634th Tank Destroyer Battalion, CARL.

62. U.S. Army Ground Forces Board, Report no. C-190, European Theater of Operations, 25 August 1944, CARL.

63. Parkin, "Tank Destroyer Battalion."

64. For the Mortain battle see: Martin Blumenson, *Breakout and Pursuit*, U.S. Army in World War II: The European Theater of Operations (1961; reprint, Washington, DC: Office of the Chief of Military History, U.S. Army, 1970), 461; Armored School, "Employment," 81—111; First Army, "Artillery Information Service," September 1944, 59—60 and December 1944, 72; USFET, General Board, "Tank Destroyer Units," 15.

65. For the Arracourt battle see: Armored School, "Employment," 64—80; Hugh M. Cole, *The Lorraine Campaign*, U.S. Army in World War II: The European Theater of Operations (1950; reprint, Washington, DC: Historical Division, U.S. Army, 1981), 222—25.

66. Hugh M. Cole, *The Ardennes: Battle of the Bulge*, U.S. Army in World War II: The European Theater of Operations (1965; reprint, Washington, DC: Office of the Chief of Military History, U.S. Army, 1983), 147, 281.

67. Ibid., 199, 323—24.

68. Ibid., 126; Armored School, "Employment," 58; 1st U.S. Army, "Artillery Information Service," May 1945, 94.

69. Robert W. Hasbrouck, interview with Gregory Fontenot, Washington, DC, 20 August 1984; Bruce C. Clarke, interview with Gregory Fontenot, McLean, VA, 19 August 1984.

70. Cole, *Ardennes*, 308—9, 453, 472—74.

71. First U.S. Army, "Artillery Information Service," May 1945, 81; 3d Army, After-Action Report, pt. 24, 3.

72. First U.S. Army, "Artillery Information Service," May 1945, 81.

73. USFET, General Board, "Tank Destroyer Units," 2.

74. Baily, *Faint Praise*, 115.

75. D. L. McCaskey, "The Role of Army Ground Forces in the Development of Equipment," Army Ground Forces Study no. 29 (N.p.: Historical Section, Army Ground Forces, 1946), 66—67.

76. Stanton, *Order of Battle*, 333—38; R. L. McNelly, "Tank Destroyers at Work—Without the Book," *Field Artillery Journal* 35 (July 1945):396—98.

77. Dunham, "Tank Destroyer History," 45.

78. Allerton Cushman, "Tank Destroyers Against Japan," *Field Artillery Journal* 36 (February 1946):70—73.

79. Chamblerlain and Ellis, *Tanks*, 158. See Baily, *Faint Praise*, for an analysis of the development and procurement of the M-26.

80. USFET, General Board, "Tank Destroyer Units," 10, 29.

81. Ibid., 25.

82. Ibid., 10.

83. Ibid., 29.

84. "Second Battle of the Carolinas," *Time*, 8 December 1941:66.

85. Extract of General Devers' Report, 9 February 1943, Bruce Papers, MHI.

86. Stanton, *Order of Battle*, 26.

87. Ibid., 333—38.

88. See James A. Sawicki, *Tank Battalions of the U.S. Army* (Dumfries, VA: Wyvern, 1983).

Chapter 5

1. Tank Destroyer Center, "History," pt. 4, chap. 1, 4—5.

2. U.S. Army Training and Doctrine Command, Regulation no. 11—7, *Operational Concepts and Army Doctrine*, (Fort Monroe, VA, 1982).

3. Copies of nearly every wartime observer report cited in this study are known to have been sent to the Tank Destroyer Center.

4. Robert A. Doughty, *The Evolution of U.S. Army Doctrine, 1946—76*, Leavenworth Paper no. 1 (Fort Leavenworth, KS: Combat Studies Institute, U.S. Army Command and General Staff College, 1979), 4.

5. G. D. W. Court, *Hard Pounding* (Washington, DC: The U.S. Field Artillery Association, 1946), 6—7.

6. Richard E. Simpkin, *Antitank: An Airmechanized Response to Armored Threats in the 90s* (New York: Brassey's, 1982), 176—77, 186.

7. U.S. War Department, "Instructions for Anti-tank Defence," 9.

8. Ibid.

9. U.S. Army Infantry School, TC 7—24, *Antiarmor Techniques for Mechanized Infantry* (Fort Benning, GA, 1975), pt. 2, 2.

Bibliography

Abbreviations

CARL—Documents Collection, Combined Arms Research Library, U.S. Army Command and General Staff College, Fort Leavenworth, KS.

MHI—U.S. Army Military History Institute, Carlisle Barracks, PA.

NA—National Archives, Washington, DC.

Documents

Unpublished

Allied Forces. Training Memorandum no. 23. "Employment of Tank Destroyer Units." 21 March 1943. CARL.

Allied Forces. G-3 Training Section. "Training Notes from Recent Fighting in Tunisia: Experiences, Observations, and Opinions Collected from Officers and Men of Front Line Units, March 18—30, 1943." CARL.

Bruce, Andrew D. Papers. U.S. Army Military History Institute, Carlisle Barracks, PA.

Conference in the Office of the Chief of Staff, 7 October 1941. Item 4327, microfilm reel 287, George C. Marshall Research Library, Lexington, VA.

Cushman, Allerton, Maj. [Army Ground Forces] Observer Report. 29 March 1943. CARL.

Dunham, Emory A. "Tank Destroyer History." Army Ground Forces Study no. 29. N.p.: Historical Section, Army Ground Forces, 1946. CARL.

Entry 57, General HQ, U.S. Army (GHQ). Record Group 337 (HQ Army Ground Forces). NA.

Entry 57D, General HQ, U.S. Army (GHQ). General Staff, G-3 Section, Subject File: 1940—March 9, 1942. Record Group 337 (HQ Army Ground Forces). NA.

Great Britain, Army. 21st Army Group. "Extracts of 21 Army Group AFV Technical Report 26." 22 May 1943. CARL.

Great Britain. War Office. General Staff. "German Armoured Tactics in Libya." Periodical Notes on the German Army no. 37. February 1942. CARL.

Harmon, E. N. "Notes on Combat Experience During the Tunisian and African Campaigns." Typescript, Library, U.S. Army Armor School, Fort Knox, KY.

McCaskey, D. L. "The Role of Army Ground Forces in the Development of Equipment." Army Ground Forces Study no. 34. N.p.: Historical Section, Army Ground Forces, 1946. CARL.

Marshall, George C. Papers. George C. Marshall Research Library, Lexington, VA.

Memo, Col. A. D. Bruce for the Assistant Chief of Staff, G-3, 21 January 1942, Subject: Report on the Maneuver Experiences of Provisional Antitank Battalions (First Army). Item 4327, microfilm reel 287, George C. Marshall Library, Lexington, VA.

Memo for the Secretary [of War], Notes on Conference, 4 December 1941. Item 2714, microfilm reel 116, George C. Marshall Library, Lexington, VA.

Naisawald, L. Van L. "The U.S. Infantry Division, Changing Concepts in Organization, 1900—1939." Baltimore: Operations Research Office, Johns Hopkins University, 1952. CARL.

Parkin, Frederick H., Capt. "The Employment of the Tank Destroyer Battalion with the Infantry Division." 12 March 1945. CARL.

"Provisional Instructions for Leadership and Action of the Tank Regiment and Tank Battalion." Captured German document translated by Great Britain, Army, General Headquarters, Middle East, CSI. Box 56, Armored Tactics, Patton Collection, Library of Congress.

Provisional Tank Destroyer Battalion GHQ. "Standing Operating Procedure." Fort George G. Meade, MD, 1941? Item 4327, Microfilm reel 287, George C. Marshall Research Library, Lexington, VA.

U.S. Army. Armored School. "The Employment of Four Tank Destroyer Battalions in the ETO." Student research report by Committee 24. Fort Knox, KY, May 1950. CARL.

U.S. Army. 1st Army. "Artillery Information Service." CARL.

U.S. Army. 1st Army. Operations Memo no. 37. 9 July 1944. Subject: Employment of Tank Destroyers. In U.S. Army Ground Forces Board. Report no. C-100. European Theater of Operations. 25 August 1944. CARL.

U.S. Army. 3d Army. After-Action Report. Pt. 24. Tank Destroyers. April 1945. CARL.

U.S. Army. 5th Army. Training Memo no. 60. "Employment of Tank Destroyer Units as Reinforcing Artillery." 24 August 1943. CARL.

U.S. Army Field Forces. "Type Field Army." 1 July 1949. CARL.

U.S. Army Ground Forces. Immediate Report no. 6. European Theater of Operations. 3 February 1945. CARL.

U.S. Army Ground Forces. Immediate Report no. 58. 16—17 September 1944. CARL.

U.S. Army Ground Forces. Immediate Report no. 63. HQ, 12th Army Group. 24 September 1944. Comments of Col. L. E. Jacoby. CARL.

U.S. Army Ground Forces. Immediate Report no. 88. European Theater of Operations. 12th Army Group. 30 October 1944. CARL.

U.S. Army Ground Forces. Report no. 20 309. 25 November 1944. CARL.

U.S. Army Ground Forces. Board Report no. C-190. European Theater of Operations. 25 August 1944. CARL.

U.S. Army Ground Forces Board. Mediterranean Theater of Operations. "Tank Destroyer Conference, Florence, Italy." November 1944. CARL.

U.S. Army Ground Forces Board. Mediterranean Theater of Operations. "The Tank Destroyer Battalion in Action." Report A-Misc-21. 24 May 1944. CARL.

U.S. Army Ground Forces Board. North African Theater of Operations. Report A-165. 20 June 1944. CARL.

U.S. Army. 814th Tank Destroyer Battalion. After-Action Report. December 1944. CARL.

U.S. Army Tank Destroyer Center. "Tank Destroyer History." Camp Hood, TX, 1945? Microfilm, Library of Congress.

U.S. Forces, European Theater. General Board. "Report on Study of Organization, Equipment, and Tactical Employment of Tank Destroyer Units." [1946]. CARL.

Ward, Orlando. Papers. U.S. Army Military History Institute, Carlisle Barracks, PA.

Published

Great Britain. War Office. Notes from Theatres of War. No. 20. Italy 1943/1944. N.p., 1945.

U.S. Army Command and General Staff School. *Antimechanized Defense (Tentative).* Fort Leavenworth, KS, 1939.

U.S. Army Command and General Staff School. *Antitank Defense (Tentative).* Fort Leavenworth, KS, 1936.

U.S. Army Command and General Staff School. FM 101—10 (Tentative). *Staff Officer's Field Manual: Organization, Technical, and Logistical Data.* Fort Leavenworth, KS, [1943].

U.S. Army Infantry School. TC 7-24. *Antiarmor Techniques for Mechanized Infantry.* Fort Benning, GA, 1975.

U.S. Army Training and Doctrine Command. Regulation no. 11-7. *Operational Concepts and Army Doctrine.* Fort Monroe, VA, 1982.

U.S. War Department. FM 7—35. *Antitank Company, Infantry Regiment and Antitank Platoon, Infantry Battalion.* Washington, DC: U.S. Government Printing Office, 1944.

U.S. War Department. FM 18—5. *Tank Destroyer Field Manual, Organization and Tactics of Tank Destroyer Units.* Washington, DC: U.S. Government Printing Office, 1942.

U.S. War Department. FM 18—5. *Tactical Employment Tank Destroyer Unit.* Washington, DC: U.S. Government Printing Office, 1944.

U.S. War Department. FM 18—20. *Tactical Employment of Tank Destroyer Platoon Self-Propelled.* Washington, DC: U.S. Government Printing Office, 1944.

U.S. War Department. FM 100—5. *Tentative Field Service Regulations: Operations.* Washington, DC: U.S. Government Printing Office, 1939.

U.S. War Department. FM 100—5. *Field Service Regulations: Operations.* Washington, DC: U.S. Government Printing Office, 1941.

U.S. War Department. War Plans Division. "Instructions for Anti-tank Defense (Provisional—February 1918) from an Official British Document." War Department Document no. 783. April 1918.

Interviews and Letters

Clarke, Bruce C., interview with Gregory Fontenot. McLean, VA, 19 August 1984.

Green, Robert W. Letter to the author, 22 May 1977.

Hasbrouck, Robert W., interview with Gregory Fontenot. Washington, DC, 20 August 1984.

Books and Articles

"Artillery and the Tank." *Field Artillery Journal* 30 (July—August 1940): 243—48.

Baily, Charles M. *Faint Praise: American Tanks and Tank Destroyers During World War II.* Hamden, CT: Archon, 1983.

Bell, Paul B. "Tank Destroyers in the Roer River Crossing." *Field Artillery Journal* 35 (August 1945):497—98.

Betson, William R. "Sidi-Bou-Zid—A Case History of Failure." *Armor* 91 (November—December 1982):38—44.

Blumenson, Martin. *Breakout and Pursuit.* U.S. Army in World War II: The European Theater of Operations. 1961. Reprint. Washington, DC: Office of the Chief of Military History, U.S. Army, 1970.

Chamberlain, Peter, and Chris Ellis. *British and American Tanks of World War II.* New York: Arco, 1981.

Cole, Hugh M. *The Ardennes; Battle of the Bulge.* U.S. Army in World War II: The European Theater of Operations. 1965. Reprint. Washington, DC: Office of the Chief of Military History, U.S. Army, 1983.

Cole, Hugh M. *The Lorraine Campaign.* U.S. Army in World War II: The European Theater of Operations. 1950. Reprint. Washington, DC: Historical Division, U.S. Army, 1981.

Cooper, Matthew. *The German Army, 1933—1945.* New York: Bonanza, 1984.

Court, G. D. W. *Hard Pounding.* Washington, DC: The U.S. Field Artillery Association, 1946.

Cushman, Allerton. "Tank Destroyers Against Japan." *Field Artillery Journal* 36 (February 1946):70—73.

D'Este, Carlo. *Decision in Normandy.* New York: E. P. Dutton, 1983.

Doughty, Robert A. "French Antitank Doctrine 1940: The Antidote that Failed." *Military Review* 56 (May 1976):36—48.

Doughty, Robert A. *The Evolution of U.S. Army Doctrine, 1946—76.* Leavenworth Paper no. 1. Fort Leavenworth, KS: Combat Studies Institute, U.S. Army Command and General Staff College, 1979.

Dupont, Jean. "Fighting the Panzers." *Field Artillery Journal* 31 (August 1941):538—43.

Ellman, Gilbert A. "Panther vs. Panzer." *Military Review* 24 (August 1944): 21—26.

Gabel, Christopher R. "The U.S. Army GHQ Maneuvers of 1941." Ph.D. dissertation, Ohio State University, 1981. Microfilm. Ann Arbor, MI: University Microfilms International, 1981.

Greenfield, Kent Roberts, Robert R. Palmer, and Bell I. Wiley. *The Organization of Ground Combat Troops.* U.S. Army in World War II: The Army Ground Forces. Washington, DC: Historical Division, United States Army, 1947.

Hamilton, Nigel. *Master of the Battlefield: Monty's War Years, 1942—44.* New York: McGraw-Hill, 1983.

Horne, Alistair. *To Lose a Battle, France 1940.* Boston: Little, Brown and Co., 1969.

Howe, George F. *Northwest Africa: Seizing the Initiative in the West.* U.S. Army in World War II: The Mediterranean Theater of Operations. Washington, DC: Office of the Chief of Military History, Department of the Army, 1957.

Hunnicutt, R. P. *Sherman: A History of the American Medium Tank.* Novato, CA: Presidio Press, 1978.

Lemp, John, and Ernest C. Hatfield. "Tank Destroyers as Assault Guns." *Field Artillery Journal* 35 (April 1945):244—45.

Liddell Hart, Basil Henry. *The German Generals Talk.* New York: W. Morrow, 1948.

Macksey, Kenneth. *Tank Pioneers.* New York: Jane's Publishing, 1981.

McNelly, R. L. "Tank Destroyers at Work—Without the Book." *Field Artillery Journal* 35 (July 1945):396—98.

Marston, O. F. "Fast Moving Targets." *Field Artillery Journal* 30 (July—August 1940):264—67.

Meachem, P. C. "A New Fighting Team." *Field Artillery Journal* 34 (November 1944):778—80.

"New Tank Destroyer Battalions." *Infantry Journal* 50 (January 1942): 56—59.

"Newly Approved Organization, Division Artillery—Triangular Division." *Field Artillery Journal* 30 (September—October 1940):36—37.

Oborn, Eugene T. "Proper Use and Abuse of Tank Destroyers." *Field Artillery Journal* 35 (July 1945):398—99.

Ogorkiewicz, Richard M. *Armored Forces.* New York: Arco, 1970.

Sawicki, James A. *Tank Battalions of the U.S. Army.* Dumfries, VA: Wyvern, 1983.

"Second Battle of the Carolinas." *Time,* 8 December 1941:66.

Simpkin, Richard E. *Antitank; An Airmechanized Response to Armored Threats in the 90's.* New York: Brassey's, 1982.

Stanton, Shelby L. *Order of Battle: U.S. Army, World War II.* Novato, CA: Presidio Press, 1984.

Stubbs, Mary, and Stanley R. Connor. *Armor-Cavalry.* Pt. 1. *Regular Army and Army Reserve.* Army Lineage Series. Washington, DC: Office of the Chief of Military History, U.S. Army, 1969.

Thomson, Harry C., and Lida Mayo. *The Ordnance Department: Procurement and Supply.* U.S. Army in World War II: The Technical Services. Washington, DC: Office of the Chief of Military History, Department of the Army, 1960.

Van Wyck, Ralph. "Antitank Battery Training." *Field Artillery Journal* 30 (January 1941):6—10.

Wedemeyer, A. C. "Antitank Defense." *Field Artillery Journal* 31 (May 1941):258—72. Also, "Stopping the Armored Onslaught." *Infantry Journal* 48 (May 1941):22—31.

Weeks, John. *Men Against Tanks, A History of Antitank Warfare.* New York: Mason/Charter, 1975.

LEAVENWORTH PAPERS

1. *The Evolution of U.S. Army Tactical Doctrine, 1946—76*, by Major Robert A. Doughty
2. *Nomonhan: Japanese-Soviet Tactical Combat, 1939*, by Dr. Edward J. Drea
3. *"Not War But Like War": The American Intervention in Lebanon*, by Dr. Roger J. Spiller
4. *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War*, by Captain Timothy T. Lupfer
5. *Fighting the Russians in Winter: Three Case Studies*, by Dr. Allen F. Chew
6. *Soviet Night Operations*, by Major Claude R. Sasso
7. *August Storm: The Soviet 1945 Strategic Offensive in Manchuria*, by Lieutenant Colonel David M. Glantz
8. *August Storm: Soviet Tactical and Operational Combat in Manchuria, 1945*, by Lieutenant Colonel David M. Glantz
9. *Defending the Driniumor: Covering Force Operations in New Guinea, 1944*, by Dr. Edward J. Drea
10. *Chemical Warfare in World War I: The American Experience, 1917*—1918, by Major(P) Charles E. Heller, USAR
11. *Rangers: Selected Combat Operations in World War II*, by Dr. Michael J. King
12. *Seek, Strike, and Destroy: U.S. Army Tank Destroyer Doctrine in World War II*, by Dr. Christopher R. Gabel

---

RESEARCH SURVEYS

1. *Amicicide: The Problem of Friendly Fire in Modern War*, by Lieutenant Colonel Charles R. Shrader
2. *Toward Combined Arms Warfare: A Survey of 20th-Century Tactics, Doctrine and Organization*, by Captain Jonathan M. House
3. *Rapid Deployment Logistics: Lebanon, 1958*, by Lieutenant Colonel Gary H. Wade
4. *The Soviet Airborne Experience*, by Lieutenant Colonel David M. Glantz

---

STUDIES IN PROGRESS

Counterattack on the Naktong: Light Infantry Operations in Korea, 1950

●

Standing Fast: German Defensive Doctrine on the Russian Front During World War II

●

Tactics and Doctrine in Imperial Russia

●

U.S. Intervention in the Dominican Republic, 1965

●

Evolution of the Corps

●

World War II Eastern Front Atlas

●

Peacekeeping Operations

●

Mobilization Related Correlates of Success in American World War II Infantry Divisions

●

Dragon Rouge: Hostage Rescue in the Congo

●

Light Infantry in Modern Historical Perspective

●

Abu-Ageila and Um Katef: History and Battle Planning

●

Counterguerrilla Operations: Nicaragua, 1927—33

●

World War II Corps Commander's Profile

☆ U.S. GOVERNMENT PRINTING OFFICE: 1988-554-001/82064

Dr. Christopher R. Gabel

Dr. Christopher R. Gabel is an associate professor at the Combat Studies Institute, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas. He received his bachelor's degree at The Pennsylvania State University and earned M.A. and Ph.D. degrees in history at The Ohio State University. His graduate studies focused on the doctrine of the U.S. Army in the interwar and World War II periods.

COMBAT STUDIES INSTITUTE

Missions

The Combat Studies Institute was established on 18 June 1979 as a department-level activity within the U.S. Army Command and General Staff College, Fort Leavenworth, Kansas. CSI has the following missions:

1. Conduct research on historical topics pertinent to the doctrinal concerns of the Army and publish the results in a variety of formats for the Active Army and Reserve Components.
2. Prepare and present instruction in military history at USACGSC and assist other USACGSC departments in integrating military history into their instruction.
3. Serve as the U.S. Army Training and Doctrine Command's executive agent for the development and coordination of an integrated, progressive program of military history instruction in the TRADOC service school system.

SYNOPSIS OF LEAVENWORTH PAPER 12

Following the German conquest of France in 1940, the U.S. Army found itself without a doctrine, organization, or weapon capable of defeating a wholesale mechanized attack. Consequently, at the direct instigation of the Chief of Staff, General George C. Marshall, Lieutenant General Lesley J. McNair founded an antitank quasi-arm in 1941. This force, the "tank destroyers," combined an aggressive doctrine, an elite spirit, and highly mobile, heavily gunned weapons.

On the battlefields of World War II, however, tank destroyers were unequal to the task of neutralizing German armor. Their aggressive doctrine played into the hands of the German panzer divisions, which employed highly integrated combined arms tactics. The tank destroyers were also outgunned by the heavy German tanks that appeared in the last three years of the war. Therefore, the original tank destroyer doctrine was largely abandoned in the field, where the tank destroyers continued to perform a variety of less ambitious missions.

This *Leavenworth Paper* provides a case study in the formulation of doctrine, with emphasis being given to the conceptual flaws that marred the tank destroyer program and the corrective measures that were implemented in the field to alleviate these flaws. This study concludes with the argument that any comprehensive antitank doctrine, then and now, must embrace the principles of combined arms warfare in order to be effective.