

# After Action Report:

# TANK!

by Steve List

*This After Action Report attempts to show the relationship between the historical content of a simulation game and the actual historical event. Attention is also paid to the validity of the simulation vis-a-vis the actual nature of the event or military system being simulated.*

## HISTORY AS A GAME

*Tank* is a game of armored combat, first published in *S&T* and supplemented by an expansion kit. The scale is tactical: hexes are fifty meters across, Game-Turns represent two minutes (or less) of real time, and the counters represent individual vehicles, anti-tank guns, or infantry squads. The key feature of the game is its flexibility of representation. The counters carry only a stylized unit symbol and an identity code, and may be used to represent scores of different types of equipment from several nations over a forty-year period. Depending on the terrain mode, even features printed on the map vary in their effect on play.

Mechanics are relatively simple; the Attack Strength may be either High Explosive, Armor Piercing, or both. The Defense Strength of vehicles is a property of the unit and may vary with its facing. The Defense Strength of other units is governed solely by the terrain they occupy. To resolve combat, the target's Defense Strength is subtracted from the firing unit's Attack Strength. The resulting difference is cross-indexed with the range on the proper Combat Results Table to yield a range of numbers. If the die roll lies within this range, the target is destroyed. If not destroyed, it is unaffected. In addition to direct fire on a target, a unit may lay down opportunity fire, in which case it attacks the first Enemy unit to cross the line. In some situations, players may employ off-board artillery or air strikes. The impact hexes for these are plotted at least five Turns in advance, but on the Turn of impact the orientation of the impact pattern is randomly shifted. Special procedures are used to resolve these attacks. Player-Turns are simultaneous, with each Player plotting an activity for each unit on a standard SiMove sheet. A unit may move or fire, but not do both. All attacks are resolved, then casualties removed and movement executed. Units are subject to "Panic" if located in a randomly selected hex; the effect is to abort a fire mission or substitute a random move for a plotted one. The probability of a given force's panicking is called its "Panic Level," and varies by nationality and time period. It may also be increased if the force's casualties exceed its stated "Preservation Level."

*Tank* is a non-historical game only in the sense that none of the Scenarios provided represent specific battles. Rather, they are outlines of typical combat situations for company-sized units. Voluminous data is provided so Players may select forces and weapons typical of the belligerents they choose to represent in a given Scenario. To illustrate the game in operation, a

hypothetical situation has been devised with three different sets of combatants to examine how weapons and doctrine will affect the outcome. The situation assumes the Bravo force of Armored Fighting Vehicles, supported by infantry and/or anti-tank guns, has encountered a superior Alpha force it cannot face in open battle. As the situation begins, the Bravo units are falling, or have fallen back on their supporting arms, with the Alpha force in pursuit.

The first such situation is typical of the Western Desert in 1941; the Alpha force is British and the Bravo force is German. In North Africa, the Germans frequently made use of a "sword and shield" tactic when confronted with superior numbers or a qualitatively superior force. The German tanks would retreat past emplaced anti-tank guns, drawing the enemy into their fields of fire. When the guns had sufficiently depleted the enemy, the tanks would re-emerge, often on the flank, to mop up the survivors.

The second situation is somewhat different. In 1944, the Soviets were pushing the Germans out of central European Russia through weight of numbers, being checked here and there by local counter-attacks conducted by the understrength German armored units. Here, the German (Alpha) force is a company of tanks supported by infantry. The Bravo force is a battery of Russian assault guns with motorized infantry attempting to lure the Germans into an ambush by the anti-tank guns and bazooka equipped infantry hidden in the wooded areas.

The last situation is a hypothetical one, assuming a war in Europe in the late '70's. The Bravo force is an American cross-attached tank company supported by some anti-tank missiles and off-board artillery. The Alpha force is a company each of Russian tanks and infantry with considerable off-board artillery. While the Russians actually have fewer tanks in this situation, their missile firing Armored Personnel Carriers are expected to more than make up the difference. Both sides are equipped with what is, at this time, the latest word in weaponry.

### SITUATION 1: NORTH AFRICA, 1941

The British force in this situation consists of a squadron of Matilda infantry tanks, unsupported by infantry or artillery. In game terms, the British have only planned artillery, so in a fluid situation, such as this hypothetical segment of a tank battle, they are without effective artillery support. The squadron contains five platoons ("troops") of three tanks with armor-piercing weapons only, and a Headquarters troop of three tanks. The commander is in a standard tank while the other two tanks in the Headquarters troop are Close Support vehicles with High Explosive weapons only. Since the Matilda has insufficient Movement Factors to overrun anything, only the CS tanks can affect non-armored targets. The British have a

moderate Panic Level of "30" and an excellent Preservation Level of "70." This means the Panic probability is 30%, but that the additional panic effects due to excessive losses will not occur until British losses are at least 70%.

The Germans have a company of PzKwIII (three platoons of four and a Headquarters platoon of two tanks) and four 88mm L56 anti-aircraft guns with trucks for transport. As these 88's represent an actual Flak unit, they may use the Stereo Coincidence Rangefinder Combat Results Table, rather than the Nominal Table used by the tanks. Supporting the Germans are two medium battalions of called artillery fire. The German force has an excellent Panic Level of "10" and a good Preservation Level of "50."

In the initial placement, the German 88's are hidden; they are not placed on the board until they reveal their general location by firing. They are placed behind slopes ("in defilade") for added protection and concealment. The Open Terrain mode is used, so slopes are the only terrain feature to be considered. The British are placed near the "X" edge of the map, with the Germans just beyond effective range of the British.

As the German tank guns cannot penetrate the Matilda's frontal armor, they retreat at full speed toward the 88's, while the German Player plots artillery fire in the path of the British advance. With a Movement Allowance of only 2, the Matildas can hardly be said to be in "hot" pursuit, but they persevere. Up to Turn Eight, the British formation holds together well, with only minor scattering due to Panic, but then overlapping artillery patterns land on one CS tank, and a one-in-six die roll results in its destruction, leaving only one Close Support tank to deal with the 88's. On Turn Ten, the Matildas are within range of the 88's, which open fire, destroying a standard tank. Two of the guns are "revealed," (placed on the board), but, due to the range, they are not spotted and so cannot be fired at. The British have no choice but to advance into the face of the German fire, taking advantage of what little covering terrain there is, until they get close enough to return fire. Their low speed is a handicap in this phase, though it does reduce the magnitude of scattering by Panicked units.

By the end of Turn Thirteen, all the 88's have been revealed, but none can be spotted at the prevailing ranges. They have now knocked out six Matildas and are protected by the German tanks clustered behind them. At this point, the British are faced with a near-hopeless task, but they valorously persist in the tradition of Balaclava and Passchendaele.

By Turn Fourteen, some of the British tanks have reached cover and a degree of protection behind the ridge in hexrow 3500, but are forced into a defensive posture as a platoon of Germans sallies around the remnants of their right flank. By the end of Turn Seventeen,

eleven Matildas have fallen, and the British have exceeded their Preservation Level. They are still out of range of the 88's and with only one Close Support tank left, have almost no chance of eliminating any of them, let alone winning the Scenario. In danger of being outflanked, they have a Hobson's choice: stay holed up until eliminated by artillery and flanking fire, or fall back, running the gauntlet in reverse. At this point, the battle is done.

Ideally, tactics should reflect technical reality, but things are not always as they should be. The rifled musket made obsolete the tactics of the Napoleonic wars, and the machine gun made them impossible. Yet, when the tank arrived and made men impervious to machine gun fire, too many military "thinkers" fell back on the old tactics instead of devising new ones. The British Army contained many of this type. Most British tank units were raised by issuing tanks to unfrocked cavalry regiments, and a sort of implicit assumption was made that the tank was merely a mechanical, bullet-proof charger. Cavalry had once been the arm of decision, determining the outcome of battles by the shock action of charges *en masse*. Tank units were expected to do more or less the same, even much later in the war than this Scenario is set, when presumably, hard experience should have taught them better.

The Matilda was a slow, but heavily armored monster, intended to accompany infantry in WWI-style assaults. The lack of an adequate high speed "cruiser" tank in North Africa in 1941 led to their employment as Main Battle Tank. This was an attempt to exploit the vehicle's only virtue — armor too thick for any German anti-tank gun to penetrate. Unfortunately, the Germans cheated. They used their 88mm anti-aircraft guns as anti-tank weapons and enjoyed a general tactical superiority.

Even for its intended infantry support role, the Matilda was inadequate. Armament consisted only of machine guns and a 2-pounder (40mm) cannon capable of firing only armor-piercing shot. There was no weapon suitable for targets too well protected from machine guns and too far for pinpoint shots from the cannon. Typical of such targets were dug-in infantry, pillboxes, and concealed anti-tank guns. To remedy this defect, two tanks per squadron were armed with a 12-pounder howitzer, which was completely unsuited for attacking armored targets.

The Germans, on the other hand, armed their tanks with guns able to fire both shot and shell. Each tank was able to function as its own Close Support vehicle, giving the unit a great deal more flexibility. In this game, the destruction of a tank by artillery alone is rare, and so it can be considered a freak chance that one of the CS vehicles was lost in this way. But the occurrence points up the danger of having so few vehicles for such an important function.

To be fair to the British, they don't stand a chance in this Scenario. This does not excuse the manner in which they proceeded, however. Even if both CS tanks had survived, or, indeed, even if they had all been CS tanks, none were able to reach a position from which to harm the German guns. The solution to this situation is to decline the conditions, and after meeting resistance, end the Scenario. Infantry would have been equally impotent under these conditions, leaving only artillery to handle the situation. Due to the game conditions, the

British have only planned artillery available; that is, each supporting battalion can fire only at one location specified before the start of the game. In this Scenario, not even this was considered available due to the fluid nature of the battle prior to the action depicted.

All the British can do is concede the Scenario to the Germans, but then create a new one on more favorable terms. This would involve pursuing the retreating Germans only to the point of coming under fire from the 88's. They should then withdraw, and when the situation is stable enough for artillery to be made available, pre-register it on selected German gun positions, and then start a new "game." Each time they meet a serious check, they should end the "game" until it can be renewed with more favorable conditions. This would force the Germans to fight on British terms or retreat. It is a slow way to gain ground, but the British had far more success this way than with headlong charges.

#### SITUATION 2: RUSSIA, 1944

A German force is in the aggressor (Alpha) role this time. It consists of a company of fourteen Panther tanks and a supporting company of ten infantry squads riding in armored half-tracks, or SPW's. The infantry is armed with a variety of close range anti-tank weapons which can only be used after the unit dismounts from its vehicle. As in the previous situation, the Alpha force has only planned artillery, which is considered unavailable due to the fluid nature of the situation. The German Panic Level is "30" and the Preservation Level is "50."

The Russian (Bravo) force is a mixed lot. A battery of five SU-85 self-propelled guns and four squads of infantry in trucks comprise the mobile force, with eight 57mm anti-tank guns and eight more squads of infantry concealed in wooded areas. Half the infantry are equipped with some sort of anti-tank device as well. The guns and non-motorized infantry are hidden. Like the German Player, the Russian Player has no artillery. His Panic Level is the same (30), with a higher Preservation Level (60). The terrain mode is Mixed, meaning that all terrain features are employed. This cuts down considerably on the fields of fire of emplaced weapons.

In the previous situation, the defender's tanks could not effectively fire at the attacker's tanks, but his anti-tank guns could do so easily. In this case, the Panthers have *extremely* heavy frontal armor which, nevertheless, *can* be attacked by the SU-85's. The smaller Russian anti-tank guns can only effectively fire at the Panthers' more lightly armored sides and rear. As a result, the Russian Player has deployed his guns in the hope that the Germans will pass them by, offering a good flank shot. This policy requires the Russian Player to hold his fire for extended periods to avoid revealing gun positions prematurely. Deployed near each gun is some infantry to support it against German infantry. With only five assault guns available, the Russian Player chooses to deploy them in the woods and depression in the upper right quarter of the board. If the Germans should enter the board from the upper half of the "X" edge, they would be in position to fire on the Germans several times, then withdraw towards their anti-tank guns. The trucked infantry are hidden in hexrow 3700. If the Germans enter in that region, the infantry are to expose them-

selves and act as bait to draw the Germans into the anti-tank gun ambush.

The direction of the German advance was chosen by a random die roll process. As it happened, they entered in the lower half of the mapedge and advanced to the upper left. They were deployed in the *Panzerkeil*, or armored wedge formation. Each tank platoon is in a wedge, with the central platoon advanced to give the overall wedge shape. Each tank platoon is trailed by a supporting infantry platoon and the three company HQ vehicles form a group to the rear of the wedge.

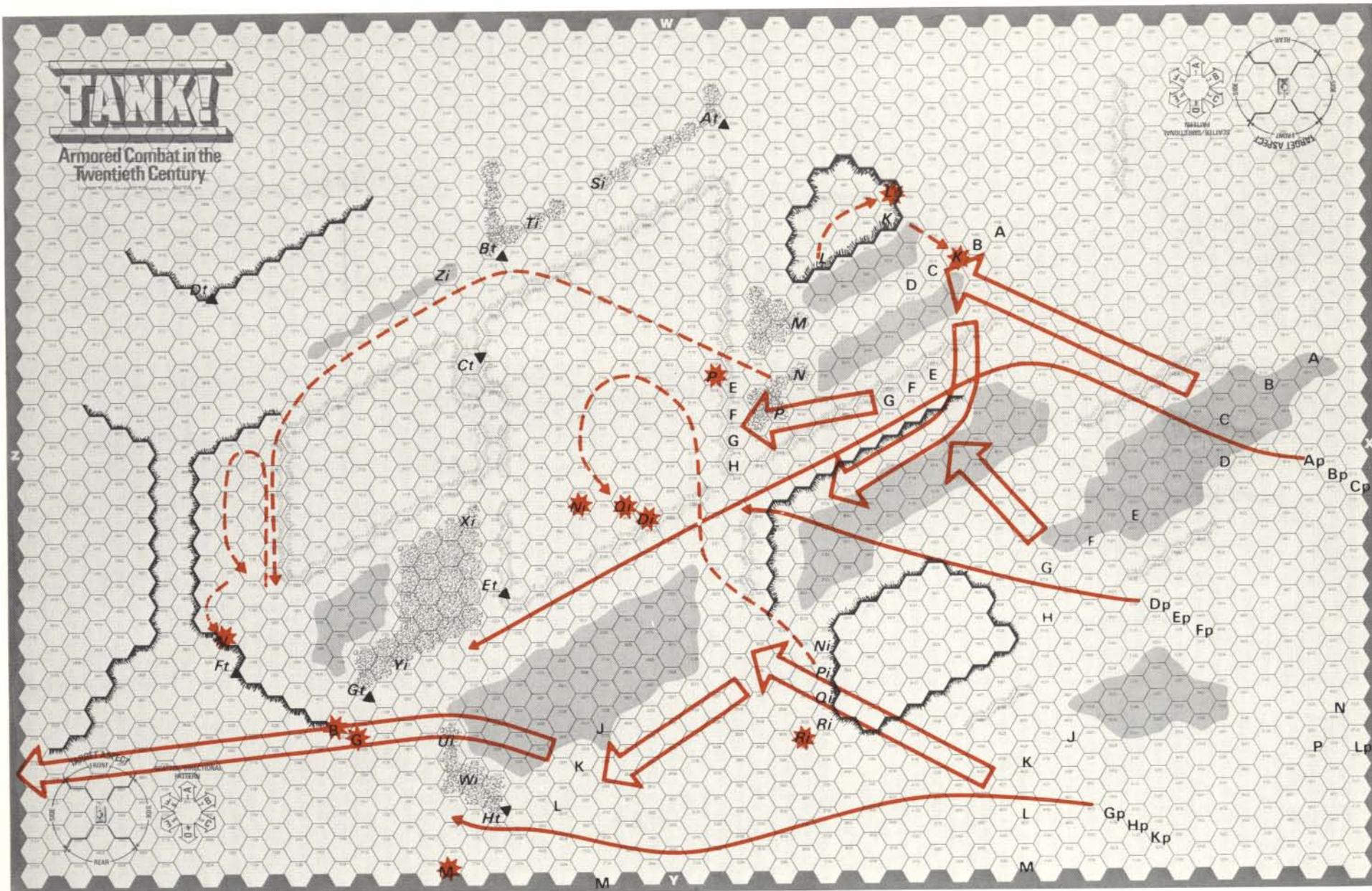
Due to the starting positions, the two forces are mostly concealed from each other by intervening terrain. On the First Turn, Panther A and SU-85 K fire at each other and miss, while Panther M destroys Truck D and its passengers. The remaining German vehicles advance to covered positions while the Russian motorized infantry flees. On Turn Two, SU K tries to withdraw, but panics directly toward the Germans; the Russian trucks continue to withdraw and the rest of the force marks time. The Germans attempt to dress their formations while remaining under cover. In general, the same activity occurs on the next turn, except that SU K is caught in the open and destroyed by Panther C.

The activity increases in Turns Four and Five. The remaining SU's begin to withdraw, but due to Panic effects, two are destroyed in the process. The Germans detach the left flank's tank and infantry platoons to reconnoiter the woods around hex 2130, and the Russian gun (H) in the woods fires and misses.

The Germans now know there are anti-tank guns in the area, and proceed more cautiously. While the tanks use reconnaissance-by-fire to search for the Russian gun, the supporting infantry advances to sweep the woods. The remaining German infantry holds in place while their tanks either advance to firing positions or engage visible targets, destroying SU L and inf. R. Gun H destroys one of the approaching SPW's, but reveals itself in the process, and is destroyed the next Turn.

The Russian infantry in the woods moves to support the anti-tank gun. Arriving too late for that, they engage the dismounted German infantry. After a firefight lasting until Turn Twelve, both sides' infantry has been wiped out, and Panther M has been destroyed by a Russian bazooka after advancing to support its infantry. In the meantime, the other German tanks have combined recon fire with maneuver and direct fire to destroy three more anti-tank guns and the remnants of the motorized infantry. The rest of the German infantry concentrated to sweep the woods around hex 1924 and clear a safe passage for the tanks.

Since the Germans have met resistance all across the map, they concentrate in one spot for a breakthrough, bypassing the Russians in the upper map. The infantry advances on foot to investigate possible anti-tank elements which cannot be reached by recon fire, while the tanks provide support. The Russian losses have been too heavy to prevent a breakthrough. The sole remaining SU-85, subject to a 50% Panic probability, eventually reaches the scene, but is nearly useless and is knocked out quickly. Anti-tank gun F is more successful, destroying Panthers B and G before being eliminated itself. The Germans now have a clear path and exit the map, unmolested any further.



## Illustration 1: Russia, 1944

Position of units is shown by letter. Units for each side are given a capital letter for identity. Lower case letter denotes type: t = Anti-tank gun (57); i = infantry (those shown moving

are transported by trucks); p = SPW (half-track, with infantry). Units without second letter are tanks; Soviet tanks are SU 85's, German tanks are PzV Panthers. Letters in

*italic* represent Soviet units; others represent German units.

General direction of movement of groups of units is shown by arrows; large, outline arrows show German tank movement; small, single-line arrows show German SPW movement;

and dotted line arrows show Soviet movement. Position for all units at start is shown, as well as new positions taken up during the course of the battle, and the position in which the unit was destroyed (denoted by the large asterisk in the hex). Arrows on Soviet AT guns indicate fields of fire.

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The Russians are slight underdogs, being somewhat outgunned. However, the outcome was materially affected by several mistakes. The anti-tank guns were poorly sited; some had needlessly limited fields of fire and most never got a decent flank shot. This was because none were in a position to dominate the terrain features the Germans could be expected to use for cover, and they were not really well set-up for mutual support. Located adjacent to the German's most probable travel routes, they couldn't expect to remain undetected until the Germans had passed by them. They were, however, reasonably sited for defense and adequately supported by infantry. The Russian Player's greatest mistake was in the handling of his assault guns. They were initially in a good position to counter a German advance in the upper part of the map; unfortunately, the Germans entered in the lower part. The Russian Player was then passive and waited too long to withdraw them. When they tried to pull back, they were under fire and two were lost as a result. The others made poor use of cover and were lost needlessly. With four or five of his SU's intact to threaten the German and plug holes in the anti-tank gun coverage, he could have prevented a breakthrough or made it too expensive to count as a victory.

The German Player did a better job. He made good use of cover, and combined recon fire, direct fire and movement well to uncover and destroy enemy units. He did rather poorly in the battle around the woods, through. The tanks and infantry were poorly coordinated; the two squads in the firefight were left unsupported too long, and when tank M belatedly moved forward, it was carelessly placed and lost to bazooka fire. Finally, it should be pointed out that the Germans would not have been able to take the time for this methodical advance if the Russian SU-85's had survived as a significant threat.

### SITUATION 3: WEST GERMANY, 1977

In Illustration 2 (pg. 36), the Alpha force is a company of ten Russian T70 Main Battle Tanks and a company of infantry (ten squads in BMP Armored Personnel Carriers, each carrying three "Swatter" anti-tank missiles). Backing them up are six medium artillery battalions of called fire. Their Panic Level is "30" and the Preservation Level is "50." The Bravo force is a cross-attached tank company from an American armored brigade. That is, one platoon of tanks has been traded for a platoon of infantry in Armored Personnel Carriers. One of the four infantry squads is equipped with Dragon missiles, which must be fired dismounted. As additional reinforcement, two APC's with "TOW" missile launchers have been attached to the HQ platoon. The US force is backed up by four medium artillery battalions and three heavy airstrikes, all on call. Their Panic Level is "20," and their Preservation Level is "30."

This Scenario is peculiar in that the tanks and missile launchers of both sides use shaped charge armor piercing ammunition, called "HEAT." The tanks of both sides carry spaced armor, which reduces the effect of such ammunition. As a result, for both sides, tanks are invulnerable from the front, but, like APC's, are nearly defenseless from any other angle.

At the start, the American tanks are deployed in Woods H and behind Hill A. The infantry

platoon is held back in Woods G, while the HQ platoon is roughly in the center of the three groups. This formation is intended to allow immediate engagement of the enemy by a forward element, no matter where he enters the board, with the remaining elements in position to quickly provide support. The Soviets enter the board in the lower half of the "X" edge in two lines, with tanks in advance of the infantry by 250 meters, and HQ vehicles between the lines. As the action begins, both forces are on the board and both Players have plotted artillery to impact on Turn Five.

On Turn One, the Russians have no visible target, so they advance toward the upper left. The US first platoon emerges from behind the hill to force the action. On Turn Two, only five Russian tanks and the BMP are in position to fire at the Americans, but all tanks are presenting only their invulnerable frontal aspects to the enemy. The Russians thus have no targets and advance aggressively while their infantry attempts to withdraw. The American tanks don't bother to fire at the T70's, but proceed to knock out five BMP's, putting the Russian infantry over its Preservation Level. The second US platoon now leaves its cover, advancing to support the first platoon. Turn Three is similar; US and Soviet tanks are nose-to-nose, but unable to harm each other, while remaining tanks and Soviet APC's maneuver to support the developing main action. Two Russian tanks reach a position to flank the American first platoon. This pays dividends on Turn Four, as the US platoon tries to back out of trouble, tanks A, C and D are destroyed. The second platoon has only frontal shots on Soviet tanks, and fails to shoot at the BMP's due to Panic. They, in turn, are unable to achieve any hits on the Americans. In the woods around hex 1924, the Dragon missile team dismounts, and the US HQ platoon advances to the Berm to provide fire support.

On Turn Five, the first artillery concentrations land. The Soviets had fired smoke shells to isolate the hill (right of and below center), but the smoke will have no effect this Turn. The American Player had plotted fire along the slopes along hexrow 3400, and through hex 4315, assuming the Russian would be there. But his own tanks were there instead, three Panicking as a result. Fortunately for him, five Russian tanks aborted fire missions due to Panic, so he lost only Tank B, while his Dragon team destroyed T70 J, and his tanks E and F destroyed T70 A and BMP A. The US tanks are now above their Panic Level.

On Turn Six, the Russian smoke shells take effect; the Dragon team has no targets, and so remounts in case future artillery should land in its location. A gap in the smoke lets the US HQ tanks knock out T70's D and H. The US TOW vehicles attempt to withdraw, but scatter due to Panic, and the surviving BMP's attempt to shelter behind the Berm, along hexrow 5000. On this Turn, all US and Russian artillery impacts in the "valley" in the lower right center. Each Player has a tank Panicked by his own artillery and T70 B is destroyed by the Russian fire. Turn Seven is similar, with most of both sides' vehicles Panicking. M60 J does knock out BMP F, and the US infantry pull out of the woods to a reserve position. They play no further active role.

On Turn Eight, the bulk of the US second platoon Panics, but M60 F destroys BMP G. After this, the two remaining BMP's shelter

behind the Berm and, due to their augmented Panic Level, contribute no more to the action. M60 K is hit again by Friendly artillery, and the resulting Panic move saves it from a sure kill by T70 E. TOW vehicle N is destroyed, and Soviet artillery landing on the US HQ tanks destroy the company commander's tank, and drive the F.O. (Tank M) out of shelter. This loss forces the American units to freeze on Turn Nine, and they accomplish nothing. Soviet artillery hitting M60 H Panics it, exposing its flank to a fatal shot from T70 C. Both sides have taken heavy losses, but the Russians are stymied and unable to gain ground. M60 E in hex 3730 blocks the lower area of the board, out of necessity; if it tries to move, Panic would probably cause it to expose a flank. But the Russians can't get past it, and can't make use of their massive artillery because they can't get a line of sight to many areas they would like to bombard.

The action continued in this general tenor. Neither side could do much unless artillery hits forced Panic movement that exposed vulnerable flanks. The US Player finally thought of using his artillery to drive the Soviet command tank from its shelter in hex 4128 of the Berm. The Russian belatedly thought of doing the same to the pesky American tank E, and, recognizing the danger to his leader, moved it just in time, though M60 E eventually got it anyway. By the end of Turn Sixteen, the battle was really over. Only T70 E and two BMP's were left to the Russian, while the American survived with five tanks, one TOW vehicle and all four infantry squads.

The American Player did not win this action so much as he survived it. He made a bad mistake to start with; his second platoon stayed in position on Turn One, instead of immediately moving to support the first platoon. As a result, by the time it was in position to cover the area between Hill A and Slope B, the Russians had already passed through. Instead of sandwiching the Russians between the two platoons, they were themselves sandwiched, though the "top layer" of BMP's proved far less effective than the T70's. The American Player did use his infantry well; that is, the Dragon team was in the right place at the right time to kill a tank, and then promptly left to avoid retaliatory artillery fire. The platoon was then kept together under good control and held in reserve to either counter an advance by the BMP's along the top of the map, or to make a last ditch effort to stop the tanks in the lower part.

The Russian Player was handicapped in that his infantry was badly ripped up at the beginning, and was unable to do any damage. Still, it could have been used more aggressively, possibly advancing under cover of smoke to get behind the American tanks and threaten them with missile fire. Instead, they took only perfunctory potshots and did a poor job of just surviving.

The major failure on both sides was in their employment of artillery. Each tended to fire and forget it. Because of the Five Turn time lag, the Players had to estimate where they and their opponents would be. Once they did so, however, they paid little attention to those estimates and the plotted fire. On six occasions in ten Turns, one or both Players' units were hit by their own artillery; the Russian Player lost a tank. In addition, both were late in recognizing that artillery was the only thing likely to break the tactical stalemate, by forcing

tanks to move and possibly expose their flanks. Late in the game, the Russian Player did attempt to lay a smokescreen to cover a regrouping of tanks and an advance by his infantry, but by the time the screen developed, he had nothing left to regroup or advance with. All in all, neither side fought a very good battle; this was an armored rumble where luck was far more important than tactical skill, not that much of that was demonstrated.

#### THE GAME AS HISTORY

The situations detailed above present three sets of events which are both relevant and irrelevant to the "real" world. The North Africa Scenario is the most straightforward and "accurate" of the lot. The situation is tactically simple; slow, but heavily armored tanks attempt to cross a broad expanse of open terrain in the face of effective anti-tank fire, unsupported by other arms, deal with the guns, and continue on to some further objective. Accomplishment of this mission is impossible in terms of the game, at least for the particular hardware involved here. This result is historically valid. The German "88" was so effective against all Allied armor in the early stages of the war that it was regarded with almost mystic awe, even after weapons development had progressed so that almost all the combatants had even more powerful guns. Historically, the average outcome was still the same despite the hardware; unsupported tanks took heavy losses from anti-tank weapons and generally failed in their missions. To be sure, some heavily armored tanks and assault guns were built that were able to get past the anti-tank screen, but they usually paid the price in some respects. The Porsche Tigers at Kursk got past the Russian guns, but their infantry support couldn't, and they fell prey to individual tank killer teams due to their inability to protect themselves from men on the ground.

The second situation is less clear-cut. The anti-tank guns are much less powerful with respect to the tanks; since they can only be effective using flanking fire, and because of the broken terrain restricting fields of fire, placement is very important. To make up for these drawbacks, the Russian has a small force of assault guns; they are insufficient to meet the German tanks by themselves, but are a powerful complement to the hidden guns. However, the Russian Player failed to make efficient use of his forces, and no conclusion can be drawn about the effectiveness of such a combination. The German Player to some extent tried to follow actual doctrine by sending his infantry forward to search for the anti-tank guns. But in game terms, the infantry are pitifully vulnerable, and a full platoon was lost in the process without actually destroying any guns. The infantry did serve to verify the absence of enemy units in some areas where the tanks did not wish to venture, but the tanks did the bulk of the investigating via recon fire, and almost all the destroying as well. Instead of the infantry being sent forward to clear the way for the pinned tanks, it was more like driving a herd of animals through a minefield to clear it. The infantry were sacrificed to find targets for the tanks. A certain amount of tank/infantry coordination was employed, but not in a historical manner.

The last situation is an incredible muddle. Because the game mechanics rendered the tanks invulnerable from the front, frequently they were ignored as targets in favor of the Armored Personnel Carriers. This is a bit like a

boxer being unable to hurt his opponent, but periodically going over to punch the other guy's manager. This aspect really overpowered the whole situation, making it literally unreal. The development of a close range battle is contrary to the doctrines of both sides, which call for opening fire at ranges in excess of twenty hexes (1000 meters) and never getting much closer during a purely tank vs. tank combat.

Game situations can be accurate in general terms, but relatively minor considerations can also be magnified by circumstances to such a level that they seriously warp the simulation. While the game mechanics and the parameters of the weapons used are accurate on the average, so that situations analogous to reality can be set up, the course of events may be such that an average accuracy is no longer sufficient. The design approach that "everything comes out in the wash" will fail when too many non-typical events occur, or when the *average* result of a situation is treated as the *only* result. Either the outcome of events will not be as they "should," or decisions will be based on certainties rather than probabilities, when the decision-maker no longer has to worry about an unlikely event actually happening.

Many of the game mechanics are heavily abstracted in the interests of playability. Despite the mass of rules, the game *is* quite playable and enjoyable. But the abstraction results in some strange variances from "reality." Probably the worst of these is in tactical intelligence, the old problem of being able to see all your opponent's pieces. A rule allows one side to have hidden units which are not even placed on the board, but they can give themselves away by movement, firing and proximity to an enemy unit, and the rule is confined to the initial placement of non-vehicular units. The only other form of limited intelligence is the "Spotting" rule: a unit must be spotted before it can be fired at. Until it is spotted, it is immune (except to artillery), but its location is known so the enemy will do his best to get at it or avoid it. And once a unit is spotted, it stays spotted.

Similarly, artillery fire cannot be plotted on a hex unless it is visible to some Friendly unit; no spotting is required, just a line of sight. This makes certain areas immune to artillery, because some hexes just can't be seen from anywhere but an adjacent hex. The large impact pattern of artillery does make it possible to splatter a hex by firing at a nearby observable one, but the overall effect is to reduce the utility of artillery. It does somewhat compensate for the spotting rule, in that you can't call artillery on units you know are there when you can't "see" the hex they're in. A further built-in simplification is that any unit can be an artillery spotter. The function of artillery spotter was usually confined to the company commander or a separate Forward Observer in the HQ platoon.

Terrain is simplified to the point of stereotype. Vision is unlimited through clear hexes, but a unit on a hilltop can see only the hilltop, as slope and berm hexsides cut the Line of Sight (unless the observing or observed unit is adjacent to the hexside). There is no dominating terrain that lets you see over obstacles which would block vision at a lower level. This aspect does help reduce the impact of knowing where the enemy is, by preventing you from shooting at him, but it is a distortion

which can act to aggravate, rather and cancel out such "unrealistic" elements.

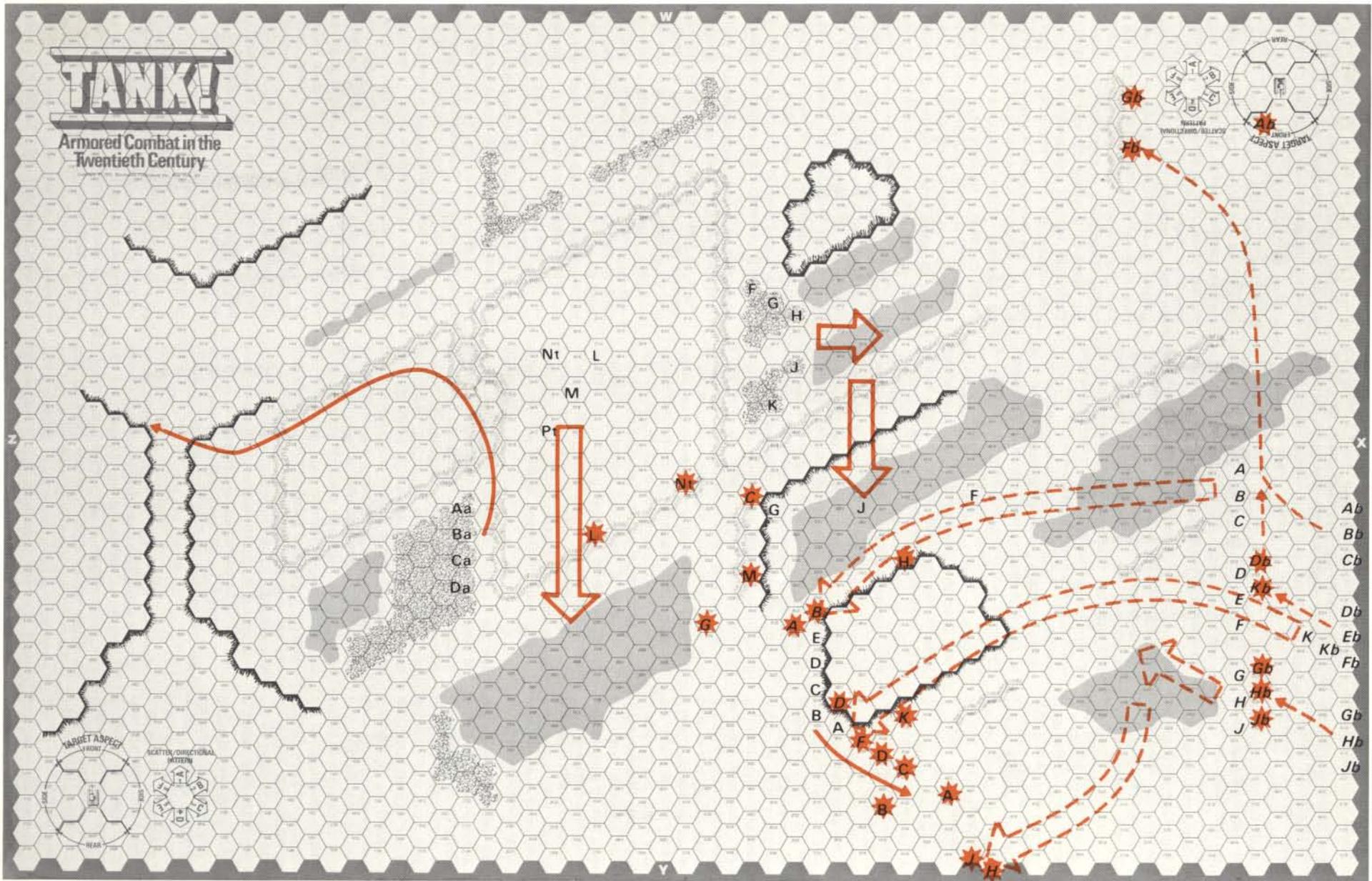
A final, but less important part of the limited intelligence problem is recon fire. The Germans made good use of it in the second situation to find enemy units and verify their absence; all he had to do was roll a number equal to or less than the Russian Panic Level; and if nothing was revealed, he knew nothing was there. It doesn't really work that way. The failure of recon fire to uncover anything in a real situation is inconclusive; it can only prove something *is* there, not that nothing is there.

Another over-simplified aspect is the absolute nature of combat resolution. After determining the attack differential and adjustments to the die roll, you may find there is no chance to kill the target merely because, on the average, the target would survive such an attack. Similarly, at the other end of the scale, the target may have no chance of surviving. Fortunately for the play of the game, most combats are not such sure things, and resolution by die roll is required; but here, again, there are only two extremes, destruction and survival. There are no results short of destruction, loss of mobility, or any other result short of destruction, except for artillery-induced Panic.

On the lesser level, weapons and their characteristics have been oversimplified a little too much. No data on infantry weapons, other than anti-tank devices, has been provided. Left out are weapons such as mortars and infantry guns, which do not have universal application, but are invaluable when the special circumstances calling for them arise. More critical to the game is the tendency to equate the performance of an anti-tank gun to that of a tank armed with the same weapon. In cases such as the German PzKw III D, the equivalent 37mm anti-tank gun appears to be superior as an anti-personnel weapon, with an HE Strength of 5 compared to its AP Strength of 4. On the other hand, tanks such as the British Matilda or Crusader, armed with a 2-pounder unable to fire shell, have an HE Strength like the anti-tank gun of zero. What apparently has been overlooked is the machine gun armament of the tank. A tank with two machine guns should at least have an HE Strength comparable to an infantry squad, armed with rifles and perhaps one machine gun, which in the WWII periods typically have an HE Strength of 2 to 6. In the above examples, it appears the German gun factors got the benefit of the tank's machine guns, while the British tanks' own MG's were ignored. In the North African situation, had any of the Matildas gotten close enough to an "88" to spot it, they had no weapons with which to hit it. In reality, they could at least have put the gun out of action by driving off its crew with MG fire.

The last area I feel causes problems is the defensive capabilities of non-vehicular units. They have no intrinsic Defense Strength, receiving only what the terrain gives them. But a pedestal-mounted gun, such as an "88," or even a squad of walking men, is a far easier target to sight and destroy than that same squad doing its best to take cover. The rules treat them all the same for both spotting and combat. Again, this causes problems fairly rarely, but if your tanks are pinned down by a gun they can't shoot at, and your infantry can't approach it either, then you are stuck.

Fortunately, the game is open-ended. Those who desire can tack on quite a bit to make it



## Illustration 2: Germany, 1977

Position of units is shown by letter. Units for each side are given a capital letter for identity. Lower case letter denotes type: a = APC (MICV, with infantry); t = Anti-tank (TOW)

missiles; b = BMP (APC, with infantry). Units without second letter are tanks; Soviet tanks are T70's, American tanks are M60's. Letters in *italic* represent Soviet units; others represent American units.

General direction of movement of groups of units is shown by arrows; large, outline arrows show tank movement, and small, single-line arrows show APC movement. Dotted arrows show Soviet movement, others show

American movement. Position for all units at start is shown, as well as new positions taken up during the course of the battle, and the position in which the unit was destroyed (denoted by a large asterisk in the hex).

**TANK!** [continued from page 36]

conform to their ideas of accuracy. Below are some suggestions which can make the game more interesting (at the usual cost in complexity). In the area of limited intelligence, allow any unit to which no enemy has a clear Line of Sight to revert to "unspotted" status. Allow any unspotted unit not in an enemy line of sight to be placed on the board, up to three or so hexes from its actual location. Let your opponent resolve your recon fire attacks, telling you only if and when you have found something.

In combat procedures, few easy changes can be made. Try adding "1" to the die roll of an attacking infantry or gun unit which is itself being fired at. Limit the ability to spot artillery fire to the company commander or a designated Forward Observer. Only hexes visible to the F.O. may be plotted to receive artillery fire by the normal rules, but any hex on the board may be fired at by artillery subject to additional scattering. The scatter is determined by rolling the die twice; the first roll determines the direction the target and scatter hexes will be displaced, the second the distance. Observing for artillery is a mission in its own right, and any unit doing so may not be plotted to move or fire in that Turn. This mission cannot be aborted by Panic effects, unless Players want to simulate a sporadic loss of communications. For those who really want to the combat resolution can itself be extended. One could retain the existing Combat Results Table as a base, perhaps deducting "1" from the die rolls to increase the frequency of hits, but then go to a separate table to determine the actual results of a hit. This table could provide for anything from negligible damage to complete destruction, including temporary and permanent loss of mobility or firepower.

To improve the survivability of infantry, they could be given an intrinsic Defense Strength in addition to that for the terrain. For example, two points for those plotted to move, three for those plotted to fire, and four for those plotted to "Keep Down" or otherwise stay under cover. This Defense Strength would not change even if the unit's plotted movement were changed by Panic effects.

The last area in which changes could be made would require some work: the expansion of the weapons tables to include heavy infantry weapons and provide for some sort of HE firepower based on machine guns for tanks which now have none. As a quick and "dirty" fix, give such vehicles an HE Strength of 2 and a range of 10 to simulate the coaxial MG. Allowing for bow and flexible guns is beyond the scope of these guidelines.

All in all, *Tank* is a good game. It manages to capture the overall feel of armored combat on the individual vehicle level and still remain playable. But various simplifications made to keep it enjoyable hurt it as a simulation. You may set up a situation to "see what would have happened," and you will usually get the "right" answer, but you can never be sure that some small factor, that normally can be safely ignored, did not prove pivotal and make the results invalid.



## Feedback Questions

S&T nr. 53 published Nov./Dec. 1975

*How to use the Feedback Response Card:* After you've finished reading this issue of S&T, please read the Feedback questions below, and give us your answers by writing the answer-numbers on the card in the response boxes which correspond to each question number. See centerfold for card.

Please be sure to answer all the questions (but do not write anything in the box for question-numbers labelled "no question"). Incompletely filled-out cards cannot be processed.

*What the numbers mean:* When answering questions, "0" always means NO OPINION or NOT APPLICABLE. When the question is a "yes or no" question, "1" means YES, and "2" means NO. When the question is a rating question, "1" is the WORST rating, "9" is the BEST rating; "5" is an AVERAGE rating; and all numbers in-between express various shades of approval or disapproval.

1-3. No question

*The following questions ask you to rate the articles in this issue (1 = poor; 9 = excellent; 0 = no opinion).*

4. Punic Wars (Simulation)
5. Punic Wars (article)
6. Tank! (After Action Report)
7. History of Wargaming Update (article)
8. Outgoing Mail
9. Briefings
10. For Your Eyes Only
11. No question
12. This issue overall (on a scale from 1 to 9).
13. Was this issue better than the last one?
14. Assume that you don't subscribe to S&T. Would the quality of this issue alone motivate you to subscribe?
15. For how many issues have you had a continuous subscription to S&T? 0 = I don't subscribe; 1 = This is my first issue; 2 = This is my second or third issue; 3 = This is my fourth or fifth issue; 4 = This is my sixth issue; 5 = This is my seventh through eleventh issue; 6 = This is my twelfth issue; 7 = This is my thirteenth through eighteenth issue; 8 = This is my nineteenth or subsequent issue; 9 = I am a *Lifetime Subscriber* to S&T (regardless of number of issues received).
16. Did you send in the feedback card for your last issue of S&T?
17. Your age: 1 = 13 years old or less; 2 = 14-17; 3 = 18-21; 4 = 22-27; 5 = 28-35; 6 = 36 plus.
18. Your sex: 1 = male; 2 = female.
19. Education: 1 = 11 years or less; 2 = 12 years; 3 = 13-15 years; 4 = 13-15 years and still in school; 5 = 16 years; 6 = 17 years or more.
20. How long have you been playing conflict simulation games? 0 = less than 1 year; 1 = 1 year; 2 = 2 years; ... 8 = 8 years; 9 = 9 or more years.
21. What is the average number of hours you spend playing simulation games each month? 0 = none; 1 = 1 hour or less; 2 = 2-5 hours; 3 = 6-9 hours; 4 = 10-15 hours; 5 = 16-20 hours; 6 = 21-25; 7 = 26-30; 8 = 31-40; 9 = 41 or more.
22. How many simulation games do you possess? [Having this issue gives you at least one.] 1 = 1-10; 2 = 11-20; 3 = 21-30; 4 = 31-40; 5 = 41-50; 6 = 51-60; 7 = 61-70; 8 = 71-80; 9 = 81 or more.
23. What level of complexity do you prefer in games? Rate your preference on a 1-9 scale, with higher numbers indicating increased complexity. Use the following games as guidelines: American Revolution - 4, East is Red - 5, NATO - 6, Patrol! - 7.

24. Pick the ONE period that you would MOST like to see games and articles done about. 1 = Ancient (Rome, Greece, Biblical, 3000 BC - 600 AD); 2 = Dark Ages and Renaissance (600 AD - 1600 AD); 3 = 30 Years War and Pre-Napoleonic (1600-1790); 4 = Napoleonic (1790-1830); 5 = Civil War (1830-1900); 6 = World War I (1900-1930); 7 = World War II (1930-45); 8 = post-WWII (1945-present); 9 = Present and future (anything goes).
25. How many conflict simulation games have you purchased in the last twelve months? Do not include games received by subscription. 1 = one to three; 2 = four to six; 3 = seven to nine; 4 = ten to fifteen; 5 = sixteen to 25; 6 = 26 to 30; 7 = 31 to 40; 8 = 41 to 50; 9 = 51 or more.
26. How many games do you plan to buy in the next twelve months (not including S&T subscription games). 1 = one to three; 2 = four to six; 3 = seven to nine; 4 = ten to fifteen; 5 = sixteen to 25; 6 = 26 to 30; 7 = 31 to 40; 8 = 41 to 50; 9 = 51 or more.
27. What percentage of the games you buy do you expect will be SPI games? 1 = 10%; 2 = 20%; 3 = 30%; ... 9 = 90%.
28. How much money do you plan to spend on conflict simulation games in the next twelve months? 1 = less than \$10; 2 = \$10-25; 3 = \$25-50; 4 = \$50-75; 5 = \$75-100; 6 = \$100-200; 7 = \$200-300; 8 = \$300-400; 9 = \$400 or more.
29. How much have you spent on conflict simulation games in the last twelve months? 1 = less than \$10; 2 = \$10-25; 3 = \$25-50; 4 = \$50-75; 5 = \$75-100; 6 = \$100-200; 7 = \$200-300; 8 = \$300-400; 9 = \$400 or more.
30. How much did you spend on history books in the last twelve months? 1 = under \$10; 2 = under \$20; 3 = under \$30; 4 = under \$40; 5 = under \$50; 6 = under \$60; 7 = under \$70; 8 = under \$80; 9 = \$81 or more.
31. What percentage of the money spent on history books was spent on hard-cover books? 1 = 10%; 2 = 20%; 3 = 30%; 4 = 40%; ... 9 = 90%.
32. Since S&T 48, we have adopted a new format for the magazine. The game rules are now part of the magazine, the game map is 17" x 22", and there are 100 counters in the game. Considering our economic reasons for doing this, what is your reaction to the new format? 1 = I do not like it and will not resubscribe; 2 = I do not like it, but will resubscribe; 3 = It does not matter to me; 4 = I like it better than the old format, but it has no effect on my resubscribing; 5 = I like it better than the old format and it caused me to resubscribe.
33. Assuming you answered 1, 2 or 3 on the above feedback question, indicate which one of the following reasons most closely resembles your reason for answering the above question as you did. 0 = rated the above question 4 or 5; 1 = the games are now too simple; 2 = there is not enough historical material in the magazine now; 3 = there is not enough value given for the money paid for the subscription; 4 = the games are physically too small; 5 = I feel betrayed by the change in format; 6 = the games are simply not good enough anymore; 7 = the map is not big enough for a proper game; 8 = there are not enough playing pieces; 9 = other reason.
34. Starting in this issue of S&T, we are experimenting with replacing the second historical article with two or more shorter articles. We will try this for two or three more issues. How do you feel about it now? 1 = not sure yet, would like to see some more of the shorter articles; 2 = I don't like it, and want the second historical article back; 3 = I like it better than the second historical article.
35. If you have regularly ordered items from SPI and other mail order companies, how would you compare SPI's service with the service you have received elsewhere? 1 = generally, SPI's is not as good; 2 = generally, SPI is about as good as anyone else; 3 = generally, SPI is better than most other companies.

*SPI is planning to publish an experimental series of books starting in 1976. These books will employ generally the same approach found in S&T. We are*