WRASSLIN'

POWER SURG...

May play 1 additional card
Increase Strength for 1 Turn

PS+

PS+

3 ELBOW—TOP ROPE

Strength: ≥ Own Weight
Agility: 3
Skill: 1

3

3

Game of Professional Wrestling

WRASSLIN' is a quick-playing, **strategy card game** that simulates the rough and tumble world of professional wrestling. Wrestlers of varying size, skill, and disposition wreak havoc upon one another by playing various Hold cards to batter their opponents senseless en route to a quick fall or submission.

Each of the 24 wrestlers has his own unique set of abilities (Strength, Agility, Skill, Weight, Recovery, etc.) that determine what he can do in that spotlit ring on your table at home. Using Action Cards depicting a variety of holds—both legal and illegal—you must use your wrestler's strengths to their best advantage and minimize his liabilities in order to overcome your opponent. Victory depends solely on your skill in using your wrestler's abilities and the Action Cards that come your way.

Play is fast and furious; most matches last but a few minutes. This is a simple, light-hearted, yet challenging game—ideal for family or social events, and for those rainy days when the latest ringside seat at the arena isn't available. Whether you are a fan of the glittering world of pro wrestling, or a skeptic, you've just got to crawl into that ring at least once. And you can do so **WRASSLIN'.**

Handicap, Tag Team and Battle Royal rules allow any number to play. Hold your own tournament to crown the champion of your own Weird Wrassling Federation. **WRASSLIN'** is now available for $15.00 direct from The Avalon Hill Game Company (4517 Harford Road, Baltimore, MD 21214). Please add the usual 10% shipping and handling charge (20% for Canadian orders; 30% for overseas orders). Maryland residents please add 5% state sales tax.

THE AVALON HILL Philosophy

Part 135
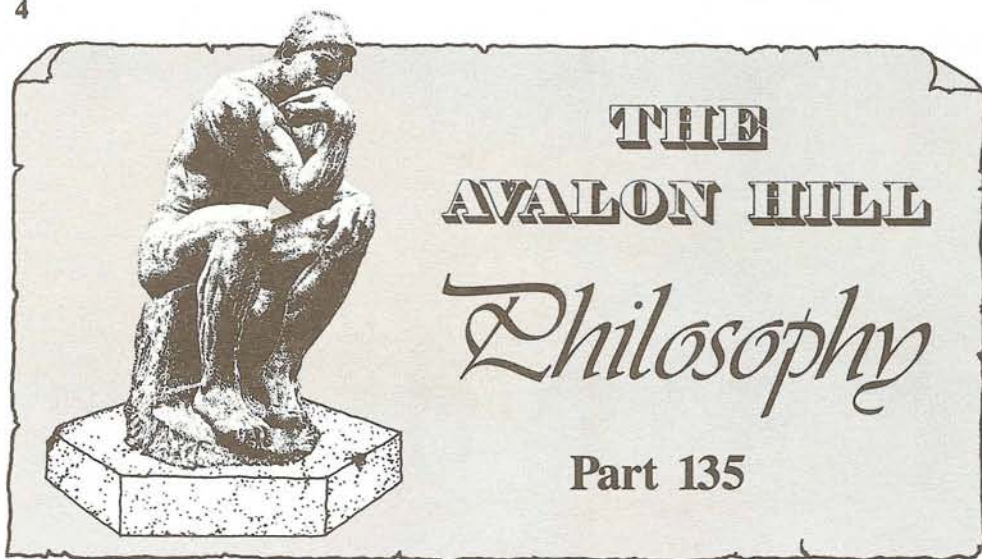
Recently, wargame manufacturers have faced some, unjustified I think, criticism from owners of retail game stores. The specifics of all this stone-casting is severalfold, but it tends to center on two concerns: the game companies are "hurting" retailers by offering direct sales to consumers, and the companies aren't doing enough to expand and/or support the hobby.

I've always felt competition, whether across a gameboard or in business, to be a good thing. But retailers don't seem to like manufacturers selling their products direct to consumers. Every step in that direction by a game company brings its letter of complaint from a retailer. I've even been taken to task by no less a personage than Mr. Jerry Dickerson (GAMA "Retailer Committee" Chairman) for my making mention that a consumer could receive a new release quicker through direct order from Avalon Hill than by awaiting its arrival in his local store. Certainly many folk purchase games at retail outlets; if nothing else, it's usually cheaper (saving them, at the very least, the shipping fee). But, I've been disappointed more than once by the offerings of specialty game stores. Given their proclivity to concentrate on what's "hot", shop owners tend to not have in stock many older titles and game parts and other "slow moving" items. And, quite frankly, it does take time (occasionally exhorbitant amounts) before new titles appear in retail outlets, and too often in too few numbers. For those who can't wait or find what they want in the local store, and for those who are not near a store, we offer and solicit direct sales; why else would we have a toll-free number, offer credit card purchases, or slip a postage-paid order form into each magazine issue and game? We offer solid service to the customer and make a profit—and isn't that what business is about.

The other complaint being voiced concerns the efforts—or lack of them—by the manufacturers to support the hobby. For retailers, this means that the companies aren't "doing enough" to bring in new consumers. Mentioned often is the lack of broad-based, big-budget advertising; lack of support for hobby conventions (especially the smaller, local cons); lack of introductory wargame designs; lack of "cooperation" with the retailers; the litany seems endless. To take but one example of what *we* should be doing, it has been asked that I devote (read, "donate") a page or so to listing the retail members of GAMA in The *GENERAL*. And, of course, TAHGC should advertise extensively in mass-market popular periodicals, always with prominent display of the old adage, "Available at Better Stores Everywhere". I found the "retailer's seminars" at ORIGINS (the hobby's annual bash for "fans and game players", but if I delve into *that* I'll surely get into hot water) most intriguing, more for their general tone than for

anything else. In short, the majority of retailers want the companies to popularize the hobby and expand the market and then direct the customers to them. The methods of doing this are expensive and, of course, they wish us to carry the burden. It brings instantly to my mind the old saw about "having one's cake . . .".

By way of example of what a game store *can* be, recently to our offices came a missive from Mr. Kevin Fitzpatrick, owner and manager of *Games, Crafts, Hobbies & Stuff!* (Overland, Missouri). After a brief introduction and a few compliments, he shared some of the doings, plans, hopes and offerings of his shop. He sent along photos of some of the eye-catching, ever-changing window and interior displays; several are notable: a Fourth of July window with flags, books, miniatures and board-games all concerned with the Revolutionary War; a Civil War theme in a cabinet highlighting the new *GETTYSBURG '88*, replete with period money, medals and uniforms; a display window featuring various business games. Unlike many store owners, Mr. Fitzpatrick is not loathe to open up games from his stock for customers to look at; in fact, there is a display case in which the components of a featured new game are laid out for viewing each week. (Despite Mr. Dickerson's repetitive theme that retail outlets offer the buyer his sole chance to look at the product, when was the last time a store clerk offered to let you see what was *inside* the box of that game you'd been eyeing?) Reading between the lines, it is also evident that the staff at *Games, Crafts, Hobbies & Stuff* know their stuff, for they are, as Mr. Fitzpatrick writes, "each one . . . a game consumer of divergent interests" as well. The clerks are more than mere shopkeepers; they are knowledgeable and active players as well and able to consider the many facets of our hobby from more than a profit-driven viewpoint. Perhaps all this explains why sales there advanced significantly each of the past two years.

But the success of Mr. Fitzpatrick's store isn't due solely to clever, informative or informed marketing. He has made it an active and exciting center of the hobby for his area. He maintains a close relationship with *SAGA*, the Saint Louis Area Gaming Association. Indeed, his store serves as site for periodic "boardgame weekends" with tournaments in popular games (a recent one, 2-4 March 1990, offered play in *MBT, DIPLOMACY, GETTYSBURG '88* and *Vietnam*) and tables for open gaming. No doubt many game stores support local game clubs, but the staff of this one goes beyond. Among other in-store promotions, they have two on-going offerings of immediate interest to me. The first is a B-17 campaign; once registered (free), the player is added to the growing list of pilots (43 by the end of 1989) of a ficticious bomber group. A large "Campaign

Board" on prominent display in the store informs each of the new mission (a "Pre-Flight Briefing" which includes such things as target, weather, bomber position and squadron, fighter cover, etc.) every two weeks, and on which players post the results of their previous mission for all to see. Just a short step away is another display board, right beside the new product display case mentioned above, featuring several (at last count six) ongoing games of *DIPLOMACY*; turns are due each Wednesday and results are posted each Friday. The photo sent shows a colorful display, with color-coded position maps and typed (failed moves highlighted in marker) compilations of each game's orders. Besides the entertainment value for the players, staff and others, activities such as these insure that a number of potential customers make regular stops at *Games, Crafts, Hobbies & Stuff!* And I dare say that sales of *B-17* and *DIPLOMACY* in Mr. Fitzpatrick's shop are quite high; in fact, he states that the former was his ninth best-selling title, and the latter his 16th last year.

In short, Mr. Fitzpatrick is doing just what so many preach but so few among the retailer ranks practice—he is supporting the local hobbyists in order that they will support him. Despite Mr. Dickerson's rhetoric in his recent letter (Vol. 26, No. 2), in my wanderings I've seen few shops that are concerned with anything other than the quick sale. Store space devoted to such activities obviously means that the shopkeeper can't pack in more merchandise, and a large inventory seems to be the sole concern of most. Most hobby store owners will mouth the same platitudes that Mr. Dickerson made in his letter, that they offer the customer the advantage of physically looking at a game before buying and serve as a place to meet others who share a common interest. The fellows at *Games, Crafts, Hobbies & Stuff*—without a lot of hoopla—are fulfilling those claims.

☆

SO THAT'S WHAT YOU'VE BEEN PLAYING

Titles Listed: 144				Total Responses: 468

Rank: Title		Pub	Rank Times Last Time	On List	Freq. Ratio
1.	Advanced SL	AH	1	23	4.7
2.	Merchant of Venus	AH	10	2	3.0
3.	Third Reich	AH	6	3	2.2
4.	Civilization	AH	3	3	2.1
5.	TP: Stalingrad	AH	12	4	1.9
6.	WS&IM	AH	—	1	1.7
7.	Air Force	AH	—	1	1.6
8.	Diplomacy	AH	4	24	1.5
9.	Kremlin	AH	18	4	1.5
10.	Flat Top	AH	8	6	1.4
11.	VITP	AH	—	1	1.3
12.	1830	AH	—	1	1.2
13.	Gettysburg '88	AH	7	5	1.2
14.	Up Front	AH	2	10	1.2
15.	Russian Campaign	AH	—	1	1.1
16.	Squad Leader	AH	16	52	1.1
17.	Kingmaker	AH	—	1	1.0
18.	Magic Realm	AH	—	1	1.0
19.	Midway	AH	—	1	1.0
20.	1776	AH	—	1	1.0

OK, so trying to predict any trend in what's being played among our eclectic readership is akin to picking the exacta at Churchill Downs. This time a host of old favorites once again re-appear for no apparent reason we can discern (although, in the case of *KINGMAKER* it might be explained by the recent article on that venerated multi-player game). Worthy of some note in this shifting kaleidoscope of taste are those few titles which have appeared more than a handful of times in succession. If popularity is reflected by longevity on this survey, *SQUAD LEADER* surely stands alone; followed in turn by *ASL* and *DIP* and *UP FRONT*. Each has a near-fanatical following, who seemingly play these to the exclusion of all else.

Napoleon's Battles

EXPANSION MODULE

Just when you thought it was safe to go back to the table!
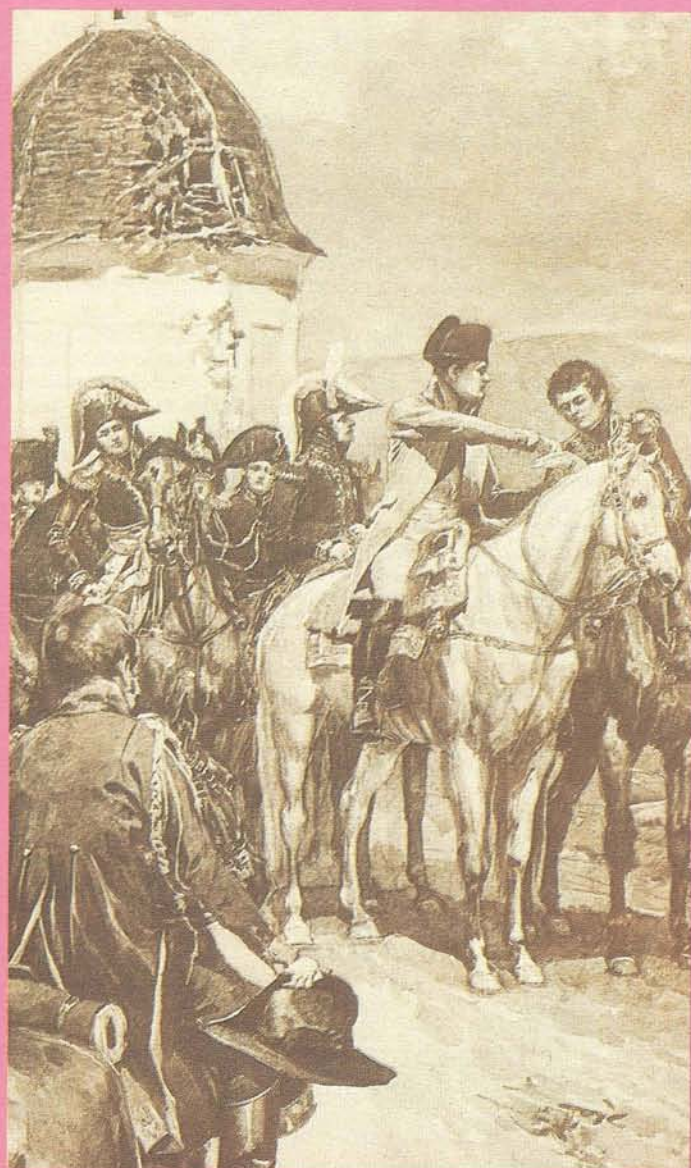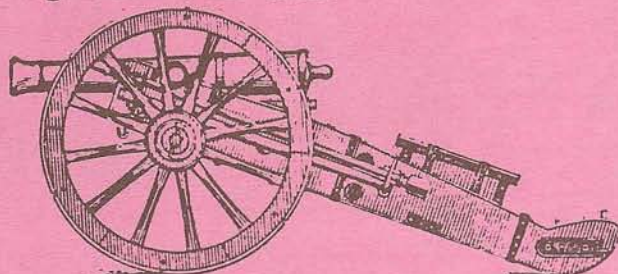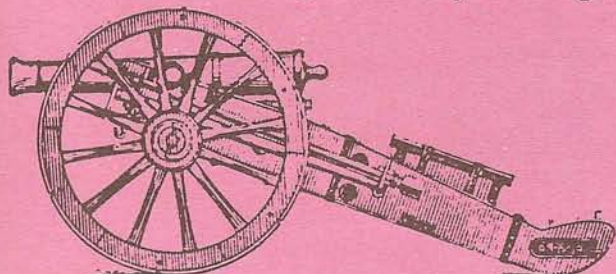
The action continues—and the Emperor's health has never been better. The **NAPOLEON'S BATTLES Expansion Module** picks up where the original left off, with more information on scenario design, more optional rules, more historical detail, and nine (eight of them historical) new battle scenarios to challenge the players. Each scenario is complete with maps, orders of battle, information charts, special rules, victory conditions and unit labels. and here you probably thought it ended at Waterloo! The new historical scenarios are:

Valmy—September 20, 1792: Rag-tag French revolutionaries make a desperate stand against Prussian professionals.

Freidland—June 14, 1807: Can Marshal Lannes hold off the whole of Benningsen's Russian army until Napoleon arrives with the rest of the Grande Armee? Refight just Lannes' delaying action, or the entire battle.

Corunna—January 16, 1809: After loading his cavalry and artillery onto transports, General Moore's British infantry attempts to halt the pursuit of Marshal Soult's French vanguard.

Aspern-Essling—May 21-22, 1809: Archduke Charles and his Austrians catch Napoleon's army in the midst of crossing the Danube. Refight the actions on either day, or the entire battle.

Ocano—November 19, 1809: King Joseph's French army must attack a Spanish army almost twice its size!

Salamanca—July 22, 1812: The British always fight defensively, right? Here, Wellesley's force turns unexpectedly to attack Marshal Marmont's pursuing French.

Leipzig—October 16-18, 1813: "The Battle of the Nations". With all Europe in arms, Napoleon's reconstituted Grande Armee uses interior lines in a desperate bid for victory against overwhelming odds. Can be played as one huge action, or as four smaller scenarios.

Craonne—March 7, 1814: Russian general Sacken fights a delaying action against a French army that seems to consist only of units of the Imperial Guard.

The **Expansion Module** is not a complete game. Use of Avalon Hill's **NAPOLEON'S BATTLES** is required to employ the information in this offering. The **Expansion Module** is available now for $15.00 from The Avalon Hill Game Company (4517 Harford Road, Baltimore, MD 21214). Please add 10% for shipping and handling (20% for Canadian shipment; 30% for overseas). Maryland residents please add 5% state sales tax.

WEAPON	MAX ROF	TRN	...	FIRING INFORMATION								VEHICLE DAMAGE FROM HIT				ATGM SPEEDS	
				17-20	21-24	25-28	29-32	33-36	37-40	NO DAM	CMP HIT	KNK OUT	BRW UP	TAR 1-3	MV 4+
				14		10	7	5	2	1	01-05	06-13	14-74	75-00	—	—
125mm Stab. 3 (MnGn)	1	2T		80		71	63	60	57	55					—	—
				11		4	1	1	—	—	01-	06-	13-	57-	—	—
Sngstr Class 1 (ATGM)	1	2T													24	12
															—	—
HMG Stab. 0 (TTC)	5	360													—	—
											2	+10	1-10	—	—	—	—
BAILED CREW-3	1	360			MV	2	2	2	—	—	—	—	—	SMOKE MAKERS: DS + EX		

THE CHALLENGE OF MODERN COMBAT
An Introduction to MBT

By Jim Day

Designing any wargame presents a number of challenges, but the design of a contemporary simulation presents a whole additional set of problems—the greatest of which is a general lack of information. Most is sketchy at best, or is only available from a few declassified sources. Not that this can't be a problem when researching subjects set in earlier time periods too, it's just that the designers of contemporary wargames must also deal with ever changing information and the constant issuance of new equipment. My design of *MBT* faced these challenges. And, at the same time, I was attempting to produce a game that captured the essence of the modern battlefield without being overly-complex in approach.

BASICS

What You See:

Modern ground combat presents a very interesting challenge for the antagonists. The main elements of combat have now become maneuver and observation; gunnery if more of a secondary element. The successful force will be the one that can best utilize these to their advantage. In today's times, all battlefield combatants have the ability to knock-out any unit opposing them. This level of destructive force has dictated a change in the tactical approach.

The key to survival, and therefore victory, is observation. Enemy units must be engaged with optimum fire, and knocked-out before they can observe and engage friendly units. This may seem a very basic concept, but it has never been more important than now. Players should always make the best use of available terrain, although the nature of the situation usually dictates the degree of advantage that offers. There's no question either that the defensive force has the advantage over the offensive force. They have the ability to deploy in total and, hopefully, can make the best use of available fields-of-fire. Yet, it is not quite as bad as it might appear for attacking forces. These know the major direction of the advance and will determine the dimension of the upcoming action.

It may be rather obvious to be discussing the best terrain options, but on the other hand the correct choices may not be as apparent to new players as they may seem. For instance, built-up terrain not only provides for defense, but also limits the sighting range of enemy units (back to the issue of observation).

For absolute defense, the Improved Position is the best terrain option for all combat units (leg, towed and vehicle). For vehicular units, it provides a "−10" AP Point Effect modifier, and the hull-down bonus (an automatic "−20" GP modifier). Although leg and towed units have a higher defense in Stone Buildings, these structures are subject to fires and their own destruction (albeit, not a great chance) from non-small arms fire and artillery/air weaponry. Buildings also have a limited availability and are totally static in nature; Improved Positions can be placed just about anywhere. When both options are offered, the Improved Position is the better choice. The drawbacks to Improved Positions are the 20-point cost, and the fact that they provide a limited benefit to the aggressor if they're captured.

Leg units can make the best use of just about all terrain types, with the exception of Clear, Scrub and Stream hexes; the GP defense is just too low for these when so much other cover is available. Leg units are especially tough in the built-up areas. There's no way that armor alone can root leg units out of buildings, unless they also happen to have infantry in support. Heavy Woods are an infantryman's dream since vehicles cannot even enter these hexes. However, care should be taken whenever moving leg units, especially in the face of the enemy, since GP defenses drop by two factors when in motion and sighting ranges double. Remember that infantry units are considered moving when making Close Assaults or Hand-to-Hand combats as well.

Towed units (Soviet only) present a slightly different challenge, since they're easier to spot and harder to move. But, generally speaking, they're best served deployed in leg-oriented terrain. However, make sure that towed units deployed in Buildings will not need to move later; the vehicle unit must actually enter the building—and therefore potentially suffer damage—to hook up the towed unit.

Vehicle units are the hardest to hide and easiest to spot. Woods are probably the best choice, and are readily available on the mapboard. However, some vehicles will have the rotation of their turrets limited when occupying a Woods hex. Rough is also an option, but the sighting range is longer and the movement costs higher. Buildings certainly look appealing ("−8" AP modifier and hull-down), but chancing damage to enter them is just not worth the protection. Players will soon realize that it's pretty hard to hide a 50-ton vehicle, and just make the best of the situation.

Once in place in suitable cover, care should also be taken never to reveal positions with wild, low-percentage shots; this is especially true for leg units. It's hard to resist the urge to let loose a volley, but he who waits will usually be more successful. If the ranges are long enough, units should also relocate positions after being revealed by their own fire. The optional rule governing sighting of small-arms fire is also quite helpful.

Smoke translates into instant terrain, and should be used whenever possible. NATO forces have the great advantage with regard to this, what with the availability of Thermal Imagers and their vehicular units that can fire smoke. Smoke is a great asset when attacking; it can cover open terrain with ease. EX-smoke (EXhaust-generated) is very useful in this role. Keep in mind that smoke modifiers apply *per* hex; firing through artillery-generated smoke can result in a massive negative modifier. DS-smoke (DiScharger-generated) should only be used as a last

resort, since you only get it once in a game and it affects the covered unit's fire as well as incoming.

Weapons:

Combat itself presents a whole 'nother set of decisions. Players of *MBT* must not only decide when to engage in combat, but must also choose the most advantageous method, weapon or ammo type to employ. There is not one "best" time to fire; that's always dictated by the particular situation. On the other hand, the choice of method, weapon and ammo can greatly affect the outcome of the fire or combat.

Infantry units have a number of different options available to them (teams are very specific in their make-up, and therefore have limited options; bailed-out crews are pretty much worthless). It depends on what they may be carrying. For instance, an infantry unit could be armed with an ATGM (Anti-Tank Guided Missile), rocket launcher, AA missile, and a flamethrower in addition to their standard GP weapons; all of these could be used against the same or different targets in a single turn. This makes infantry units very potent adversaries! Never discount them.

When engaging vehicular units, the ATGM and rocket launcher are the weapons of choice, although a well-placed GP shot can pick off an exposed crewman when vehicles are close and open. The ATGM and rocket launcher are designed to cover each other's range limits, and possess substantial HEAT penetration capabilities. The "Milan" is probably the finest infantry ATGM in the field today. Its high penetration and long range make it a very potent weapon. GP fire should be directed against enemy soft targets, although ATGMs and rockets possess potent GP values as well. Revealing a defensive position should always govern the use of these attached weapons. The optional rule for "Infantry Alternate Fire" is highly recommended, as this simulates members of the group firing attached weapons, and therefore reducing the available GP fire.

Infantry units should employ Close Assault and Hand-to-Hand combats whenever possible, since these two options provide a number of benefits. Close Assault gives infantry units an expedient method of disposing of enemy vehicular units while limiting the sighting by others. The combat results in the total elimination of the enemy vehicle, no damage results here. Hand-to-Hand is an excellent method for superior or larger units to dispatch enemy leg or towed units. Squad versus squad of equal units even provides a 50-50 chance for those who must gamble. The greatest benefit of these two methods of combat is the sequencing of the turns. Both are resolved prior to Direct Fire, and therefore have the advantage of seeing the result applied before the target unit can fire.

Most vehicle units have two or more ammo options (KE—kinetic energy, or CE—chemical energy) available to them; each has certain unique characteristics and uses. APFSDS (Armor-Piercing, Fin-Stabilized Discardiung Sabot), APDS (Armor-Piercing Discard Sabot), HVAP (Hyper-Velocity Armor Piercing) and straight AP (Armor Piercing) are the KE rounds. These non-explosive shells serve the anti-armor role, and APFSDS has become the primary choice since it's no longer limited to smooth-bore guns. APFSDS's long rod-like projectiles mostly come in the tungsten-carbide variety, but depleted uranium is now being employed by many forces. HVAP is an older style attempt to increase penetration performance, but has fallen out of favor with most armies and has a limited damage effect. AP is now found mostly in small-calibre guns. APHE (Armor-Piercing High Explosive), although a KE shell, is a bit of a hybrid; it penetrates armor like a KE shell, but then has an explosive charge. It can cause extensive damage, but its penetration is limited. It's favored only by the Soviet forces.

HEAT (High Explosive Anti-Tank), HESH (High Explosive Squash Head) and HEP (High Explosive Plastic) are the CE rounds in *MBT*. HEAT, once a primary anti-armor round, has now fallen on disfavor with the advent of special armor and ERA (Explosive Reactive Armor). HEAT is still very useful against vehicles unprotected by these new defenses or lightly armored vehicles (especially carriers). Its high damage probability generates many brew-ups, thereby making successful bail-out difficult. One misconception concerning HEAT is that it "burns" through the armor; this is not the case. An extremely hot, high velocity jet is created upon impact with the target, and this jet punches through the armor (not unlike a KE projectile). Once through the armor, the jet causes extensive damage to machinery, ammo and exposed crewmen. HESH and HEP are basically the same shell; HESH is the British designation while HEP is the American. These rounds do not actually penetrate the armor, but flatten out upon impact and explode on the tank's exterior. This explosion causes pieces of armor to break-off (spalling) inside the vehicle and hurl around the interior, wreaking havoc with equipment and crewmen. These three round types are often employed in the GP role as some forces do not field an HE round.

Smoke and Canister are special rounds available to the NATO forces. The use of smoke was already discussed in the section above. A canister explosion produces a large number of arrow-like darts that virtually shred unprotected targets. Canister is not unlike the grape shot of old. It can be utilized to great effect against soft targets, although its short range (here, 2-10 hexes) and limited availability dictate its use only under special circumstances.

As with HEAT rounds, large-calibre ATGMs have also become less effective due to armor improvements and ERA. Yet, with their exceptional long range and high penetrative power, these can still be effective if employed properly. Unfortunately, long fields-of-fire are hard to come by in most of Western Europe. Side and rear shots are the best to hope for when engaging the most modern, highly-protected vehicles. ATGM-armed units should always be prepared to relocate positions after engaging enemy units, since they are usally mounted on lightly-armored vehicles. These could also fall prey to the force that's advancing under "overwatch". The overwatching units will respond with fire in answer to the ATGM's declaration of fire. The flight time of these weapons is the drawback; this limitation enables enemy units to suppress or destroy them before they're able to resolve their fire. HOT is probably the most effective ATGM in the field at the moment, but it's closely followed by the improved TOWs (ITOW). Soviet technology has made significant advances in this area, but still lags behind the NATO forces.

Second-generation ATGMs overcame the problem of long capture range, thereby reducing the minimum range, with the advent of the SACLOS (Semi-Automatic Command to Line-of-Sight) guidance system. With SACLOS, all the operator must do is keep the cross-hairs on the target and the missile's flight path is automatically adjusted. The Soviet Sagger is a first-generation ATGM, and therefore has a long capture range, and is most susceptible to suppressive fire throwing off the controller's guidance. Many Saggers have been retro-fitted with SACLOS (however, the original guidance system is reflected in *MBT*).

The USA's Hellfire is a third-generation ATGM, in that it approaches the "fire-and-forget" technology. At least the firing unit, in this case a helicopter, can fire the missile and immediately retire from the area. Still, the Hellfire must be guided to the target by some laser designator. Terminally-guided fourth-generation ATGMs (most will employ millimeter wave radar guidance) are now in the final stages of development. Aircraft-borne weapons such as the electro-optical and imaging-infrared Mavericks and the radar-homing Phoenix, and naval anti-ship missiles such as the Exocet and Harpoon, are terminally-guided missiles in that they guide themselves to the target once fired.

Towed units are basically static vehicles, and employ shells of a type similar to vehicles. The advantages and disadvantages that govern vehicle weapons also apply to the towed weapons of the Soviet forces.

Defense:

Up until the advent of specialized armors (such as Chobham), vehicle armor had been steadily declining in importance. The relative destructiveness of contemporary weaponry had been outstripping armor effectiveness for quite some time. The exact composition of new special armors is still classified, but is felt by observers to comprise a combination of different materials assembled in a layered and/or spaced manner. The materials most often mentioned are glass fibers, ceramics, steel and now depleted uranium (the M1A2 Abrams in *MBT* reflects the depleted uranium armored version). The make-up of the Soviet special armor is even more hidden, but is thought to be based on the same type of materials and configured in a similar manner.

These special armors have dramatically reduced the effectiveness of CE-based weapons. Therefore, in *MBT*, vehicles protected by such special armor have separate KE and CE Armor Charts. these vehicles possess a certain degree of immunity, especially to ATGMs, but remain vulnerable to the long-rod penetrator of APFSDS rounds. Other vehicles are not so lucky and must still rely on cover as the best means to compensate for their deficiency in armor.

Explosive Reactive Armor (ERA) saw its first combat use by Israeli forces in the 1982 Lebanon conflict. ERA is a replaceable explosive tile that is applied to the exterior surfaces of armor; it's most often applied over the frontal arc of AFVs. ERA was designed to negate the effect of HEAT type rounds, and has virtually no effect on KE type rounds. Upon impact, an HEAT shell immediately forms its penetrating jet; the ERA panel reacts to this jet by exploding from its metal facing outward against the HEAT jet, thereby counteracting its effect. It's this panel, not the explosion, that actually disrupts the fire. The ERA tiles are designed not to react to the impact of small-arms or non-explosive rounds. These actually pass through the tiles without disrupting their effectiveness. ERA is very effective in counteracting the abundance of infantry-type HEAT weapons that will dominate the modern battlefield. In *MBT*, Soviet players are well advised to equip their MBTs with ERA whenever possible; the results are usually well-worth the investment.

Leg and towed unit defense has a direct relationship with observation. Generally speaking, the terrain that provides the best sighting limits will also provide the best defensive positions. The harder you are to see, the harder you are to hit. Towed units are limited by their lack of mobility, and tend to disappear in a hurry. They should get off as many shots as is possible, and hopefully will get a few of the enemy before the lights go out.

Expedient use should also be made of Full Cover and Camouflage (if employing that option). When in Full Cover, units are hugging the ground and making the best use of all available cover. This is usually a good option for towed and leg units once suppressed. Players shouldn't overlook Hasty Entrenchments, as these provide a "−10" GP modifier, and are constructed in conjuction with Full Cover. It's very easy to construct these when on the defense, and this action does not reveal the unit's position.

Doctrine:

The bane of the Soviet players is the doctrinal limits we have imposed. While these rules accurately reflect the limits under which the Soviet army fights, they impose control that can inhibit the Soviet player's options. When employing the Doctrine rules, the Soviet player must always keep such limitations in the forefront of his mind.

Soviet tank platoon tactics are simple at best; in combat they use two basic formation: the column and the line. The platoons are utilized as a single unit, and always act together. A company's three platoons normally operate together on a front ranging from 500 to 1500 meters in width. While the one-hex concentration on tank units in *MBT* accurately simulates a 500-meter company front, it is somewhat restrictive of larger frontages. It does, however, allow for larger Soviet formations through the use of a single tank unit and the strength markers.

Tank doctrine limits, while providing for the Soviet's desired uniformity of movement and concentration of fire, restricts target options greatly. Tank platoons should stay in close proximity of each other (as the Soviets really do) to provide additional fire options and mutual support. Infantry units are not as hamstrung as the tankers; their limits are based on the fire support of the transporting vehicle for its squad. (A new option, presented later in the Series Replay, provides a different approach to this limitation.) Soviet recon and engineer units tend to be more flexible in their approach, and their officers are even encouraged to exercise more creativity in judgements. As a result, these formations are not limited by doctrinal rules.

The Soviets have always placed strong emphasis on the use and concentration of artillery in support of offensive as well as defensive situations. Soviets approach the use of artillery "by the book", as they do most of their combat situations. Therefore, planned fire is extensively utilized. The artillery doctrinal limits reflect the magnitude of this pre-planning the Soviets employ; they do not encourage the "calling-in" of fire missions. The Soviets do not improvise and fly-by-the-seat-of-the-pants as is common with NATO forces.

This is probably the most restrictive limit the Soviet player will face, as it demands planning far in advance. Most game players are not comfortable with thinking this far ahead. It's especially difficult when on the attack, since players must determine where the enemy will be and where their own force will be some turns in advance. Keep in mind that most battles are longer than they may seem, so methodically plan the artillery and forces in conjunction·with one another. Don't outrun the artillery support unless no other option is available; you'd hate to stumble into your own Planned Fire.

Artillery:

Artillery is often thought of as a defensive weapon, as it requires considerably more skill to employ it in an offensive role. The defensive player has a much easier time in using Planned Fire and registering Designated Artillery than the offensive player. The defensive player knows where he will be, and where the enemy will likely be, and can plan fire and pre-register hexes accordingly. The offensive player must guess the positions of the enemy. And the use of Designated Fire is a critical component of any successful use of artillery, for it is the only method that can bring down fire on un-sighted targets.

The successful employment of artillery is dependent upon a number of different factors: attachment, battery size, observer level/quality, fire mission and fire SHEAF. Each of these factors is like a single element in a chemical formula; any one that is missing or flawed will cause the result to be defective or ineffective.

While it may not seem so on the surface, attachment is probably the most important factor. This really determines if the fire will be there when you need it, or if the battery is busy supporting another unit. The probability of delay should be considered when employing fire missions (even Planned Fire can succumb to delay) in *MBT*. Don't stake victory on the fire from an unattached battery; the fire won't arrive as ordered with any consistency.

The battery size controls the magnitude of the artillery fire. There's nothing like a "Super-Heavy" battery's 50 GP factors impacting amongst exposed enemy troops. Even though a Super-heavy battery can deliver a tremendous amount of firepower, it is a major point expenditure. Don't take more than you need for your mission. A "Light" battery costs one-quarter that of a Super-Heavy and can deliver just as effective a smoke or illumination mission. If the desire is to utilize special missions (i.e., ICM, ICMDP or CLGP), then specific battery types must be employed. In just about all situations, a "Medium" or "heavy" battery is all you will need. Please keep one thing in mind throughout: the battery type does not necessarily represent the calibre of the guns firing. A Heavy battery could simply be a large collection of 105mm guns, while a Light battery could actually be a small number of 155mm guns. The battery size is, in most cases, a statement of concentration of fire.

All artillery fire, other than Planned, must be "requested", and observer units are the only ones empowered with this authority. Care must be taken when choosing the unit to serve as the artillery observer, as they're the primary factor in determining the accuracy of the fire. Observers are rated by their command echelon in an organization and their grade. The higher the command echelon (battalion being the highest in *MBT*), the more accurate the call. This advantage is not just a reflection of the higher echelon's training level, but also reflects that unit's direct involvement in the command of combat units. This is not to say that a battalion commander isn't busy; he's just busy in a different way, and is therefore more able to accurately request and adjust artillery fire than a company commander. NATO forces have a marked advantage in the sheer number of observers. NATO forces have a "heavier" command structure than their Soviet counterparts; this provides for a greater number of potential observer units. A USA armored battalion has 12 eligible observer units at the company level and above, whereas the corresponding Soviet Tank Battalion has only six. When the NATO platoon commanders are added, the gap balloons to 15:6. The Warsaw Pact does not empower its platoon-level commanders with the authority to call in artillery fire. Soviet platoons normally remain in close proximity to their company commander, and are not encouraged to show much initiative (in many cases, the company commander is the only individual with a map). The exception to this rule are the Soviet recon units; they're expected to operate and request artillery in a more independent capacity, and are provided the additional training and authority to support this responsibility.

The USA's M981 FISTV, the FRG's BEOBPZ and the Soviet's ACRV are units dedicated to the artillery observation role. Their specialized equipment enables them to pinpoint prospective targets and control artillery fire in two different target hexes. They are found at company and battalion level in NATO forces, and at battalion level in Soviet forces. The helicopter observer units (OH-58D, SA-313C and Mi-2) are a fast and mobile alternative to their land-based counterparts. In addition, the American OH-58D's thermal imager and laser designator enable it to direct and control specialized weapon systems (e.g., Copperhead and Hellfire).

Fire missions must be selected with the idea of matching the mission with task at hand. Although, sometimes you're forced to use what you've got on hand. Smoke and illumination are the more obvious missions, as their roles are pretty well defined and limited. HE is the old basic standby; it's very effective against soft targets and moderately effective against vehicles, especially the lightly-armored variety. HE does have the added advantage of its destructiveness versus emplacements and buildings. FASCAM (Field Artillery Scatterable Mines) is a specialized mission that's used to create an instant minefield. This can be used to impede the marked advantage over static minefields. ICM (Improved Conventional Munitions) and ICMDP (Improved Conventional Munitions, Dual Purpose) are efforts to improve on the effects of HE. The shells burst open and shower the target area with numerous

small bomblets. ICM came first, and was designed to increase the damage potential against soft targets. However, its impact against vehicles is even more limited than HE. ICMDP was designed to overcome the shortcomings of ICM; it has the same devastating effect against soft targets but is more effective against vehicles than HE. Both of these missions do have one shortcoming: they're ineffective against emplacements and buildings, and targets located in Improved Positions and Buildings. CLGP (Cannon-Launched Guide Projectile)—aka "Copperhead"—is a mission limited to USA forces; it's a laser-guided projectile (it homes in on the reflected energy from a laser designator) that's fired at a specific target vehicle unit, or group of vehicles in a single hex. It's very effective, but doesn't come cheap (50 points per mission). You also have to contend with the availability of a laser designator. The American forces are somewhat lucky in that laser designators come in a number of varieties: the GLLD which is available to infantry units, the M981 FISTV, and the AH-64A Apache and OH-58D Kiowa helicopters.

SHEAF is a calculated pattern of fire that is based on the deployment of the guns in the battery; this calculation determines the actual pattern of impact in the target area. Most fire missions are restricted to certain SHEAFs (for example, ICM and ICMDP can only be fired in loose SHEAF). HE is the most versatile mission in that it can be fired in a tight, loose or line SHEAF. The real decision facing you will be between tight and loose, as line is most suited to smoke missions. A tight pattern will concentrate the effect of the fire and assure higher probabilities of damage. Even though a loose pattern only impacts at half-GP, it covers a greater area, thereby reducing the effect of any scatter result.

Air Power:

Air support varies in form, but is basically provided by fixed-wing (high performance ground support jets) and rotary-wing (helicopters) aircraft. The fixed-wing aircraft are the true "fast movers" in *MBT*. Varied ordnance options and multiple attack profiles make these quite lethal. Close Air Support is the mission at hand, as air superiority is assumed to have been achieved over the immediate battle area.

Today's aircraft are generally tailored to specific battlefield roles. For example, the USA's A-10A Thunderbolt II (affectionately known as the "Warthog") is a flying tank-buster; its 30mm seven-barrelled gatling cannon (called the "Avenger") sprays coke-bottle sized depleted uranium shells with great lethality at—or mostly through—enemy tanks. On the other side of the coin, the American F-111F Aardvark, the German Tornado IDS and the Soviet Su-24 Fencer's excellent defense, multiple crewmen, all-weather capability, and large weapon loads make them ideally suited for deep penetration strikes. In the general purpose category fall the F-4E/F/G Phantom II and the MiG-27 Flogger D.

Aircraft, in the game, are first acquired "clean" (without ordnance) and then must be outfitted with "loads" based on the projected targets at hand. a plethora of ordnance options are available for the choosing; these range from basic rocket pods to ECM (Electronic Countermeasures) pods. If enemy tanks litter the battlefield, cluster bombs (in the free-fall or precison variety) and precision iron bombs are the best choices. And soft targets easily fall prey to napalm, cluster bombs, iron bombs and rockets. ARMs (Anti-Radiation Missiles) are utilized against radar-directed AA weapons such as the Soviet ZSU-23(4) Shilka. LANTIRN (Low-Altitude Navigation and Targeting Infrared System for Night) is a special purpose pod which enables aircraft to fly and engage targets in all weather conditions. An ECM pod should be carried whenever a concentration of enemy AA weapons is expected. The systems built into an ECM pod (in *MBT* it represents both electronic and infrared countermeasures) are used to "spoof", or disrupt, enemy AA fire. The availability of such a pod can mean the difference between returning to base a hero or ejecting over that enemy column of tanks. If a long engagement is planned, additional furl tanks must be considered. Aircraft can only "loiter" over the battlefield for a limited period of time; without extra fuel tanks, this is limited to only five turns. In most cases, a mix of weapon loads and special purpose pods should be carried, as this will give your aircraft the flexibility to deal with opportunities and threats as they are presented.

Helicopters represent the most versatile combat units available to modern combat forces. They can deliver a heavy load of weapons, or can quickly transport troops to the battle area. Their speed and maneuverability make them a quick-strike weapon. They function like highly mobile ground combat units. They come in basically three varieties: attack, transport/assault, and observation. The American trio are perfect examples of each: Apache, Blackhawk and Kiowa.

For all their good points, helicopters can be very susceptible to the many AA weapons that frequent the modern battlefield. Helicopters must hide to survive, and Western Europe's topography provides ideal terrain. Copters live at NOE (nap of the earth) altitude; only a very brave or desperate pilot flies at low altitude for any length of time. They must hide amongst the hills and woods, picking their targets and LZs (landing zones) carefully so as to minimize exposure. NATO helicopters are better suited at NOE altitude due to their superiority in rotor technology. Copter for copter, NATO units are faster at NOE than their Soviet counterparts.

Like aircraft, helicopters are acquired "clean" and must be outfitted. ATGMs and rockets are the main weapons of attack copters, while the other types mostly carry defensive weapons. Two exceptions to this are the USA's Blackhawk and the USSR's Mi-8 Hip E/F. These two are versatile enough to be armed with a fairly heavy load of assault weapons.

The antithesis of air operations is anti-aircraft (AA) fire. This threat can come from a variety of different sources these days, some nothing more than a nuisance and others more lethal than you want to think about. At the low-end of the spectrum are the vehicle turret-top MGs and leg unit's small-arms fire. These have a limited range and minimal chance of scoring a hit. Even if they do score a hit, their destructiveness is limited by the small calibre. next up the scale are the medium-calibre 20mm to 30mm guns that are mounted on most light vehicles and infantry combat vehicles (such as the M2A1 Bradley). These have a slightly improved chance of a hit, expanded range and can do damage if they connect. The best of these "gunslingers" are the dedicated AA mobile gun systems. The finest fielded today is the West German FLAKPZ1 Gepard. In general, these units have search and tracking radar, excellent ranges and high rate-of-fire guns. If possible, these should be at the top of your target list; otherwise they should be avoided if you're airborne.

Tactical battlefield missile systems fall into two categories: hand-held and mobile. Hand-held weapons systems have come a long way over the past few

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USSR-13A: T-62E Main Battle Tank (41.1 tons): 61-31-15 points.

MOVEMENT INFORMATION

	Weather	MF	Road	Path
SPEEDS:	Normal	4	2/3	3/4
	Snow	3	3/4	3/4
	Mud	2	1	1

TURN COSTS: 0-1/2-1-Tracked
STACKING POINTS: 2
TRANSPORT VALUE: 2L

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (HEAVY)	3
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (LIGHT)	P

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION						GUNNERY CHARTS													VEHICLE DAMAGE FROM HIT			
WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST	TYPE AMMO FIRED	F A C	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40		NO DAM	CMP HIT	KNK OUT	BRW UP
115mm Stab. 4 (MnGn)	1	1T	6/9	10 (1)	ILO	APFSDS (KE)	AP PY	20 67	18 63	16 60	13 54	10 50	7 45	3 39	1 36	1 29	— —		01- 06	07- 16	17- 75	76- 00
						HEAT (CE)	AP PY	19 86	16 86	13 86	8 86	3 86	1 86	1 86	— —	— —	— —		01- 05	06- 14	15- 57	58- 00
						GP	NM MV	29 15	27 14	25 13	23 12	17 9	17 9	12 6	12 6	6 3	6 3	EF = KNK OUT if GP DEF = 1-6.				
HMG Stab. 0 (TTO)	4	360	9/12	Unl	IO	AP (KE)	AP PY	19 4	16 3	12 2	—	—	—	—	—	—	—		01- 19	20- 46	47- 95	96- 00
						GP	NM MV	8 4	5 3	3 2	—	—	—	—	—	—	—					
						AA	— OP	LL 10	LM 8	LH 6	MM 6	MH 4	HH 2	DAM +10	RNG 1-10	CM	—		—	—	—	—
BAILED CREW-4	1	360	Unl	Unl	O	GP	NM MV	4 2	—	—	—	—	—	—	—	—	—		SMOKE MAKERS: DS + EX			

TARGET INFORMATION

HIT LOCATION CHARTS

ANGLE OF HIT	TF	HF*	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HDG	TTA	HDA
FRONT	01- 38	39- 55	56- 94				—	—	—	95- 99	00	01- 05	39- 43	01- 10	39- 48
FRONT/ SIDE	01- 19	20- 27	28- 47	48- 66	67- 74	75- 94	—	—	—	95- 99	00	01- 05	20- 24	01- 10	20- 29
REAR/ SIDE	—	—	—	01- 19	20- 27	28- 47	48- 66	67- 74	75- 94	95- 99	00	01- 05	20- 24	01- 10	20- 29
REAR	—	—	—	—	—	—	01- 38	39- 55	56- 94	95- 99	00	01- 05	39- 43	01- 10	39- 48

HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.

ARMOR CHARTS

AMMO USED	ELEVA- TION	FRONT–REAR				FRONT/SIDE–REAR/SIDE						ABOVE	
		TF	HF	TR	HR	TF	HF	TS	HS	TR	HR	TT	HD
KE	LEVEL	62	51	22	12	86	71	51	22	31	17	—	—
	RISING	71	66	26	12	99	92	59	23	36	17	—	—
	FALLING	55	40	20	12	77	56	46	23	28	17	38	38
CE	LEVEL	93	51	22	12	129	71	77	22	31	17	—	—
	RISING	107	66	26	12	149	92	89	23	36	17	—	—
	FALLING	83	40	20	12	116	56	69	23	28	17	38	38

SIZE: – 1.   GP DEFENSE: 7.   CA DEFENSE: 6.

NOTES: Has Radio and NBC. Not amphibious. Path restrictions on turret turns in woods and building hexes. HMG and Bailed Crew are small arms. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys mine plow (OR17.5.3.3). Carries an IR/WL ,searchlight.

USSR-13B: T-55M1 Main Battle Tank (37.0 tons): 57-29-14 points.

MOVEMENT INFORMATION

	Weather	MF	Road	Path
SPEEDS:	Normal	4	2/3	3/4
	Snow	3	3/4	3/4
	Mud	2	1	1

TURN COSTS: 0-0-1-Tracked
STACKING POINTS: 2
TRANSPORT VALUE: 2L

MOVEMENT COSTS

BLOCK	P	HASTY ENTRENCHMENT	b	SMOKE	+1
BRIDGE	+1	HILL HEXSIDE	+1a	STREAM (FORD)	4
BUILDINGS	+1	HILL HEXSIDE (3Lv)	P	STREAM (NON-FORD)	P
CLEAR	1	IMPROVED POSITION	1	WIRE	+1c
DEPR HEXSIDE	+1a	ROUGH	4	WOODS (LIGHT)	3
DEST/DITCH/FIRE	P	SCRUB	2	WOODS (HEAVY)	P

a: Per level. b: Use other terrain in hex. c: Eliminates wire.

FIRING INFORMATION

WEAPON INFORMATION

WEAPON	MAX ROF	TRN	DEP EL	TOTAL AMMO	ST
100mm Stab. 4 (MnGn)	1	1T	7/10	11 (2)	ILO
HMG Stab. 0 (TTO)	4	360	9/12	Unl	IO
BAILED CREW-4	1	360	Unl	Unl	O

GUNNERY CHARTS

TYPE AMMO FIRED	FAC	RANGE IN HEXES 1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40
APC (KE)	AP	19	16	13	10	6	3	1	1	—	—
	PY	44	40	37	34	32	30	29	27	—	—
HVAP (KE)	AP	20	17	15	12	8	4	1	1	—	—
	PY	60	56	53	47	43	38	32	30	—	—
HEAT (CE)	AP	19	15	12	8	5	1	1	—	—	—
	PY	76	76	76	76	76	76	76	—	—	—
GP	NM	26	24	22	20	15	15	10	10	5	5
	MV	13	12	11	10	8	8	5	5	3	3
AP (KE)	AP	19	16	12	—	—	—	—	—	—	—
	PY	4	3	2	—	—	—	—	—	—	—
GP	NM	8	5	3	—	—	—	—	—	—	—
	MV	4	3	2	—	—	—	—	—	—	—
AA	—	LL	LM	LH	MM	MH	HH	DAM	RNG	CM	—
	OP	10	8	6	6	4	2	+10	1-10	—	—
GP	NM	4	—	—	—	—	—	—	—	—	—
	MV	2	—	—	—	—	—	—	—	—	—

VEHICLE DAMAGE FROM HIT

NO DAM	CMP HIT	KNK OUT	BRW UP
01-08	09-21	22-76	77-00
01-10	11-25	26-77	78-00
01-07	08-19	20-60	61-00
EF = KNK OUT if GP DEF = 1-5.			
01-19	20-46	47-95	96-00

SMOKE MAKERS: DS + EX

TARGET INFORMATION

HIT LOCATION CHARTS

ANGLE OF HIT	TF	HF	HF*	TS	HS	HS*	TR	HR	HR*	TK*	GN	TTG	HDG	TTA	HDA
FRONT	01- 38	39- 55	56- 94	—	—	—	—	—	—	95- 99	00	01- 05	39- 43	01- 10	39- 48
FRONT/ SIDE	01- 19	20- 27	28- 47	48- 66	67- 74	65- 94	—	—	—	95- 99	00	01- 05	20- 24	01- 10	20- 29
REAR/ SIDE	—	—	—	01- 19	20- 27	28- 47	48- 66	67- 74	75- 94	95- 99	00	01- 05	20- 24	01- 10	20- 29
REAR	—	—	—	—	—	—	01- 38	39- 55	56- 94	95- 99	00	01- 05	39- 43	01- 10	39- 48

HF*, HS*, HR* and TK*: Treat as a "miss" if hull down.

ARMOR CHARTS

AMMO USED	ELEVATION	FRONT–REAR TF	HF	TR	HR	FRONT/SIDE–REAR/SIDE TF	HF	TS	HS	TR	HR	ABOVE TT	HD
KE	LEVEL	55	15	15	12	77	71	46	22	21	17	—	—
	RISING	62	66	17	12	86	92	51	23	24	17	—	—
	FALLING	51	40	14	12	72	56	43	23	20	17	38	38
CE	LEVEL	83	51	15	12	116	71	69	22	21	17	—	—
	RISING	93	66	17	12	129	92	77	23	24	17	—	—
	FALLING	77	40	14	12	108	56	65	23	20	17	38	38

SIZE: − 1. GP DEFENSE: 7. CA DEFENSE: 6.

NOTES: Has Radio and NBC. Not amphibious. Path restrictions on turret turns in woods and building hexes. May add HMG and Bailed Crew are small arms. One/platoon may have a mine plow for 25 points—attacks minefields with 50 GP factors—if eliminated, "01-25" destroys mine plow (OR17.5.3.3). Carries an IR/WL Searchlight.

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years. the earlier designs were plagued by low reliability, small warheads and were easily spoofed. In addition, they were tail-chase weapons. Since they home-in on the aircraft's heat signature, the operator must wait for the aircraft to pass overhead before a lock-on could be achieved. This is real dangerous if you happen to be the target of the attack! The newer systems (e.g., USA Stinger) have improved warheads and all-aspect attack profiles, in that they can be fired at approaching or retiring aircraft. The mobile missile units are very sophisticated weapon systems. They have large warheads, are long-ranged, and all but the oldest systems have all-aspect attack profiles. In most cases, these units are much more lethal than their gun-armed cousins, but lack their cousins' capability of ground combat.

AA units should be placed in such a manner so as to provide overlapping fields of fire, and should also cover the most probable avenues of approach. Their position must balance cover and optimize firing arcs. Since aircraft targets must be "acquired" (tracked) before fire is possible, intervening terrain should be kept to a minimum. The role of a dedicated AA unit is unenviable, as they will likely be the primary target of both airborne and ground units on the modern battlefield.

Command Control:

Command Control represents the essence of combat action, as subordinate units rarely completely follow the instructions of their commanders. No matter the quality of the equipment fielded, the force with the superior leadership, communications and cohesiveness will prove hard to beat. This is a difficult situation to simulate in a wargame setting without creating a very burdensome system. In addition, players have the benefit of viewing the entire battlefield, including the enemy forces! This just doesn't happen in real life. But, unless you are playing in an umpired "blind" game (as in the Replay this issue), there is no way around it. In MBT, a command control "point" system is employed to place a limit on combat formations. Each point allows for the change of one command (although when radio jamming is present, two are required). The command points loosely represent levels of leadership and training, and are based on the "grade" of the troops and the presence of certain command level units. This really bears out the importance of command level units; they shouldn't be thrown away as cannon fodder. The command level units not only provide "bonus" points, but their loss freezes all units under their command for an entire turn. NATO "commands" are more generous in providing these bonus points; but then, they are expected to show more initiative and creativity.

The system emulates the ease of commanding "crack" troops, and the challenge of commanding "poor" troops. Poor troops can squeak by when on defense, but are pretty pathetic when on the attack. Attacking troops need to be much more flexible, and therefore need to make more command changes. Poor troops just don't have the necessary leadership and/or cohesiveness to function effectively when on the move. Poor troops need to be more concentrated, and provide mutual cover. Crack troops, on the other hand, can be more free-wheeling. For example, a force composed of 24 crack units receives 16 command points, while a similar sized poor force receives just seven! The best player is the one who can win with poor troops—anyone can command crack troops.

UPDATE & EXPANSION

Data Cards:

A new Soviet data card for the T-62E and the T-55M1 has been included with this article. These tanks are described below in the section on "Ground Units". Listed here are the TO&E for these formations:

TANK BATTALION HEADQUARTERS: The CO is in the tank. The XO is in the BDRM-2.

g. 1×T-62E (USSR-13A), 1×BRDM-2 (USSR-5B), 1×ACRV (USSR-6B/2). 151Cr-126Av-101Pr. No Doctrine.

h. 1×T-55M1 (USSR-13B), 1×BRDM-2 (USSR-5B), 1×ACRV (USSR-6B/2). 146Cr-122Av-98Pr. No Doctrine.

TANK COMPANY HEADQUARTERS: The CO is in the tank.

g. 1×T-62E (USSR-13A). 73Cr-61Av-49Pr. No Doctrine.

h. 1×T-55M1 (USSR-13B). 68Cr-57Av-46Pr.

TANK PLATOON (TANK REGIMENT): The CO is in a tank.

m. 3×T-62E (USSR-13A). With Doctrine. 165Cr-137Av-110Pr.

n. 3×T-55M1 (USSR-13B). With Doctrine. 154Cr-128Av-103Pr.

TANK PLATOON (MOTORIZED RIFLE REGIMENT): The CO is in a tank.

m. 4×T-62E (USSR-13A). With Doctrine. 220Cr-183Av-146Pr.

n. 4×T-55M1 (USSR-13B). With Doctrine. 205Cr-171Av-137Pr.

The West Germans are now fielding the Stinger AA missile. The combat values and the point information on Data Card FRG-4B (West German Leg and Equipment) is the same as listed on the USA-7B Data Card. It can be substituted for the Redeye-armed in any West German formation; just remember to adjust the points.

Soviet TO&Es:

In the Soviet Battalion Headquarters formations—Tank and Motorized Rifle—the BMP-R is now often found substituted for the BRDM-2 as the XO vehicle. If the BMP-R AT-3 is substituted, the additional points will be 16Cr-13Av-10Pr. If the BMP-R AT-4 is substituted, the additional points will be 23Cr-19Av-15Pr.

Soviet Tank Battalions, especially Independent Battalions, will often have up to five companies of tanks instead of the usual three companies.

Heavy Weapons Platoons are now being added to the Soviet Motorized Rifle Companies (BTR and BMP). Listed here are the TO&Es for these formations; one is added per company:

HEAVY WEAPONS PLATOON (BTR): The CO is with an AT-4 Team.

a. 2×BTR-60/70PB (USSR-4A/1), 3×Team [with AT-4 & RPG-18] (USSR-11B), 3×Team [with MG] (USSR-11B). With Vehicle Doctrine. 261Cr-218Av-174Pr.

b. 2×BTR-80PB (USSR-4A/2), 3×Team [with AT-4 & RPG-18] (USSR-11B), 3×Team [with MG] (USSR-11B). With Vehicle Doctrine. 268Cr-224Av-179Pr.

HEAVY WEAPONS PLATOON (BMP): The CO is with a half-squad.

a. 2×BMP-2 (USSR-3B), 2×half-squad Standard Infantry [with RPG-18] (USSR-11B). With Vehicle Doctrine. 179Cr-149Av-119Pr.

Rules Expansion:

5.1 DETERMINING INITIATIVE: As an expansion on Unit Grade, "+20" is applied to a side's initiative roll if their formation is "Crack" or "−20" is applied if their formation is "Poor". "Average" formations are unaffected. Always utilize the *highest* level command formation (e.g., battalion over company) in the field when determining this modifier. If there are two or more equal formations in the field, utilize the most advantageous grade.

7.4.5.3 TRACK AND MAIN GUN HITS: Normally, track hits are automatic. However, certain vehicles have substantial enough tracks that these could not be damaged by weapons as small as HMGs. With this expansion, consider TK armor to be equal to one-half of the HR (round up) armor at the same Hit Angle. For example, if a M1 Abrams is hit in the track from the Front-Side angle, the TK armor of its track would be "17".

13.4.1 TYPES OF DOCTRINE: Under the normal Doctrine Rules, once transporting vehicles unload, they must remain in the same hex with the other vehicle units. With this expansion (see the Series Replay for use), the transporting vehicle remains in the same hex with the unit it transported. If it was transporting more than one unit, it must remain in the same hex as one of the units (normally with the CO if so equipped). If the passenger unit enters a vehicle-prohibited hex, the transporting unit must remain in an adjacent hex. Commands and moves must be made to conform with this rule. If in a Building hex, the transporting unit can be considered to be outside of the building; it is not required to enter the actual building. The transporting unit may only fire at the same target the passenger unit is engaging (even with Overwatch Fire), but is never required to fire. If the passenger unit is knocked-out, the transporting unit may act independently, and even team up with another unit that may have lost its transport unit (in this case, the transport unit is not required to stay with its new passenger unit). This does *not* apply to tanks that may have been transporting units; it is meant to apply to Infantry Fighting Vehicles and APCs.

14.5.2 CLOSE ASSAULT COMBAT RESOLUTION and 14.6.2 HAND-TO-HAND COMBAT RESOLUTION: Allow the infantry unit to occupy the hex of the target unit, if so knocked-out. Of course, the hex must be free of any other enemy units. The advance is not required.

16.3.2 ADJUST "ON" MARKERS: As a further refinement of Unit Grade, suppressions are not automatically removed. If the unit is "Crack", the suppression is removed only on a dice roll of 01-80; if "Average", on a dice roll of 01-60; if "Poor", 01-40. Elite units may subtract "10" from their dice roll. If the attempt fails, the "ON" side of the marker is retained. In this case, the individual unit's Grade (not the overall formation Grade) is used in determining suppression recovery.

17.2.3.1 BAIL OUT PROCEDURE: As another expansion to Grade, the "No Damage" and "Compartment" lines have the following modifiers applied to the Bail Out dice roll: "+10" if the unit is "Crack" or "−10" if the unit is "Poor". The "Knock Out" and "Brew Up" lines have the following modifiers applied to Bail Out dice roll: "−10" if the unit is "Crack" and "+10" if the

unit is "Poor". In either case, "Average" units are not affected. The individual unit's Grade (not the overall formation Grade) is used in determining Bail Out.

17.3.2.3.2: This rule discussed the use of HEAT, HESH and HEP "rounds" as GP "rounds". In reality, some vehicles do not even carry specific GP or HE rounds. Those vehicles not so equipped with HE rounds (see the following section) should use this option when employing the optional ammunition rules.

VEHICLE NOTES

USA-1A: M1 Abrams Main Battle Tank:

Weight: 54.5 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: M68 105mm rifled
Ammo: 55—APFSDS, HEAT, HEP, Smoke, Canister
Secondary Guns: 7.62mm coax, 12.7mm & 7.62mm turret top
Rangefinder: Nd-YAG Laser
Night Sight: Thermal Imager
Engine: 1500hp gas turbine
Max Road Speed: 72 kph (governed)
Special: Chobham Armor, VIRSS Smoke Discharger, Exhaust Smoke Generator

Produced in 1980, this was the first version of the Abrams to enter service. The design was authorized after the ill-fated MBT-70 joint FRG-USA project was cancelled. The M1 has advanced fire control equipment and is armed with the NATO standard rifled gun of British origin. Now, it's slowly being upgraded to M1A1 standards. yet the Abrams M1 is still an excellent all round AFV. It is named after General Creighton Abrams, overall commander of US troops in Vietnam. He previously commanded the 37th Armored Battalion, 4th Armored Division, during relief of Bastogne during the Battle of the Bulge.
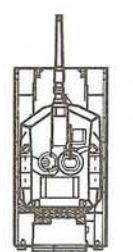
USA-1B: M1A1 Abrams Main Battle Tank:

Weight: 55.9 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: M256 120mm smoothbore
Ammo: 40—APFSDS, HEAT-MP
Secondary Guns: 7.62mm coax, 12.7mm & 7.62mm turret top
Rangefinder: Nd-YAG Laser
Night Sight: Thermal Imager
Engine: 1500hp gas turbine
Max Road Speed: 67 kph (governed)
Special: Chobham Armor, VIRSS Smoke Discharger, Exhaust Smoke Generator

The second in the line of Abrams MBTs. It mounts the hard-hitting West German Rheinmetall 120mm smoothbore (same as the Leopard-2's). It also features additional turret armor. It's easily the finest tank in the field today, and is unmatched by any Soviet MBT.

USA-8A: M1A2 Abrams Main Battle Tank:

Weight: 57.2 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: M256 120mm smoothbore
Ammo: 40—APFSDS, HEAT-MP
Secondary Guns: 7.62mm coax, 12.7mm & 7.62mm turret top
Rangefinder: CO_2 Laser
Night Sight: Thermal Imager
Engine: 1500hp gas turbine
Max Road Speed: 64 kph (governed)

Special: Depleted Uranium Armor, VIRSS Smoke Discharger, Exhaust Smoke Generator

The third in the Abrams series, it will soon enter active service. It features a matrix of layered, depleted uranium armor. This represents a significant leap in armor technology. This new armor provides much improved defense against APFSDS penetration, much the same as Chobham did against HEAT rounds. Its CO laser is not affected by smoke and fog's light-scattering effects, and is "eye safe".

USA-3A/1: M60A3 Main Battle Tank:

Weight: 52.0 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: M68 105mm rifled
Ammo: 63—APFSDS, HEAT, HEP, Smoke, Canister
Secondary Guns: 7.62mm coax, 12.7mm turret top
Rangefinder: Nd-YAG Laser
Night Sight: Thermal Imager
Engine: 750hp 12-cylinder diesel
Max Road Speed: 50 kph
Special: VIRSS Smoke Discharger

A follow-on vehicle to the M60A1 (of Israeli fame) series, it entered service in 1979. The M60A3 owes its heritage to those venerable ancestors the M47 and M48. It was the first production tank to mount a thermal imager. It is slow by today's standards, and is quite high (not a good combination on the modern battlefield). However, it does have reasonably good armor and excellent firepower.
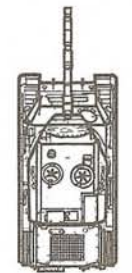
FRG-1B: Leopard 2 Main Battle Tank:
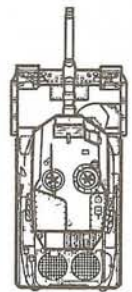
Weight: 55.2 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: M256 120mm smoothbore
Ammo: 42—APFSDS, HEAT-MP
Secondary Guns: 7.62mm coax, 7.62mm turret top
Rangefinder: Nd-YAG Laser
Night Sight: Thermal Imager
Engine: 1500hp 12-cylinder multi-fuel
Max Road Speed: 70 kph
Special: Chobham Armor, VIRSS Smoke Discharger

It first entered active service in 1979, pre-dating the Abrams by three years. The Leopard 2 was even evaluated in head-to-head competition against the two M1 prototypes (at that time General Motors was still in the running for production). But again, nationalism won out. Only marginally inferior to the M1A1 Abrams, due to slightly less armor protection, it is still a first-class MBT. It's currently in service with West Germany, the Netherlands and Switzerland.

FRG-1A: Leopard 1A4 Main Battle Tank:

Weight: 42.6 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: L7A3 105mm rifled
Ammo: 55—APFSDS, HEAT, HESH, Smoke, Canister
Secondary Guns: 7.62mm coax, 7.62mm turret top
Rangefinder: Nd-YAG Laser
Night Sight: Thermal Imager
Engine: 830hp 10-cylinder multi-fuel
Max Road Speed: 65 kph
Special: Spaced Armor Turret, VIRSS Smoke Discharger

This is the final version of the fine Leopard 1 series. It includes updates to the fire control system, night-fighting equipment and turret armor. It, and

the interim 1A3, were the first West german MBTs to incorporate specialized armor. There are presently plans to fit the Rheinmetall 120mm smoothbore to the Leopard 1 series.

FRG-8A/1: Leopard 1A1 Main Battle Tank:

Weight: 42.2 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: L7A3 105mm rifled
Ammo: 60—APFSDS, HEAT, HESH, Smoke, Canister
Secondary Guns: 7.62mm coax, 7.62mm turret top
Rangefinder: Stereoscopic
Night Sight: Image Intensifier
Engine: 830hp 10-cylinder multi-fuel
Max Road Speed: 65 kph
Special: VIRSS Smoke Discharger

The Leopard 1 was designed to replace US-supplied, 90mm-armed M47 and M48s. The original design emphasized speed and firepower, as armor was considered to be a secondary factor. In the early design stage, France was a partner in this design project but later took a different route with the AMX-30. The A1 version included increased turret armor and ongoing improvements to night-fighting equipment. The Leopard 1 mounts the NATO standard 105mm, and is utilized by many western nations.

USSR-1A: T-80A Main Battle Tank:

Weight: 42.0 tons
Crew: three—Commander, Gunner, Driver (autoloader)
Main Gun: 2A46 D-81/TM 125mm smoothbore
Ammo: 42—APFSDS, HEAT, HE, AT-8 Songster ATGM
Secondary Guns: 7.62mm coax, 12.7mm turret top
Rangefinder: Nd-YAG Laser
Night Sight: Image Intensifier
Engine: 980hp gas turbine
Max Road Speed: 75 kph
Special: Combined Armor, ERA, VIRSS Smoke Discharger, Exhaust Smoke Generator

The T-80A is thought to have entered service in 1983. It does have closer developmental ties to the T-64 than to the T-72, and is considered to be an evolutionary rather than revolutionary design. However, its gas turbine engine is a radical departure from standard Soviet practice. Its 125mm gun fires ammo of the separate-loading type. The AT-8 Songster (Soviet nickname: "Kobra") was added to provide long-range AT capability, as the 125mm gun is susceptible to dispersion at long range.

USSR-1B: T-64B Main Battle Tank:

Weight: 38.5 tons
Crew: three—Commander, Gunner, Driver (autoloader)
Main Gun: 2A26 B-81/T 125mm smoothbore
Ammo: 42—APFSDS, HEAT, HE, AT-8 Songster ATGM
Secondary Guns: 7.62mm coax, 12.7mm turret top
Rangefinder: Ruby Laser
Night Sight: Image Intensifier
Engine: 750hp 5-cylinder horizontally-opposed diesel
Max Road Speed: 60 kph
Special: Combined Armor, ERA, VIRSS Smoke Discharger, Exhaust Smoke Generator

The original T-64s entered Soviet service in 1967.

This design was considered by many in the Red Army the "high-tech" option, while the T-72 embodied the "bargain-basement" approach. However, these early versions were plagued with autoloader and engine problems, causing the T-64 to fall into some disfavor. It appears that these problems have been corrected as the T-64B is still in production. The T-64 has never been exported, and is fielded only by Russian formations.

USSR-2A T-72M1 Main Battle Tank:

Weight: 41.0 tons
Crew: three—Commander, Gunner, Driver (autoloader)
Main Gun: 2A46 D-81/TM 125mm smoothbore
Ammo: 39—APFSDS, HEAT, HE
Secondary Guns: 7.62mm coax, 12.7mm turret top
Rangefinder: Ruby Laser
Night Sight: Image Intensifier
Engine: 780hp 12-cylinder diesel
Max Road Speed: 60 kph
Special: Combined Armor, ERA, VIRSS Smoke Discharger, Exhaust Smoke Generator

The T-72 followed shortly after the T-64, entering service in 1971. The T-72 series has had a long career, and has been exported to many nations. Over a dozen sub-models have been identified to date. Speculation has it that the Syrian T-72s the Israelis encountered in Lebanon lacked combined armor. The T-72M1 (NATO designation: T-72M1 M-1986) features combined improvements in turret armor (resulting in the nickname "Dolly Parton"), optics and related defensive measures.

USSR-13A T-62E Main Battle Tank:

Weight: 41.1 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: 2A20 U-5TS 115mm smoothbore
Ammo: 40—APFSDS, HEAT, HE
Secondary Guns: 7.62mm coax, 12.7mm turret top
Rangefinder: Ruby Laser
Night Sight: Image Intensifier, IR/WL Searchlight
Engine: 580hp 12-cylinder diesel
Max Road Speed: 50 kph
Special: Spaced Turret Armor, VIRSS Smoke Discharger, Exhaust Smoke Generator

This is the latest version of the T-62 that made its first public appearance in 1965. It's fielded only by Category B and C units, and is no longer considered a front-line MBT. Its 115mm smoothbore is still more than capable of dealing with its contemporary adversaries (M60A3 and Leopard 1). Two important armor modifications include a horseshoe-shaped addition to the turret front/side that provides protection against CE weapons and applique armor to the hull front. It also has been updated with the fitting of a laser rangefinder and passive night-fighting equipment.

USSR-13B T-55M1 Main Battle Tank:

Weight: 37.0 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: D-10T 100mm rifled
Ammo: 43—HVAP, APC, HEAT, HE
Secondary Guns: 7.62mm coax, 12.7mm turret top
Rangefinder: Ruby Laser
Night Sight: Image Intensifier, IR/WL Searchlight
Engine: 580hp 12-cylinder diesel

Max Road Speed: 50 kph
Special: Spaced Turret Armor, VIRSS Smoke Discharger, Exhaust Smoke Generator

This is the latest version of the T-55 MBT that made its first public appearance in 1961. It is fielded only by category B and C units, and like the T-62 is no longer considered a front-line AFV. Modifications, like those to the T-62E, include the horseshoe-shaped screen, laser rangefinder and passive night-fighting equipment. The T-54/55s are the most widely exported of all Soviet MBTs and are now fielded by over 40 nations.

USA-2A/1 & 3 M2A1 & M2A2 Bradley Infantry Fighting Vehicle

Weight: 22.7 tons (27.3 for A2)
Crew: three—Commander, Gunner, Driver (autoloader)
Transport: seven Infantrymen
Main Gun: M2A2 25mm chaingun, ITOW armored launcher
Ammo: 900—APDS; 5 ITOW ATGM
Secondary Guns: 7.62mm coax
Rangefinder: Nd-YAG Laser
Night Sight: Thermal Imager
Engine: 500hp 8-cylinder diesel
Max Road Speed: 66 kph
Special: ERA on A2, VIRSS Smoke Discharger, Firing Ports, Amphibious

The Bradleys first entered active service in 1983 after a protracted developmental period (the need for such a vehicle was first identified in 1963). Design failures and a concept change that the Bradley also had to serve the cavalry were the main cause of design. The 25mm Bushmaster cannon fires highly effective depleted uranium shells, and the ATGM provides the anti-MBT long-range firepower. It has superior armor to the West German Marder, even though it is nine tons lighter. Although heavily armed, the Bradley is not intended to slug it out with enemy MBTs. The infantrymen mount and exit through a power-operated rear hatch that opens downward. The A2 version includes additional armor and the provision for Reactive Armor. The model is named after General Omar Bradley of WW2 fame.

FRG-2A/1 & 2 Marder A1 & A3 Infantry Fighting Vehicle
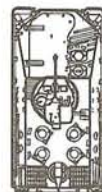
Weight: 31.1 tons (32.7 for A3)
Crew: three—Commander, Gunner, Driver (autoloader)
Transport: six Infantrymen
Main Gun: RH202 20mm, Milan launcher
Ammo: 1250—AP; 5 Milan ATGM
Secondary Guns: 7.62mm hull rear top (A1 only)
Rangefinder: Optical
Night Sight: Image Intensifier (Thermal Imager in A3)
Engine: 600hp 6-cylinder diesel
Max Road Speed: 75 kph
Special: VIRSS Smoke Discharger, Firing Ports

The Marder was the first vehicle of its type to be fielded by western forces; it entered service in 1971. The Marder chassis was to serve as the basis for a family of vehicles; the JPZ Rakete (predecessor of the Jaguar 1 and 2), Roland 2 and the JPZ4-5 are the other main members. However, the JPZ Rakete and JPZ4-5 actually entered service first. The Marder is extremely fast for its size, although the A3 version is slightly slower. The Milan was not mounted on the original Marders, but was added to later vehicles to improve AT firepower. The infantrymen aboard mount and exit through a power-operated rear hatch that opens downward; also there

are four roof hatches in the rear. The A3 version saw the addition of a thermal imager and marginal improvement to the turret armor.

### USSR-2B/2 BMP-1 Infantry Fighting Vehicle

Weight: 13.9 tons
Crew: three—Commander, Gunner, Driver (autoloader)
Transport: eight Infantrymen
Main Gun: 2A28 73mm smoothbore, Sagger or Spigot launcher
Ammo: 40—HEAT, HE; 5 Sagger/pigot ATGM
Secondary Guns: 7.62mm coax
Rangefinder: Optical
Night Sight: Image Intensifier
Engine: 300hp 6-cylinder diesel
Max Road Speed: 70 kph
Special: VIRSS Smoke Discharger, Exhaust Smoke Generator, Firing Ports, Amphibious

The BMP-1 (*Bronevaya Maschina Piekhota*) caused quite a stir when it entered service in 1967. This revolutionary design was the first infantry combat vehicle to combine cannon, ATGM and a full motorized rifle squad with under-armor rifle fire capability. The vehicle is fast, and its low silhouette makes for a difficult target. The 73mm cannon is similar to the SPG-9 AT gun, and is its major weakness. It is virtually ineffective beyond 800 meters due to its crosswind deflection. The one-man turret also places many demands on the overtaxed gunner. The infantrymen mount and exit through two doors at the rear; also there are four roof hatches in the rear. The Spigot ATGM was first mounted in 1975.

USSR-3B BMP-2 Infantry Fighting Vehicle

Weight: 14.6 tons
Crew: three—Commander, Gunner, Driver (autoloader)
Transport: seven Infantrymen
Main Gun: 2A42 30mm smoothbore, Spandrel launcher
Ammo: 500—AP; 5 Spandrel ATGM
Secondary Guns: 7.62mm coax
Rangefinder: Optical
Night Sight: Image Intensifier
Engine: 400hp 6-cylinder diesel
Max Road Speed: 65 kph
Special: VIRSS Smoke Discharger, Exhaust Smoke Generator, Firing Ports, Amphibious
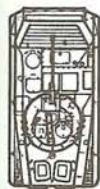
The BMP-2 (Soviet nickname "Yozh" [Hedgehog]) enterd service in the late 70s. Its design improved upon a number of the BMP-1's shortcomings. The 73mm cannon was replaced with a quick-firing 30mm autocannon (known as "Woodpecker" due to its staccato sound). In addition, it has good AA capability. Although the 30mm lacks anti-tank penetration, it's more than capable of dealing with most battlefield targets. The commander was moved from the hull to the turret, improving labor distribution and providing all-round vision. The infantrymen mount and exit through two doors at the rear, and there are two roof hatches in the rear. The Sagger/Spigot ATGMs were replaced by the longer-ranged Spandrel.

USSR-4B BMD Airborne Fighting Vehicle

Weight: 6.7 tons
Crew: two—Gunner, Driver (autoloader)
Transport: eight Infantrymen
Main Gun: 2A28 73mm smoothbore; Sagger or Spigot launcher
Ammo: 39—HEAT, HE; 5 Sagger/Spigot ATGM
Secondary Guns: 7.62mm coax, two 7.62mm hull front

Rangefinder: Optical
Night Sight: Image Intensifier
Engine: 300hp 6-cylinder diesel
Max Road Speed: 61 kph
Special: VIRSS Smoke Discharger, Exhaust Smoke Generator, Amphibious

The BMD (*Bronevaya Maschina Desantnaya*) first entered service with Soviet airborne forces in 1970. It is now issued to Air Assault and Air Landing divisons on the scale of 330 vehicles per division. It is a smaller version of the BMP, retaining the same armament, basic suspension and hull. It has a hydro-pneumatic suspension that has a variable-height capability for air transport; the BMD can also be dropped by parachute. It is more of a fire-support vehicle than a true infantry combat vehicle due to its limited under armor transport capacity. The five men are configured with the squad leader up front on the left, the bow machine-gunner up front on the right, and the remaining three in the rear under a concertina-tyoe hatch. This is the only means of access for the men in the rear—there are no rear doors since the engine occupies that position.

USA-3B/1 M113A2 Armored Personnel Carrier

Weight: 11.2 tons
Crew: two—Commander, Driver
Transport: ten Infantrymen
Main Gun: 12.7mm machinegun
Ammo: 2000 rounds
Secondary Guns: None
Rangefinder: Optical
Night Sight: None
Engine: 215hp 6-cylinder diesel
Max Road Speed: 64 kph
Special: VIRSS Smoke Discharger, Amphibious

The prolific M113 series dates back to 1956 when the specifications for this vehicle were first identified. The first M113 actually entered service in 1960, with the A2 version commencing production in 1978. The M113 features aluminum armor that protects the crew from small-arms fire. The A2 version differed only slightly from the A1 model, featuring improved engine cooling and suspension. The passengers mount and exit through a power-operated rear hatch that opens downward; also, there is a single roof hatch in the rear. The M113 is a "battle-taxi", designed to transport the infantry into the general vicinity of the battle only. The infantrymen are expected to then dismount and fight on foot. Over 75000 M113s have been produced, and it is utilized in more different countries than any other combat vehicle.

USA-3B/2 M998 Hummer Utility Vehicle

Weight: 2.3 tons
Crew: two—Commander, Driver
Transport: four Infantrymen
Main Gun: 12.7mm machinegun
Ammo: 2000 rounds
Secondary Guns: None
Rangefinder: Optical
Night Sight: None
Engine: 132hp 6-cylinder diesel
Max Road Speed: 105 kph
Special: None

Although not specifically classified as an APC, the multi-purpose M998 "Hummer" entered service as a replacement for the famous Jeep (M151). The Hummer will be utilized for many different roles, and over 50000 have been ordered by various branches to date.

FRG-2B/1 M113GA1 Armored Personnel Carrier

Weight: 11.2 tons
Crew: two—Commander, Driver

Transport: ten Infantrymen
Main Gun: 7.62mm machinegun
Ammo: 3000 rounds
Secondary Guns: None
Rangefinder: Optical
Night Sight: None
Engine: 215hp 6-cylinder diesel
Max Road Speed: 64 kph
Special: VIRSS Smoke Discharger, Amphibious

This is the "Germanized" version of the famous M113A1, and differs only in its armament.

### FRG-2B/3 TPZ-1 Armored Personnel Carrier

Weight: 17.0 tons
Crew: two—Commander, Driver
Transport: eight Infantrymen
Main Gun: 7.62mm machinegun
Ammo: 3000 rounds
Secondary Guns: None
Rangefinder: Optical
Night Sight: None
Engine: 320hp 8-cylinder diesel
Max Road Speed: 105 kph
Special: VIRSS Smoke Discharger, Amphibious

In the early 60s, the West German Ministry of Defense identified the requirement for a new generation of military vehicles for the coming decades. The plan included an 8×8 armored amphibious recon vehicle, a series of tactical trucks, and two types of armored amphibious load carriers. The recon vehicle was produced as the *Spahpanzer* "Luchs" (described later); MAN eventually produced the trucks; the 4×4 load carrier was not placed in production; and the 6×6 load carrier became the *Transportpanzer* Fuchs 1 ("Fox"). The first vehicles entered service in late 1979. It has a standard configuration with the crew at front, a center-mounted power pack, and a troop compartment in the rear. The infantry passengers mount and exit through two rear doors, and there are three roof hatches in the rear.

USSR-4A/1 BTR-60/70PB Armored Personnel Carrier

Weight: 10.3 tons
Crew: two—Commander, Driver
Transport: twelve Infantrymen
Main Gun: 14.5mm machinegun
Ammo: 500 rounds
Secondary Guns: 7.62 coax
Rangefinder: Optical
Night Sight: None
Engine: two 90hp 6-cylinder petrol (120hp on BTR-70)
Max Road Speed: 80 kph
Special: VIRSS Smoke Discharger, Firing Ports, Amphibious
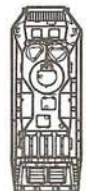
The first version—the BTR-60P—entered service in 1960 as a replacement for the BTR-152 6×6 wheeled APC. This first version was open-topped (a canvas cover provide some protection from the elements) and was armed only with a pintle-mounted machinegun. The BTR-60PA added overhead armor; and the BTR-60PB saw the addition of the 14.5mm turret. This vehicle is rather mediocre in all respects. Its engine arrangement has proven difficult to maintain, and its use of petrol has always been a major fire hazard. The BTR-70PB witnessed only minor improvements, and retained the bulk of the negative design features. The infantrymen mount/exit through two small side doors, and through two roof hatches in the rear.

USSR-4A/2 BTR-80PB Armored Personnel Carrier

Weight: 10.5 tons
Crew: two—Commander, Driver
Transport: twelve Infantrymen
Main Gun: 14.5mm machinegun

Ammo: 500 rounds
Secondary Gun: 7.62 coax
Rangefinder: Optical
Night Sight: None
Engine: 260hp 8-cylinder diesel
Max Road Speed: 80 kph
Special: VIRSS Smoke Discharger, Firing Ports, Amphibious

With its introduction in 1985, the BTR-80PB corrected a number of the flaws of its two predecessors. The volatile gas engines were replaced by a much safer and efficient single diesel engine. The design of the 14.5 turret was refined to allow for AA fire. And at the rear of the turret are now six forward-firing dischargers. In addition, the size and configuration of the access doors was improved.

USSR-6B/1 MT-LB Multi-Purpose Vehicle

Weight: 9.7 tons
Crew: two—Commander, Driver
Transport: ten Infantrymen
Main Gun: 7.62mm machinegun
Ammo: 2500 rounds
Secondary Guns: None
Rangefinder: Optical
Night Sight: None
Engine: 240hp 8-cylinder diesel
Max Road Speed: 62 kph
Special: Amphibious

The MT-LB entered service in the late 1960s as a replacement for the AT-P armored tracked artillery tractor. Typical roles for the MT-LB include prime mover for AT, artillery guns and howitzers, mobile command post, cargo carrier, and is even widely used as an APC due to its excellent cross-country performance. The 7.62mm MG is mounted on a small turret on the front right-hand side and is operated by the vehicle commander. Passengers mount and exit through two small doors, and there are two roof hatches in the rear.

USA-4A/1 M901 Anti-Tank Vehicle

Weight: 13.0 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: ITOW launcher
Ammo: 15—ITOW ATGM
Secondary Guns: 7.62mm hull top
Rangefinder: Optical
Night Sight: Thermal Imager
Engine: 215hp 6-cylinder diesel
Max Road Speed: 55 kph
Special: VIRSS Smoke Discharger, Amphibious

The M901 entered service in 1979 as a replacement for the M150 TOW carrier. The M901 is basically a M113A2 APC fitted with the Emerson M27 ITOW cupola. The cupola consists of a retractable armored launcher with two ready-to-fire missiles, ITOW guidance systems and a thermal imager. The cupola tilts back into the hull so that reloading can be conducted from under armor protection. The weight of the M27 caused the top-end speed of the vehicle to be reduced from original specs. The ITOW is a very effective weapon system, having been exported to many countries; it possesses excellent range and penetration.
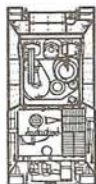
USA-4B M150 Anti-Tank Vehicle

Weight: 11.8 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: TOW launcher
Ammo: 15—TOW ATGM
Secondary Guns: 7.62mm hull top
Rangefinder: Optical
Night Sight: None
Engine: 215hp 6-cylinder diesel
Max Road Speed: 65 kph

Special: VIRSS Smoke Discharger, Amphibious

The M150 was the first tracked vehicle in the American inventory to mount the TOW ATGM system. It first became available in the early 1970s. This approach had the basic M220 TOW launcher mounted on an open circular hatch on the vehicle's hull top. While the launcher folds down when not in use, the gunner is exposed when in action. This system also lacked the fire aids mounted in the M901. It is still utilized by some Armored Cavalry units, but will eventually be replaced by M901s and ITOW/Hummers.
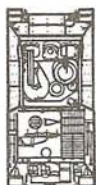
FRG-3A/1 Jaguar-1 Tank Destroyer

Weight: 25.4 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: HOT launcher
Ammo: 22—HOT ATGM
Secondary Guns: 7.62mm hull front, 7.62mm hull top
Rangefinder: Optical
Night Sight: Image Intensifier
Engine: 500hp 8-cylinder diesel
Max Road Speed: 70 kph
Special: VIRSS Smoke Discharger

The Jaguar owes its heritage to the original *Jagdpanzer Rakete* that was armed with two French SS-11 ATGM launchers. With the availability of the Euromissile HOT (*Haut Subsonique Optiquement teleguide tire d'un Tube*) system, all SS-11 armed vehicles were converted between 1978 and 1983. This new vehicle, now named "Jaguar", also has some improvements made to its frontal armor. HOT is an extremely fast, powerful and long-ranged weapon.

FRG-3A/2 Jaguar-2 Tank Destroyer

Weight: 25.4 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: ITOW launcher
Ammo: 22—ITOW ATGM
Secondary Guns: 7.62mm hull front, 7.62mm hull top
Rangefinder: Optical
Night Sight: Thermal Imager
Engine: 500hp 8-cylinder diesel
Max Road Speed: 70 kph
Special: VIRSS Smoke Discharger

In early 1983 it was decided to upgrade 162 JPZ4-5 tank destroyers to ATGM-armed vehicle. The ITOW system was selected, over the HOT, due to its lower cost and built-in AN/TAS-4 thermal imaging night sight. Otherwise, the Jaguar-2 and Jaguar-1 are identical.

FRG-5A JPZ4-5 Tank Destroyer
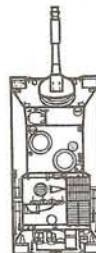
Weight: 30.3 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: Rheinmetall 90mm rifled
Ammo: 51—HEAT, HESH
Secondary Guns: 7.62mm coax, 7.62mm hull top
Rangefinder: Optical
Night Sight: Image Intensifier, IR Searchlight
Engine: 500hp 8-cylinder diesel
Max Road Speed: 70 kph
Special: VIRSS Smoke Discharger

The Germans have always placed high stock in gun-armed tank destroyers, and during WW2 they fielded many variations on this theme. The postwar years did nothing to temper this interest. The JPZ4-5 (also known as the *Jagdpanzer Kanone*) followed this tradition, and was first utilized in

1965. Its 90mm gun fires the same ammunition as the M47 and M48 tanks, simplifying supply. Recent years have seen a decline in its use, as its 90mm projectile is no longer effective against first-line MBTs.

FRG-5B M48A2GA2 Tank Destroyer

Weight: 47.8 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: L7A3 105mm rifled
Ammo: 46—APFSDS, HEAT, HESH, Smoke, Canister
Secondary Guns: 7.62mm coax, 7.62mm turret top
Rangefinder: Coincidence
Night Sight: Image Intensifier
Engine: 825hp 12-cylinder diesel
Max Road Speed: 48 kph
Special: VIRSS Smoke Discharger, IR/WL Searchlight

To serve as the basis of their new army, a number of M48A2s were handed over to the West German forces. With the advent of the Leopard 2 and the continued improvement in opposing forces, these tanks were finally relegated to second-line service. This version saw upgrading to the main armament (the 90mm was replaced with 105mm), night vision equipment, and fire-control systems. Somw 650 of the original vehicles were converted from 1978 through 1980. It now serves in Jagdpanzer units and with secondary formations.

USSR-5A BRDM Anti-Tank Vehicle

Weight: 7.7 tons
Crew: three—Commander, Gunner, Driver
Transport: 2/3 man team
Main Gun: AT-5 Spandrel launcher
Ammo: 15—Spandrel ATGM
Secondary Guns: None
Rangefinder: Optical
Night Sight: Image Intensifier
Engine: 140hp 8-cylinder petrol
Max Road Speed: 100 kph
Special: Amphibious

First seen in 1977, the BRDM/Spandrel (often referred to as the BDRM-3) has replaced the BRDM-1/2 and Sagger combinations in front-line Soviet service. This is the basic BRDM-2 vehicle (see below) with a pedestal quintuple launcher. The Spandrel, thought to be a copy of HOT, is a SACLOS ATGM with greater range and improved penetration over the previous Sagger and Swatter.

USSR-6A ASU-85 Air Portable Assault Gun

Weight: 14.0 tons
Crew: four—Commander, Gunner, Driver, Loader
Main Gun: D-70 85mm rifled
Ammo: 40—APHE, HVAP, HEAT, HE
Secondary Guns: 7.62mm coax, 12.7mm turret top
Rangefinder: Optical
Night Sight: IR Searchlight
Engine: 240hp 6-cylinder diesel
Max Road Speed: 45 kph
Special: Exhaust Smoke Generator

The ASU-85, a replacement for the ASU-57 Assault Gun, entered service in 1960. It is found only in Air Assault divisions, and is air-portable by the AN-12 Cub aircraft. It is almost identical with, and shares many automotive components with the PT-76 Light Amphibious Tank. The limited traverse 85mm gun is a variant of the D-48 towed AT gun, and can use the same ammunition. Even with its HEAT and HVAP rounds, it has only a marginal chance of a kill against modern MBTs.

USA-2A/2 & 4 M3A1 & M3A2 Bradley Cavalry Fighting Vehicle

Weight: 22.4 tons (27.0 for A2)
Crew: three—Commander, Gunner, Driver (autoloader)
Transport: 2-3 Infantrymen
Main Gun: M242 25mm chaingun, ITOW armored launcher
Ammo: 1500—APDS, HE; 10 ITOW ATGM
Secondary Guns: 7.62mm coax
Rangefinder: Nd-YAG Laser
Night Sight: Thermal Imager
Engine: 500hp 8-cylinder diesel
Max Road Speed: 66 kph
Special: VIRSS Smoke Discharger, Amphibious (and ERA on A2)

The M3 Bradley is almost identical with its M2 brother; they both entered service at the same time. Externally they appear to be the same, but the M3s have no firing ports and greater ammunition storage. The transport capacity is reduced due to this ammo storage and its scouting role.

FRG-4A Luchs-2 Recon Vehicle
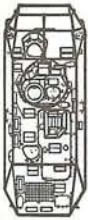
Weight: 19.5 tons
Crew: four—Commander, Gunner, Driver, Rear Driver (autoloader)
Main Gun: RH202 20mm
Ammo: 375—AP, HE
Secondary Guns: 7.62mm turret top
Rangefinder: Optical
Night Sight: Thermal Imager
Engine: 390hp 10-cylinder multi-fuel
Max Road Speed: 90 kph
Special: VIRSS Smoke Discharger, Amphibious, Dual Controls

The *Spahpanzer Luchs* (Lynx) is the 8×8 amphibious recon vehicle component of the building program that was described under the Fuchs entry. The Luchs entered service in 1975, replacing the American-supplied M41 light tanks and Hotchkiss SPz 11-2 recon vehicles. The Luchs is quite large and heavy for a recon vehicle, and its 20mm armament has become somewhat ineffective on today's battlefield. Its dual controls are a unique feature, giving it full speed in both directions.

USSR-2B/1 BMP-R Recon Vehicle
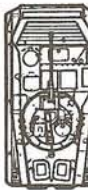
Weight: 14.0 tons
Crew: four—Commander, Gunner, Asst. Gunner, Driver (autoloader)
Transport: 2-3 Infantrymen
Main Gun: 2A28 73mm smoothbore, Sagger or Spigot launcher
Ammo: 40—HEAT, HE; 5 Sagger/Spigot ATGM
Secondary Guns: 7.62mm coax
Rangefinder: Optical
Night Sight: Image Intensifier
Engine: 300hp 6-cylinder diesel
Max Road Speed: 70 kph
Special: VIRSS Smoke Discharger, Exhaust Smoke Generator, Firing Ports, Amphibious

The BMP-R, also known as the BRM (for *Bronirovannaya Razvedivatelnaya Mashina*), series of recon vehicles is based on the the BMP-1; it was introduced in the earlu 1970s. The BMP-R retained all of the suspension and automotive components and has the same armament. It is fitted with a larger two-man turret, and as a result has only two hatches in the rear instead of four. The BMP-R has replaced the BRDM-2 as the medium-weight recon vehicle while the latter has become the light recon vehicle. The BMP-R is to be utilized in heavy-threat areas, but employs the same combat doctrine as the BRDM-2.

USSR-5B BRDM-2 Recon Vehicle

Weight: 7.0 tons
Crew: two—Gunner, Driver (autoloader)
Transport: 2-3 Infantrymen
Main Gun: 14.5mm machinegun
Ammo: 500 rounds
Secondary Guns: 7.62mm coax
Rangefinder: Optical
Night Sight: None
Engine: 140hp 8-cylinder petrol
Max Road Speed: 100 kph
Special: Amphibious

The BRDM-2 was first seen in the mid-60s as the successor to the BRDM-1 vehicle. Normally, 28 BRDM-2s are found in either tank or motorized rifle divisions. It has really become outclassed by more modern recon vehicles, and its 14.5mm main armament is badly outdated and inadequate. On each side of the vehicle, between the front and rear wheels, are two chain-driven belly wheels. These are manually lowered by driver to give the vehicle improved cross-country performance and to aid in crossing ditches. The access to the vehicle is through two roof hatches just ahead of the turret.

USA-5B M163A1 Anti-Aircraft Vehicle

Weight: 12.3 tons
Crew: four—Commander, Gunner, Asst. Gunner, Driver (autoloader)
Main Gun: M61A1 20mm gatling
Ammo: 2100—AP, HE
Secondary Guns: None
Rangefinder: Optical/Radar (range only)
Night Sight: None
Engine: 215hp 6-cylinder diesel
Max Road Speed: 68 kph
Special: Amphibious

The M163 "Vulcan" was developed in the early 1960s as a replacement for the M42 Duster and entered service in 1968. It is deployed in composite air defense battalions along with the M730A1 Chaparral missile vehicle, there being 24 of each type in a battalion. The M163A1 is a basic M113 APC fitted with a one-man electrically-driven turret which has a 20mm six-barrel gatling gun (of aircraft fame). The chassis is unchanged other than the addition of a suspension lock-out system to provide a stable gun platform. Due to its increased weight, buoyancy pods have also been installed to improve the amphibious characteristics. Even with its high rate of fire, 3000 rounds-per-minute in AA mode, the M163A1 is limited in its effectiveness. In fact, it is due to be replaced by the ill-fated M988 DIVAD. Unfortunately, this has been an abysmal failure; as a result, the M163A1 is expected to log some additional unplanned time in service.

*USA-5A/1 M730A1 Chaparral Anti-Aircraft Vehicle*
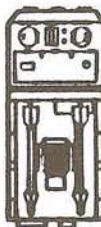
Weight: 12.9 tons
Crew: three—Commander, Gunner, Driver
Main Gun: MIM-72F Sidewinder
Ammo: 4 missiles
Secondary Guns: None
Rangefinder: Optical, IR Missile Guidance
Night Sight: None
Engine: 202hp 6-cylinder diesel
Max Road Speed: 61 kph
Special: None

The Chaparral is a low-altitude surface-to-air system that utilizes the Sidewinder in a ground mode. It first entered service in 1969. As indicated under the M163A1 entry, the Chaparral is fielded in composite battalions along with the Vulcan system. The latest version of the Sidewinder

(MIM-72F) is an all-aspect infrared homing missile with a cruising speed of Mach 2.5. It detonates on target by means of a radar-proximity fuse.

FRG-6A FLAKPZ1 Gepard Anti-Aircraft Vehicle
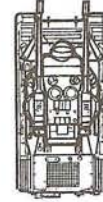
Weight: 49.6 tons
Crew: three—Commander, Gunner, Driver (autoloader)
Main Gun: two Oerlikon 35mm KDA
Ammo: 660—APDS, HE
Secondary Guns: None
Rangefinder: Optical/Radar
Night Sight: None
Engine: 830hp 8-cylinder multi-fuel
Max Road Speed: 65 kph
Special: None

The Gepard started its development cycle in 1966, but did not enter service until 1976. It uses a Leopard chassis and a turret designed by the Swiss company Oerlikon. The 35mmm KDA cannons each have a cyclic ROF of 550 rounds-per-minute, but fire with a normal burst of 20-40 per barrel. The fire is controlled by two separate radar systems. Mounted on the rear of the turret is the pulse doppler search radar; it has a range of 15 km and built-in IFF capability. Mounted at the front of the turret is the pulse doppler tracking radar, also with a range of 15 km and limited search capability; the search radar is able to scan for other targets even while a target is being tracked. The Gepard is a very effective system against low-flying targets with excellent electronics and hard-hitting guns.

FRG-6B/1 Roland-2 Anti-Aircraft Vehicle
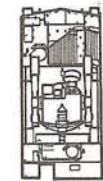
Weight: 32.5 tons
Crew: three—Commander, Gunner, Driver
Main Gun: Roland-2
Ammo: 10 missiles
Secondary Guns: None
Rangefinder: Radar
Night Sight: None
Engine: 600hp 6-cylinder diesel
Max Road Speed: 75 kph
Special: None

In 1964 the French company AeroSpatiale and the German company Messerschmitt-Bolkow-Blohm (MBB) formed a consortium to develop a low-altitude surface-to-air missile system (which eventually became the Roland). A joint company, Euromissile, was later incorporated (the same one that produces the Milan and HOT ATGMs). The first Roland-2 systems entered service with the FRG forces in 1981 as replacements for the towed 40mm L/70 Bofors guns. The Roland is based on a Marder chassis (the French version uses the AMX-30 MBT chassis). Roland-2 is a semi-active radar homing missile, with a cruising speed of 1.6 Mach, and detonates on target by means of an impact or radar proximity fuse.

USSR-8A ZSU-23(4) Shilka Anti-Aircraft Vehicle

Weight: 14.0 tons
Crew: four—Commander, Gunner, Radar Operator, Driver (autoloader)
Main Gun: four AZP-23 23mm
Ammo: 2000—AP, HE
Secondary Guns: None
Rangefinder: Optical/Radar
Night Sight: None
Engine: 280hp 6-cylinder diesel
Max Road Speed: 44 kph
Special: None

The ZSU-23(4) (*Zenitnaia Samokhodnaia Ustanovka*, or "Zoo" as it is known to western forces) was designed to replace and overcome the shortcomings of the ZSU-57(2), those being its low ROF and lack of radar or fire control. The Zoo is

based on an ASU-85 chassis, and entered service in 1965. It is issued on a scale of four to six per tank or motorized rifle regiment, and is fielded in conjunction with the SA-9 Gaskin or SA-13 Gopher SAM vehicle. These normally work in pairs of two gun and two missile armed vehicles. The water-cooled 23mm cannon each have a cyclical ROF of 1000 rounds-per-minute, but fire with a normal burst of 5-30 rounds per barrel. The fire is controlled by a single search and tracking radar system; it's mounted on the rear of the turret and operates in the J-band, has a range of 20 km and built-in IFF capability. The Zoo has proven to be highly effective when utilized in combination with missile systems. On its own, it accounted for 30% of the aircraft lost by Israeli during the 1973 war.
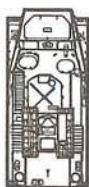
USSR-7A/1 SA-9 Gaskin Anti-Aircraft Vehicle

Weight: 8.1 tons
Crew: three—Commander, Gunner, Driver
Main Gun: SA-9 Gaskin
Ammo: 4 missiles
Secondary Guns: None
Rangefinder: Optical, IR Missile Guidance
Night Sight: None
Engine: 140hp 8-cylinder petrol
Max Road Speed: 100 kph
Special: Amphibious

Developed in parallel with the ZSU-23(4), the SA-9 Gaskin low-altitude missile system first entered service in 1968. The system is based on the BRDM-2 chassis, and the SA-9 missile is a derivative of the SA-7 Strela man-portable SAM. The chain-driven belly wheels and the 14.5mm turret were removed from the chassis to accommodate the missile turret carrying four ready-to-launch missiles. It is thought that one vehicle per battery has now been fitted with the ''Hat-Box'' passive radar detection antenna. Gaskin is a tail-chasing IR homing missile with a cruising speed of Mach 1.5; it detonates on target by means of an impact or proximity fuse.

USSR-7A/2 SA-13 Gopher Anti-Aircraft Vehicle

Weight: 10.5 tons
Crew: three—Commander, Gunner, Driver
Main Gun: SA-13 Gopher
Ammo: 4 missiles
Secondary Guns: None
Rangefinder: Optical/Radar (range), IR Missile Guidance
Night Sight: None
Engine: 240hp 8-cylinder diesel
Max Road Speed: 60 kph
Special: Amphibious

The SA-13 Gopher low-altitude missile has been replacing the less-capable SA-9 since 1980. It is based on the MT-LB chassis, and deployed with other units in the same manner as the Gaskin. The radar antenna is located between the two pairs of missiles, and is a simple range-only set (20 km) utilized to (prevent missile wastage). Gopher is an all-aspect IR homing missile, Mach 1.8, detonated on target by means of an impact or proximity fuse.

USA-8B/1 M106A1 Self-Propelled Mortar Vehicle

Weight: 12.0 tons
Crew: six—Commander, Gunner, two Loaders, Fuze-Setter, Driver
Main Gun: M30 4.2-inch (107mm) mortar
Ammo: 88—HE, Smoke, Illumination
Secondary Guns: 12.7mm hull top
Rangefinder: Data-Link Artillery Computer
Night Sight: None

Engine: 215hp 6-cylinder diesel
Max Road Speed: 68 kph
Special: Amphibious

Entering service in 1967, the M106A1 is based on the venerable M113 APC chassis. The 107mm mortar is mounted in the rear of the vehicle on a turntable, and fires to the rear through a three-section circular hatch. It is capable of firing a full range of missions.

USA-8A/2 M125A1 Self-Propelled Mortar Vehicle

Weight: 11.3 tons
Crew: six—Commander, Gunner, two Loaders, Fuze0Setter, Driver
Main Gun: M29 81mm mortar
Ammo: 114—HE, Smoke, Illumination
Secondary Guns: 12.7mm hull top
Rangefinder: Data-Link Artillery Computer
Night Sight: None
Engine: 215hp 6-cylinder diesel
Max Road Speed: 68 kph
Special: Amphibious

The M125A1 entered service in 1966, based on the M113 chassis also. The 81mm mortar is mounted in the rear on a turntable and has a 360-degree field-of-fire through a three-section hatch. It's capable of firing the full range of missions, but its utilization has been less prevalent than that of the M106A1.

FRG-8B M113GA1/120 Self-Propelled Mortar Vehicle

Weight: 12.1 tons
Crew: six—Commander, Gunner, two Loaders, Fuze-Setter, Driver
Main Gun: Tampella 120mm mortar
Ammo: 63—HE, Smoke Illumination
Secondary Guns: 7.62mm hull top
Rangefinder: Data-Link Artillery Computer
Night Sight: None
Engine: 215hp 6-cylinder diesel
Max Road Speed: 68 kph
Special: Amphibious

The German M113GA1/120 is armed with a 120mm mortar, mounted on the rear on a turntable and fired to the rear through a three-section circular hatch. Again, it is capable of firing the full range of missions.

USSR-3A MT-LB/2S12 Self-Propelled Mortar Vehicle
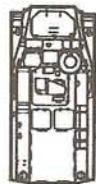
Weight: 10.0 tons
Crew: five—Commander, Gunner, Loader, Fuze-Setter, Driver
Main Gun: 2S12 120mm mortar
Ammo: 60—HE, Smoke, Illumination
Secondary Guns: 7.62mm hull top
Rangefinder: Data-Link Artillery Computer
Night Sight: None
Engine: 240hp 8-cylinder diesel
Max Road Speed: 62 kph
Special: Amphibious

The MT-LB/2S12 is based on the MT-LB chassis. The 120mm mortar is mounted in the rear on a turntable, and has a 360-degree field-of-fire through a square hatch. And it too is capable of firing the whole range of fire missions.

USA-4A/2 M981 FISTV Fire Support Vehicle

Weight: 13.0 tons
Crew: three—Commander, Observer, Driver
Main Gun: 7.62mm machinegun
Ammo: 2000 rounds
Secondary Guns: None
Rangefinder: Laser Designator
Night Sight: Thermal Imager

Engine: 215hp 6-cylinder diesel
Max Road Speed: 60 kph
Special: Amphibious, Observer

Entering service in 1985, the M981 is based on the M113A2 chassis. It mounts an Emerson M27 cupola (externally a duplicate to the M901's), but this contains the AN/TVQ-2 GLLD (Ground Laser Locator Designator) and an AN/TAS-4 thermal night sight. The vehicle is able to act as a targeting station, intercommunication system and an image transfer facility.

FRG-2B/2 BEOBPZ Artillery Control Vehicle

Weight: 11.2 tons
Crew: three—Commander, Observer, Driver
Main Gun: 7.62mm machinegun
Ammo: 2000 rounds
Secondary Guns: None
Rangefinder: Optical
Night Sight: None
Engine: 215hp 6-cylinder diesel
Max Road Speed: 65 kph
Special: Amphibious, Observer

Based on the M113GA1 chassis, the *Beobachtungs-panzer Artilleries* were produced between 1982 and 1985. Though not as capable as the M981, it is still a very functional forward observer platform.

USSR-6B/2 ARCV Artillery Command Recon Vehicle

Weight: 10.2 tons
Crew: five—Commander, Gunner, Navigator, Rangefinder, Driver
Main Gun: 12.7 machinegun
Ammo: 1000 rounds
Secondary Guns: None
Rangefinder: Optical
Night Sight: None
Engine: 280hp 8-cylinder diesel
Max Road Speed: 62 kph
Special: Amphibious, Observer

Based on the ubiquitous MT-LB chassis, the ARCV serves in dual roles as an artillery spotter/control platform and as a secondary-level recon vehicle. It is fairly large for its passive roles, but is still able to perform adequately.

USA-3A/2 M60 AVLB Vehicle Launched Bridge

Weight: 51.5 tons
Crew: two—Commander, Driver
Main Gun: None
Ammo: None
Secondary Guns: None
Rangefinder: None
Night Sight: None
Engine: 750hp 12-cylinder diesel
Max Road Speed: 48 kph
Special: Bridge

When the M60 series of tanks entered service, the chassis was utilized as the basis for a replacement for the M48 AVLB. The bridge takes two minutes to lay, and can span a gap slightly over 18 meters.

FRG-8A/2 Biber AVLB Vehicle Launched Bridge

Weight: 45.3 tons
Crew: two—Commander, Driver
Main Gun: None
Ammo: None
Secondary Guns: None
Rangefinder: None
Night Sight: None
Engine: 830hp 10-cylinder multi-fuel
Max Road Speed: 65 kph
Special: Bridge

SORTING IT OUT
The MBT Index

By Jay Wissmann

About the only shortcoming that I found in the presentation of *MBT* was the lack of a cross-index for the rulebook. It had never struck me as necessary during the playtest sessions, because we had a walking, talking index in the person of Jim Day (better known as The Designer, for those of you who do not read the credits). But as I started to play the game without his benevolent presence, adding more and more of the optional rules, I found myself wishing that I could remember where in the . . . where that darn-fool designer put that rule I just forgot. Did he not realize that some moron would actually play this game, that some confused gamer would allow that reference to slip out of his loosely-woven brain cells? The following Index cures that situation. Instead of page numbers, as in most indexes, this one uses the rule case notation. Entries are rigidly alphabetical; abbreviations common to the game are defined upon first use, and used consistently thereafter.

COPY SERVICE

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The Biber entered service in 1975 and utilizes the Leopard-1 chassis. The bridge takes three minutes to emplace and can span a gap of 20 meters.

USSR-12B MTU-20 AVLB Vehicle Launched Bridge

Weight: 37.0 tons
Crew: two—Commander, Driver
Main Gun: None
Ammo: None
Secondary Guns: None
Rangefinder: None
Night Sight: None
Engine: 580hp 12-cylinder diesel
Max Road Speed: 50 kph
Special: Bridge

The MTU-20 was designed in the late '60s as a replacement for the MTU-1 AVLB; it utilizes the T-55 chassis. The bridge takes four minutes to place, and spans a gap of 18 meters.

CONVENTION CALENDAR

The *GENERAL* will list any gaming convention in this space free of charge on a space available basis provided that we are notified at least four months in advance of the convention date. Each listing must include the name, date, site, and contact address of the convention. Additional information of interest to our readership such as tournaments or events utilizing The Avalon Hill Game Company's games is solicited and will be printed if made available.

The Avalon Hill Game Company does not necessarily attend or endorse these gatherings, nor do we guarantee that events using The Avalon Hill Game Company's games will be held. Readers are urged to contact the listed sources for further information before making plans to attend.

AUGUST 31-SEPTEMBER 3
PACIFICON 1990, San Mateo, California
Contact: David Palmerlee, Boardgame Chairman, P.O. Box 2625, Fremont, CA 94536.
Note: At this time, tournaments are planned in *B-17, ASL, 3R, DIP* and *UF.*

SEPTEMBER 1-3
ASL RALLY—EUROPE, Kaiserslautern, West Germany
Contact: Michael Offutt, Box 1359, APO NY 09130.
Note: All tournament events will be *ASL*-level; *SL* play welcomed in open gaming area.

SEPTEMBER 14-16
TACTICON '90, Lakewood, Colorado
Contact: Heather Barnhorst, Denver Gamers Association, P.O. Box 44058, Aurora, CO 80044. (303) 680-7824.
Note: Events include competition in *VITP, CIV, KM* and *ASL.* Don Greenwood of Avalon Hill will be Guest of Honor, and host of several informal talks.

SEPTEMBER 21-23
CWG CONVENTION '90, Calgary, Alberta
Contact: Stephen Zanini, 207 Bernard Drive NW, Calgary, Alberta T3K 2B6.
Note: Tournaments in *ASL, CIV* and *KREMLIN.*

SEPTEMBER 28-30
WARGAMES V, Sioux City, Iowa
Contact: Russ Gifford, 320 East 27th, South Sioux City, NE 68776. (402) 494-8746.
Note: Tournaments in *ASL, TRC, DIP, 3R* and *B-17.* Admission is *free.*

OCTOBER 6-7
TOLEDO GAMING CON 8, Toledo, Ohio
Contact: Michael Hamann, 3001 North Reynolds, Toledo, OH 43615.
Note: Among a wide variety of events, tournaments in *ASL, MBT* and *UF.*

OCTOBER 19-21
RUDICON 6, Rochester, New York
Contact: Stephen Abbott, c/o Student Directorate, 1 Lomb Memorial Drive, Rochester, NY 14623. (716) 783-2228.

NOVEMBER 3-4
UMF-CON, Farmington, Maine
Contact: Table Gaming Club, Student Center, University of Maine, 5 South Street, Farmington, ME 04938.

JANUARY 26-28
CANCON '91, Canberra, Australia
Contact: Wes Nicholson, CANCON, GPO Box 1016, Canberra City, ACT, 2601, Australia.
Note: One of the biggest conventions in the country, with numerous wargaming events (both boardgames and miniatures).

THE SOVIET VIEW
Another Look at MBT

By Jay Wissmann

During the playtest sessions for *MBT*, I noticed a considerable lack of interest on the part of the participants in taking the side of the faithful warriors of Holy Mother Russia. (On the other hand, there was usually a mad scramble to play the M1A1s, which we solved by stipulating "first come/first choice"—which pleased Craig Taylor as he was inevitably the first one there.) This situation eventually evolved into one other and myself habitually taking the Soviet side, and everybody else splitting up command of the NATO forces (with anybody else arriving late being "communized"). I soon uncovered some interesting nuggets of information, which I hope to pass on through this article. This will not only serve to assist you budding socialists in your crusade against the imperialistic warmongers, but may even help the NATO player if he reads the following closely and turns some of my advice against his opponents.

There are three sorts of problems faced by the Russkie player: "inferior" weapons systems, Soviet doctrine rules, and the psychological strain of learning the "Soviet Way of War". To play a game as complex as *MBT* well, especially as the Soviets, one must master all facets of his role. So, we'll consider each of these in turn.

"Inferior" Weapons

In general, the Soviet weapons given in the game *are* inferior to the corresponding NATO weapons system. The most glaring example of the relative superiority of NATO equipment comes when one compares the U.S. and U.S.S.R. first-line main battle tanks. The M1/M1A1 is considered by most analysts the best tank in the world today, and with good reason. Shooting at one frontally with most of the weapons in the Soviet inventory is simply a waste of time, and troops. The M1A1's 120mm *Rhinemetall* is awesome in its effectiveness against a wide variety of targets. The vehicle itself is speedy, agile and not overly large (smaller than the M60A3). Certainly not least among its features is the fire control system in which the incorporation of thermal sights enables it to ignore all but discharger smoke. In comparison, the Soviet T-80 falls short of the M1A1 in almost every respect in this game. The T-80 has quite effective armor, but there are a number of NATO ATGMs which can cut through it (ITOW, HOT and the Hellfire, which is the real super-weapon of this game). The 125mm on the T-80 is just not quite up to NATO's 120mm standards in the capacity to wreak havoc; and the M1A1's 120mm gun also has a distinct range advantage. In only one area, "maneuverability", does the T-80 finally achieve parity with its counterpart MBT, and even gains a slight advantage due to its −1 size modifier. In sighting equipment, however, there is no contest; without thermal imagers of its own, an improperly handled T-80 becomes an impotent, blind chunk of scrap waiting for someone on the other side to put it out of action.

The West German Leopard II is only slightly less effective than the M1A1, having marginally less armor protection. The other Soviet AFVs (the T-64B and the T-72), on the other hand, are less effective versions of the T-80, with all the 80's faults and less armor and mobility. (To be fair, the Leopard I and the M60A3 are very fragile pieces for the NATO player to operate with, as *any* modern AT weapon in this game can turn one into junk at the drop of a hat.) Basically, all this boils down to the fact that if the other player has M1A1s (or Leopard

IIs), the Soviet player has to do some real problem-solving to claim victory. The easiest and most reliable method of killing an M1 involves flank/rear shots and falling shots. Let's first examine the difference of using falling shot in our M1 hunt, as it is the most effective. (For those of you with a mathematical bent, I direct your attention to tables #1 through #4, where you can find my attempt to justify the following conclusions.)

Notice in the "Armor" section of the M1A1 Data Card that, when hit by KE ammunition from the Front aspect and on the same level, the M1A1 has an armor base of "95" on the turret and "90" on the hull. This means that the T-80, with its penetration of "94" at one-to-four hex range and "88" from five to eight hexes, can only damage the M1A1 at very close range (within four hexes) and only if it hits it in the hull (a 56% chance) or the track or gun (a 6% chance). If the turret is hit (the remaining 38%), nothing—in game terms—happens to the M1A1. Due to the chance of an "incomplete kill" (a dud round, for instance) and the ever-present possibility of a complete miss, the probability of killing a M1A1 with a T-80 within four hexes is about 47.6% (only 7.4% at five to eight hexs).

The situation changes dramatically if the T-80 obtains a falling shot. Here, the T-80's penetration factor stays the same . . . but the M1's vulnerability increases significantly. Now the M1A1's turret and hull armor are "90" and "84" respectively; and we can add the new possibility of hitting the top surfaces squarely, which have an armor base of only "60". The T-80 is able to, from its higher level, now penetrate the entire front aspect of the M1A1 at four hexes, all but the turret front (a 33% chance) out to eight hexes, and even has a killing shot at the turret top and hull deck (cumulative chance of 10%) out to 32 hexes! Once again, the respective probabilities are 79.8% for a range within four hexes and 47.8% at 5-8 hexes. This all translates to mean that you've a better chance of KOing that M1A1 at eight hexes with falling shot than you have within four hexes if at the same level. (Note: Optional Rule 17.2.4 [Lower Hull Armor] adds a varying degree of vulnerability to the M1 hull, and I recommend that this rule be used whenever M1s are about; the rule of thumb in this case when fighting against an M1A1 with a T-80 remains the same, obey the army's maxim and "Take the high ground!")

Another facet of M1 vulnerability is that of the flank shot. In comparison to its front armor, an M1A1's side and rear armor is woefully weak. A T-80 can perforate the side armor out to a range of 28 hexes, and the rear can be penetrated from Moscow. Luck, of course, plays an important part when shooting at the Front/Side aspect (see the discussion on Soviet Doctrine below). If you fire at the Front/Side aspect and hit the front (a 47% chance from a level position), all your fancy maneuvering (and probable losses) over the past few turns to get where you can will have been for nought. On the other hand, once you get into the Rear or Rear/Side aspect of an M1, you can really expect to see some involuntary smoke. From back there, you will kill M1s with every solid hit. The problem then becomes one of simply hitting them, for the AP factor steadily drops as the range increases.

Another tactic to consider is the combination of flank and falling fire. Notice how the Turret Top and Hull Deck hits "come out of" the turret and hull Front probabilities. From Front/Side level, you have a 19% chance of hitting the Turret Front, a 28% chance of hitting the Hull Front, a 19% chance of hitting Turret Side and a 28% chance of hitting the Hull Side (along with the usual 6% of hitting a Track or Gun). Front/Side falling shots changes these numbers to 14% for Turret Front, 23% for Hull Front, and adds 5% to the chances of hitting the Turret Top and the Hull Deck, leaving everything else the same. Falling shots are therefore a 10% improvement over the same shot from a level position—and every little bit helps when playing the Russians. Actually, the probabilities seem to indicate that Front/Side hits *decrease* your chances of a kill (except at level, 5-8 hex range), but you need to be constantly watching for any possible flank shot whenever falling shot is not attainable, simply because of the range advantages that flank shots confer. Lastly, do not forget your T-80s (and T-64s) have the Songster ATGM aboard. If you face what appears to be an impossibly long shot at an M1's rear (in excess of 20 hexes), try a Songster (check out those AP factors).

Another serious deficiency in the Soviet Order of Battle is the lack of a suitable medium ATGM (like the American "Dragon" or German "Milan") organic to their rifle squads. Once a BMP dumps its cargo somewhere and moves off, the Russian rifle

Table 1—Generation of P_k Front—Level

Front Aspect—Level Hit Location (Armor)	P_{1c}	AP Factor of 20			AP Factor of 18		
		P_d	$(\times P_{bo})$	P_{1d}	P_d	$(\times P_{bo})$	P_{1d}
Turret Front (95)	0.38		0.0	0.0		0.0	0.0
Hull Front (90)	0.56		0.87	0.4872		—	—
	0.56	0.08	×.30	0.01344		—	—
	0.56	0.05	×.15	0.0042		—	—
HF (Upper) (90)	{0.17}		—	—		0.0	0.0
	—		—	—		—	—
	—		—	—		—	—
HF (Lower) (90)	{0.39}		—	—		0.87	0.06786
(×0.20 to hit Lower	—	—	—	—	0.08	×.30	0.001872
Hull Armor=0.078)	—	—	—	—	0.05	×.15	0.000585
Track & Gun (0)	0.06	1.00	×.30	0.018	1.00	×.30	0.018
				0.52284			0.088317

$P_k=0.91 \times 0.52284=0.4757844$ $P_k=0.84 \times 0.088317=0.0741862$

squad is without an inherent anti-tank weapon of any significant range (the RPG-7 is only good for killing cars, and then only at point-blank range). A BTR or MTLB transported squad is in an even worse situation, for their carrier does not itself even have a viable tank killing weapon aboard (there are no rules for ramming yet, though I have repeatedly brought this deficiency to Jim Day's attention). This means that Soviet infantry is only good for holding close terrain, or taking the same from their opposite number.

This pattern follows through for the APCs, though it is not as marked. The armament of the NATO Bradley and Marder are superior to that of the BMP, but the latter has a measure of better protection in both size modifier and standard armor (not including optional reactive armor). The second-line APCs are again no contest, with the Soviet BTR being marginally better transport than walking. It is faster. In the realm of ATGM vehicles, it can be said that the BRDM is small and fast; this is good, because like the beer-can it is, it has no armor to speak of. The Spandrel is rated as equivalent to the American TOW, and is quite good as long as the Russian player doesn't try to take on M1s with it. Nevertheless, it is hopelessly outmatched by the later ITOW and the West German HOT.

The Americans do lag behind in the area of mortars, with both the Soviet and West German 120mm versions being superior to the "four-deuce". The American army still is in a quandary over the 81mm: one day it is out and the "four-deuce" is in; the next we hear they are extolling the virtues of the lighter weapon. The 120mm mortar of the Red Army and the Bundeswehr's organic artillery each have a "23" GP strength, which is capable of destroying any vehicle on the battlefield if conditions are right. But it is in all probability a moot point, considering the American superiority in artillery munitions and fire control techniques. In game terms, this translates to mean that the Soviet ordnance has only four types of ammunition: HE (regular high explosive), ICM (improved conventional munitions—a type of super anti-personnel round that ejects many grenade-sized sub-munitions), illumination and smoke rounds. NATO adds FASCAM (field artillery scattered mines) and improves the ICM by deleting the negative modifier when used against vehicles. Further, the Americans have the added CLGP (cannon-launched guided projectile—a laser-guided 155 AT round), which is the silver bullet to end all silver bullets. The superior allied fire control is simulated by allowing NATO platoon leaders and above to call for fire support, but limits the Soviets to company commanders and above. Again, onboard Soviet 120mm mortars thus become all the more important.

In the area of aircraft, there is again no contest as to quality as NATO capabilities far exceed that of their Soviet counterparts. But, if NATO has the advantage in the air, the Soviets have a definite advantage in terms of anti-air. The American army has three viable AA weapons systems; the scale of the *MBT* game system excludes the HAWK and Patriot SAMs, leaving the Stinger to carry the load (which it does quite well, given what the Soviets will have in the air). The Vulcan (M163A1) is a lashed-together, "temporary" effort, to be replaced as soon as possible, as it was 20 years ago. The Chapparral (M730A1) has at its core an excellent weapons system (the renowned Sidewinder), but the lack of a radar system for early warning limits its effectiveness. The Germans, on the other hand, have quite a practical pair of AA systems in the form of the Gepard and the Roland. But, the Soviet combination of SA-13 ("Gopher") and ZSU-23(4) makes life exciting (and frequently short) for careless NATO airmen.

One last point before pressing on. Something which, on the surface, seems to be a minor difference between the two sides is the proliferation of

Table 2—Generation of P_k Front/Side Aspects—Level

Front/Side Aspect—Level		AP Factor of 20			AP Factor of 18		
Hit Location (Armor)	P_{1c}	P_d	($\times P_{bo}$)	P_{1d}	P_d	($\times P_{bo}$)	P_{1d}
Turret Front (132)	0.19		0.0	0.0		0.0	0.0
HF (Upper) (126)	0.08		0.0	0.0		0.0	0.0
HF (Lower) (126)	{0.20}		0.87	0.0348		0.87	0.06786
(×0.20 to hit Lower	—	0.08	×.30	0.00096	0.08	×.30	0.001872
Hull Armor=0.04)	—	0.05	×.15	0.0003	0.05	×.15	0.000585
Turret Side (63)	0.19		0.87	0.1653			
	0.19	0.08	×.60	0.00912			
	0.19	0.05	×.30	0.00285			
Hull Side (62)	0.28		0.87	0.2436			
	0.28	0.08	×.30	0.00672			
	0.28	0.05	×.15	0.0021			
Track & Gun (0)	0.06	1.00	×.30	0.018	1.00	×.30	0.018
				0.48375			0.48375

$P_k=0.91\times0.48375=0.4402125$ $\qquad$ $P_k=0.84\times0.48375=0.40635$

Table 3—Generation of P_k Front—Falling

Front Aspect—Falling		AP Factor of 20			AP Factor of 18		
Hit Location (Armor)	P_{1c}	P_d	($\times P_{bo}$)	P_{1d}	P_d	($\times P_{bo}$)	P_{1d}
Turret Top (60)	0.05		0.87	0.0435		0.87	0.0435
	0.05	0.08	×.60	0.0024	0.08	×.60	0.0024
	0.05	0.05	×.30	0.00075	0.05	×.30	0.00075
Turret Front (90)	0.33		0.87	0.2871		0.0	0.0
	0.33	0.08	×.60	0.01584		—	—
	0.33	0.05	×.30	0.00495		—	—
Hull Deck (60)	0.05		0.87	0.0435		0.87	0.435
	0.05	0.08	×.30	0.0012	0.08	×.30	0.0012
	0.05	0.05	×.15	0.000375	0.05	×.15	0.000375
Hull Front (85)	0.51		0.87	0.4437		0.87	0.4437
	0.51	0.08	×.30	0.01224	0.08	×.30	0.01224
	0.51	0.05	×.15	0.003825	0.05	×.15	0.003825
Track & Gun (0)	0.06	1.00	×.30	0.018	1.00	×.30	0.018
				0.87738			0.56949

$P_k=0.91\times0.87738=0.7984158$ $\qquad$ $P_k=0.84\times0.56949=0.4783716$

Table 4—Generation of P_k Front/Side—Falling

Front/Side Aspect—Falling		AP Factor of 20			AP Factor of 18		
Hit Location (Armor)	P_{1c}	P_d	($\times P_{bo}$)	P_{1d}	P_d	($\times P_{bo}$)	P_{1d}
Turret Top (60)	0.05		0.87	0.0435		0.87	0.0435
	0.05	0.08	×.60	0.0024	0.08	×.60	0.0024
	0.05	0.05	×.30	0.00075	0.05	×.30	0.00075
Turret Front (126)	0.14		0.0	0.0		0.0	0.0
Hull Deck (60)	0.05		0.87	0.0435		0.87	0.435
	0.05	0.08	×.30	0.0012	0.08	×.30	0.0012
	0.05	0.05	×.15	0.000375	0.05	×.15	0.000375
HF (Upper) (120)	0.04		0.0	0.0			
HF (Lower) (120)	{0.20}		0.87	0.0348			
(× 0.10 to hit Lower	—	0.08	×.30	0.00048			
Hull Armor=0.02)	—	0.05	×.15	0.00015			
Turret Side (60)	0.19		0.87	0.1653			
	0.19	0.08		0.00912			
	0.19	0 05		0.00285			
Hull Side (63)	0.28		0.87	0.2436			
	0.28	0.08	×.30	0.00672			
	0.28	0.05	×.15	0.0021			
Track & Gun (0)	0.06	1.00	×.30	0.018	1.00	×.30	0.018
				0.557445			0.557445

$P_k=0.91\times0.557445=0.5072749$ $\qquad$ $P_k=0.84\times0.557445=0.4682538$

Glossary

P_{bo}—Probability that the crew will bail out (OR 17.2.3)
P_d—Probability of damage severity caused by shot (7.4.7)
P_h—Probability of hit from AP Point Effect Hit Chart (7.4.3)
P_k—Probability of a kill; $P_h \times P_{1d}$
P_{1c}—Probability for each of the hit locations (7.4.5.2.2)
P_{1d}—Probability of "lethal damage"; $P_{1c} \times P_d$ ($\times P_{bo}$ if applicable), that is the probability that a given round will impact in a certain location, causing a penetrating damage which will either destroy the vehicle or cause its crew to bail out

thermal sights for nearly all NATO units. The real power of these sights comes into play when one realizes that a unit so equipped is going to have no problems with a smokey battlefield (excepting patches of discharger smoke). Look at it this way. NATO artillery smoke is going to severely degrade your Soviet shooting, while your own smoke is next to useless. To add insult to injury, you cannot even hide behind the burning wrecks of your former comrades. This presents a real problem for the Soviet player, the only solution to which is an abundance of care; you will have to still make every bit of terrain work to your advantage, while the NATO players blithely go where they please.

Soviet Doctrine

Many (perhaps most) players see "doctrine" as a severe handicap imposed upon the Soviet side; but, while it is true that it limits the utility of some Soviet units, doctrine used effectively can be turned into an advantage. The most important facet of the rules for Soviet doctrine, for me at least, is their attempt to portray the limitations under which it is believed the Russians will be laboring and its impact upon the tactical battlefield.

The first and foremost "advantage" of doctrine lies in the realm of command. A typical Soviet tank company in *MBT* consists of four units, a Company Commander in a tank and three tank platoons. Assuming average grade units, this organization could change two Order markers during an Order Phase. By using the battalion commanding and executive officers' command points, we are well on the way to being able to change every unit in the course of one (or at most two) turn.

Secondly, and noticably when fighting M1s, the requirement for an entire platoon/unit to fire at the same target becomes a method of ensuring a kill. Look at the situation, probability-wise, and you find the following: assume an AP factor of "18" (no modifiers), penetration of "88" and a target aspect of Front/Side level; with only one shot you have a Pk (probability of kill) of 0.40635 (see Table 2). Using three separate shots as is usual with a fresh tank platoon, that Pk rises to a maximum of 0.99. Now the dice are in your hands.

There is also the ability (forced, to be sure) of not worrying oneself with trying to call down effective artillery fire on that pesky ATGM unit on the other side of the mapboard. Soviet doctrine takes that hardship off your shoulders, by forcing the Russians to plan at least two-thirds of their fire missions during a scenario in advance of play. Now, on the surface, this may sound unfair, but all that is required is for you to remember two things. First, look at the board from the NATO player's perspective, try to figure where he thinks you will be coming from, and see where he will likely be setting up in order to stop that Soviet tidal wave. Then, plaster those positions with your pre-plotted fire. Secondly, and even easier, remember where and when your artillery missions will be impacting (it is no fun to drive right into your own artillery concentrations). The advantage of this pre-plotting of artillery is that the Soviet player can now do something useful with the commanding officer (like fight) instead of hide him in some out-of-the-way Overwatch position. Of course, this does tend to increase the number of posthumous decorations awarded to company-grade officers, but then this *is* the Russian army.

Lastly, and not least, there are the unit points break for using doctrine, which translates into more actual counters for your side. Look at the calculations: a single M1A1 costs 100 points, a T-80 under doctrine costs but 60. That is a 5:3 ratio; with every three M1A1s the other guy takes, you can match him with five T-80s. Using the above hints on combat, you can achieve near parity in losses—and that will translate into a win for the Soviets.

Psych Warfare

"You can't make an omelet without breaking a few eggs." That is what my partner says to me right before he proceeds to toss the remnants of his T-72 company headlong into a kill zone littered with sabots and ITOW guidance wires. Discouraging perhaps, but with a glimmer of expectation that while the Americans are torching his command, I can get around their flank and begin the payback.

According to *MBT*, modern warfare is going to be very messy and expensive in terms of wrecks, some of which are sure to be yours. The Soviet player needs to examine his assets and pinpoint his advantages to exploit in each scenario. If, as is likely, the only thing you have going for you is numbers, then that is what you must use. Do not hesitate to do anything on the battlefield, if it stands a sound chance of eventually getting some of your force into a position from which you can bring lethal fire upon enemy units. So long as you attain a decent ratio of exchange, the Soviets will eventually win out.

Some players view the Soviet pre-planned attack methods as little more than an armored charge across open ground. But that is only one facet of the tactical plan. First, the Soviets believe that the way to minimize overall casualties in a war is to achieve a breakthrough. In their view, the casualties that the assault units will suffer will be more than evened out by the lack of casualties sustained by the follow-up echelons. Red Army theorists feel most of the clashes from the point of the breakthrough will take the form of meeting engagements, and this is where their pre-planned maneuvers and fire missions would help them. *MBT* attempts to simulate this type of small-unit action.

MBT is a two-player game. In order to ensure having an opponent, someone has to become proficient at running the Soviets in each gaming group around this country. I'd hope that the foregoing has given him some ideas on how to do so competently—for everybody's enjoyment. ☆
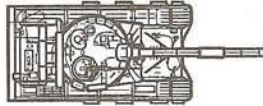
GENERAL INDEX 1964-1989

Updating the previous effort at listing every article and author in these pages, the new 16-page Index of The *GENERAL* brings 25 years of continuous publication into sharp focus. From the AH Philosophy to the contests, from our Series Replays to those excellent gamers featured in the "Meet the Fifty", every important facet of wargaming's oldest periodical is divided for ready reference by those interested in a specific game. The major portion of this new index is devoted to a game-by-game listing of every article that has appeared in these pages since the early enthusiasm of this hobby flared in the 1960s. Whether for the aficionado of a particular Avalon Hill or Victory Game seeking every word printed on it by the experts, or for the collector looking to insure that his AH collection is complete, or simply for the gamer wanting a new (though old) idea for winning, the *GENERAL* Index is a must. The *GENERAL* Index is available now for $5.00 direct from The Avalon Hill Game Company (4517 Harford Road, Baltimore, MD 21214). Please add the usual 10% shipping and handling to your payment (20% for Canadian; 30% for overseas). Maryland residents please add 5% state sales tax.

AREA TOP 50 LIST

Rank	Name	Times On List	Rating	Previous Rank
1.	K. Combs	70	2573YOW	1
2.	D. Burdick	69	2347HHQ	2
3.	B. Sinigaglio	55	2179GIJ	4
4.	J. Beard	59	2143IIR	5
5.	J. Noel	23	2118EDJ	6
6.	P. Siragusa	64	2114FHL	7
7.	P. Landry	44	2094IIO	8
8.	P. Flory	46	2074EHL	9
9.	S. Sutton	36	2041GHO	11
10.	C. Corn	19	2017FEA	12
11.	R. Beyma	45	2014DDG	13
12.	D. Garbutt	68	2006HJQ	14
13.	B. Remsburg	53	2005HIR	15
14.	J. Eliason	18	1998GIN	16
15.	T. Deane	22	1998FCB	17
16.	L. Barlow	17	1977JKV	22
17.	R. Berger	10	1964DEF	20
18.	J. Spontak	14	1963DCE	21
19.	R. Shurdut	15	1951GHM	23
20.	J. Bjorum	4	1935CGI	30
21.	D. Kopp	15	1932GJB	24
22.	D. Mattson	12	1928LKY	25
23.	F. Reese	50	1921JDJ	27
24.	H. Newby	35	1915VKQ	28
25.	M. Frisk	24	1914DFJ	29
26.	P. DeVolpe	7	1892DFF	31
27.	B. Schoose	9	1891GIM	32
28.	K. McCarthy	24	1882DFZ	33
29.	J. Campbell	7	1875FED	34
30.	D. Greenwood	5	1873HFL	26
31.	T. Oleson	79	1862ZZZ	19
32.	F. Preissle	67	1850MOZ	36
33.	J. Lutz	15	1830HGQ	37
34.	M. Cox	5	1830GEB	38
35.	M. Mitchell	7	1828FHN	39
36.	E. Miller	17	1812HKR	40
37.	W. Scott	67	1790MKW	41
38.	K. Kinsel	3	1781HGL	48
39.	R. Costelloe	10	1774CEH	46
40.	A. Lipka	2	1754GGN	50
41.	S. Koleszes	1	1754CCB	—
42.	R. Cox	2	1745YLM	47
43.	E. Alexis	1	1744IKS	—
44.	G. Smith	24	1744FGM	45
45.	M. Dultz	2	1735PSZ	44
46.	K. Blackwell	1	1730HGB	—
47.	S. Milanic	1	1730DGJ	—
48.	M. Gutfreund	1	1727CEI	—
49.	G. Gorrell	1	1715QJE	—
50.	R. Fowler	1	1715CEH	—

MEET THE 50 . . .

Mr. David Mattson is 47, married, father of two, holds a MA, and works for the Post Office in Arvada, Colorado.

Favorite Game: Axis & Allies, BattlePlan, ASL
AREA Rated Games: BB'81, DD, TRC, SL-GI, WAT, STAL, ASL
AREA W-L Record: 59-23
Gaming Time/Week: 40+ hours
Hobbies: Games and Traveling
Pet Peeve: Cheats, back-stabbers, quitters—especially those who blame ending it on you!
% Time PBM: 50%
Play Preference: FTF or PBM

Mr. Mattson writes:

"With dozens of PBM games going on at once (over 50 when I joined AREA some four-and-a-half years ago) and gaming in groups and conventions in many places in the U.S., I've come across a *great* variety of gamers. I've found it interesting to play some excellent and enjoyable players FTF and by mail at all levels, including the 'Top 50'. It disturbs me that *some* I've played have been so ruthless that 'tricks'—from delay tactics to altered OBs—have been used to claw onto the Top 50 and how many, once on the chart, will only play against gamers they are *sure* that they can beat."

SERIES REPLAY
Umpired MBT

West German Players: Webb Ewell, Bill Frye, David Jensen, John Settle
Soviet Players: Mike Montemarano, Jay Wissmann
Neutral Commentator: Jim Day
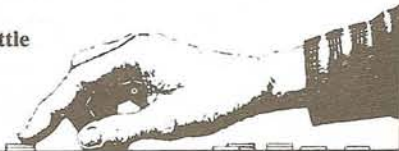
Neutral Commentator: *In deciding upon a Series Replay as the best method of presenting the tactical feel of MBT to the readership of The GENERAL, I wanted to present a challenging and interesting proposition for the several playtesters who indicated their wish to participate. So I devised a new scenario, such that it was to be a hidden-movement, umpired game. This was the first experience with umpired play for all the participants, so there was no undue advantage there. I myself have been in several umpired games, and found them to be quite entertaining—both as a player, and later as an umpire. The scenario was, after some preliminary groundwork, played out over the course of five evenings for about two-three hours each night. All communication was via the telephone. In fact, the opposing players did not even know each others' identities. Coordination among players on the same side was rigidly controlled.*

The scenario itself (see the following page) was devised in conjunction with Rules Section 24 (The Umpired Game) firmly in mind. I followed the sequence here explicitly, the only variation being that I utilized a Random Number Table in lieu of rolling dice. The actual details of the battle were determined by the DYO procedure. I developed the forces and objectives (the opposing sides were not advised of the other's OB or VC) and all of the special conditions. This information was communicated, in somewhat edited form, to the players by mail, with a demand that the players mail in their initial set-up and first turn moves. Although it was not communicated to them, each side had different VP values for control of terrain. The DYO section of the rulebook (pp. 49-50) suggests a VP value of 10% when engaging in a Meeting Engagement. I, however, gave the Soviets the opportunity for slightly more, since they were forced to advance for all their objectives; the West Germans, on the other hand, would be able to claim some simply by remaining on boards #2 and #4.

All players were very familiar with the game's rules (an absolute requirement unless you want to drive the umpire crazy). They dove headlong into the planning. Once action was started, the players were kept to a strict time schedule (also part of the limited intelligence I was striving for), which demanded quick thinking. I allowed each side about ten minutes to formulate each turn's moves. During this lull in the action, I was able to update my own turn records and make my commentary notes. The over-all commanders for the West German and Soviet sides (Bill Frye and Jay Wissmann, respectively) kept notes in order to later draft their comments for this article.

Finally, readers should take note of the alternate "Motorized Infantry Doctrine Rule" imposed on the Soviets. (Many thanks to Jay Wissmann for the suggestion.) It was utilized in this game, and worked quite well. It will be integrated in future releases based on the MBT game system.

SET-UP & PLANS

West German:		Soviet:	
G-101*	: 2BB3/4	R-101*	: 1CC4/4
G-102*	: 2I4/4	R-102A	: 1CC4/4
G-104	: 2I4/4	R-102B	: Same

G-106	: 2I4/4	R-102C	: Same
G-108	: 2I4/4	R-103A	: 1CC4/4
G-103*	: 2BB3/4	R-103B	: Same
G-105	: 2BB3/4	R-103C	: Same
G-107	: 2BB3/4	R-104A	: 1CC4/4
G-109	: 2BB3/4	R-104B	: Same
G-141	: 2GG4/4	R-104C	: Same
G-142	: 2GG4/4	R-141	: 1CC4/4
G-143	: 2GG4/4	R-142	: 1CC4/4
G-145	: 2GG4/4	R-143	: 1CC4/4
G-1*	: LD/145	R-1	: LD/141
G-2*	: LD/141	R-2	: LD/142
G-3	: LD/142	R-3	: LD/143
G-4	: LD/143	R-171	: 1CC4/4
G-161*	: 2P3/3	R-172	: 1CC4/4
G-162	: 2GG4/4	R-173	: 1CC4/4
G-163	: 2U2/4	R-174	: 1CC4/4
G-164	: 2O4/4	R-51*	: LD/171
G-150	: 2GG1/1	R-52	: LD/172
G-151	: 2A1/1	R-53	: LD/173
G-171	: 2E4/4	R-54	: LD/174
G-172	: 2Y1/4	R-191	: 1CC4/4
		R-192	: 1CC4/4

Replay Legend:

4A1/1/O/1 — Move Orders: Hex Moved To/hull facing/Turret (O)pen or (B)uttoned/turret facing. Turretless vehicles do not list turret facing. Leg units list facing only.
AEF — Area Effect Fire (see Artillery Plot)
BO — Bail-Out BU - Brewed-Up (by Enemy Unit in previous turn)
C: — Close Assault: Target Hex
D — Smoke Discharger
E — Exhaust Smoke
F: — Fire (A—ATGM; G—GP; H—HEAT; otherwise KE): Target Hex
FM: — Fire/Move (A—ATGM; G—GP; H—HEAT; otherwise KE): Target Hex
HDN/N — Search for Hull-Down position/Not Successful
H: — Hand-to-Hand: Target Hex
KO — Knocked Out (by Enemy Unit in previous turn)
OW — OverWatch
O/3 — Indication of turret status and/or facing change
Q — Quickmarch
RFM: — Reverse Fire/Move (as above)
R — Radar AA sighting
S — Suppressed
V — Visual AA sighting
***** — Command unit

West German: Our deployment is intended to avoid, as much as possible, the anticipated first-turn Soviet planned-fire artillery barrage. Our soft-skinned vehicles are very vulnerable to this, so we will keep them dispersed and well to the sides of the map to limit the effect such a barrage could have on us. We plan on using the force on the southern flank as a "fixed" force, thereby allowing the northern one (with the bulk of our units) to conduct a sweep. We'll lead with three Leopard-2s in the south so that, if encountered, the Soviets will think that there is a larger force following. Three Leopards as the TO&E for a recon platoon! In any event, the Soviet commander will likely rush some forces up for a chance to cross the bridge at 4Y2 quickly, so we'll need something in that area to ambush him.

Soviet: Basically, I plan on meeting the West Germans on the objectives. We have based our action on one of the objective areas, figuring on driving straight through any opposition encountered on route. The only real worry that bothers me is the possibility of Mines! After I calmed down somewhat and thought rationally, I came to the following—

ing conclusion. First—and foremost—that is what recon troops get paid to find out, is it not? I would rather lose a BRDM-2 than a T-64B, and so that is what I plan to lead the column with. No tank will go anywhere a BRDM-2 has not already "tested" first (at least, until we run out of BRDMs).

The pre-planned Russian artillery will be used to support our forces on the drive from the start-line to the closer of the objective clusters (4Y2-4EE7-4T6), which also has some nice close terrain leading to it. We have planned each of the impacts to accomplish a specific goal; for instance, the first has the dual objects of suppressing any enemy in the town and clearing the area of mines. The aircraft will be held in reserve; I hope not to be forced to call upon it before Turn #10. A real problem facing us is the dearth of spotters; only our tank commander (#101) and the Recon platoon commander (#51) qualify. The last four artillery missions, the two mortars, and the aircraft all must rely on these two units for direction. I sure hope we don't lose them!

I must fear the worst: lots of Leopards. And I wonder what trade-off was made for our having Frontal Aviation put in an appearance for the Soviets. As I am, like most wargamers, seriously addicted to knowing what's going on—or at least having a clue to what I'm facing and where it might be—this is a very scary scenario. Every shrub could hide a Milan team. Indeed, knowing Jim, it probably will; I know better than to trust him.

Neutral Commentator: *The Soviets have concentrated all their forces in the same starting hex; Jay must be going to make a single concerted thrust directly towards the objective hexes—starting with the bridge on the southern portion of Board #4. This will have the advantage of concentration of forces along the path of advance, but will leave a large number of West German objective hexes unguarded. But then, the Soviets don't know what the West German VC might be.*

On the other hand, Bill seems to be using a classical, balanced approach, with heavy armor spread across the entire front. The anti-aircraft units are well-placed in support of the Leopard-2s. The recon units are placed in the middle; I would have expected to see them on the wings. Time only will tell which direction they will take as the engagement starts, since these units seem to be taking positions to not only advance on objectives on a wide front, but to defend their own territory as well.

TURN #1

West German:		Soviet:	
G-101*	: 2Z8/4/B/4	R-101*	: 1AA8/4/O/4
G-102*	: 4X8/1/B/1	R-102A	: 1AA8/4/O/4
G-104	: 4X8/1/B/1	R-102B	: Same
G-106	: 4X8/6/B/6	R-102C	: Same
G-108	: 4X8/2/B/2	R-103A	: 1AA8/4/O/4
G-103*	: 2Z8/4/B/4	R-103B	: Same
G-105	: 2Z8/4/B/4	R-103C	: Same
G-107	: 2Z8/4/B/4	R-104A	: 1AA8/4/O/4
G-109	: 2Z8/4/B/4	R-104B	: Same
G-141	: 2AA8/5/B/5	R-104C	: Same
G-142	: 2AA8/4/B/4	R-141	: 1Y9/5/O/5
G-143	: 2AA8/3/B/3	R-142	: 1Y9/5/O/5
G-145	: 2AA8/4/B/4	R-143	: 1Y9/5/O/5
G-1*	: LD/145	R-1	: LD/141
G-2*	: LD/141	R-2	: LD/142
G-3	: LD/142	R-3	: LD/143

G-4 : LD/143
G-161* : 2J4/5/B/5
G-162 : 2BB6/4/B/4
G-163 : 2BB5/2/B/2
G-164 : 2I4/5/B/5
G-150 : OW
G-151 : OW
G-171 : 2I7/2/B/2—V
G-172 : 2BB7/4/B/4—V

R-171 : 1Y10/5/O/5
R-172 : 1Y10/5/O/5
R-173 : 1Y10/5/O/5
R-174 : 1Y10/5/O/5
R-51* : LD/171
R-52 : LD/172
R-53 : LD/173
R54 : LD/174
R-191 : 1AA8/4/O
R-192 : 1AA8/4/O

West German: Simply moving into position, anticipating that the Soviets could appear at any time.

Soviet: Well, that was certainly exciting. Actually, I did have a few worries about where the Germans might be "overwatching" along our route of advance, but since no one took a shot we will keep

on rolling. If the artillery continues with that scattering, I'm going to have to have a short, violent talk with a couple of battery commanders when (if?) I get back.

Neutral Commentator: *Part of the Soviet Doctrine limitations required Jay to pre-plan two-thirds (or six, three per battery) of his eight available missions. This turn, the heavy battery was plotted to impact a loose SHEAF HE fire mission in hex 3V3. Unfortunately for the Soviets, it scattered to hex 3X2. I can only assume that Jay is checking for close German defenders, or is attempting to clear any potential minefields with it. Otherwise, both forces start their advance. Until contact is made, things will develop slowly.*

TURN #2

West German:		Soviet:	
G-101*	4I9/1/B/2	R-101*	3X2/4/O/4
G-102*	4V5/6/O/1	R-102A	3X2/4/O/4
G-104	4X3/6/O/1	R-102B	Same
G-106	4X3/6/B/2	R-102C	Same
G-108	4X3/6/B/6	R-103A	3X2/4/O/4
G-103*	4I9/5/B/2	R-103B	Same
G-105	4I9/5/B/2	R-103C	Same
G-107	4I9/5/B/1	R-104A	3V2/5/O/5
G-109	4I9/5/O/5	R-104B	Same
G-141	2Y10/4/B/4	R-104C	Same
G-142	2Y10/4/B/4	R-141	3T3/4/O/4
G-143	2Y10/4/B/4	R-142	3T3/4/O/4
G-145	2Y10/4/B/4	R-143	3T3/4/O/4
G-1*	LD/145	R-1	LD/141
G-2*	LD/141	R-2	LD/142
G-3	LD/142	R-3	LD/143
G-4	LD/143	R-171	3X6/4/O/4

REPLAY SCENARIO:
"Meeting at AH"

This scenario was a moderated, blind, by-phone game. The following is the combined information supplied to the two sides; edited from each one's sheet originally was all information on the opposing side's OB and Victory Conditions.

A. MAPBOARD TERRAIN: Consider all printed Woods hexes to be *Heavy Woods* hexes, and all dark green clear hexes to be *Woods* hexes. All other terrain is as printed on the map panels. Stream hexes are all fordable.

B. SPECIAL RULES: Game length is 15 Turns. Weather is "Normal"; Visibility is "Day". West German forces set up in any desired manner, within four hexes (inclusive of the unit's hex and the partial hexes along the mapboard edge) of Side A. Soviet forces set up in any desired manner, within four hexes (inclusive of the unit's hex and the partial hexes along the mapboard edge) of Side B.

1. Sequence of Play will be modified as follows:

Initiative Phase: The Umpire will determine the initiative. It will be unknown to the players until after plotting of orders. (Please note that all dice rolls will be determined by use of a Random Number Table.)

Command Phase & Adjustment Phase: The Umpire will notify the players of all sightings (the Limited Sighting rules—24.2—will be employed), successful actions and losses. Players will then compose their "commands" for the upcoming turn. These commands must include any Smoke Discharger fire, pivot and/or turret adjustments for units. All units must be reported according to the following notation standard: ID#/facing (from mapboard panel—if on shared hex, use lowest panel number)/turret status (O—Open; B—Buttoned)/turret facing (as per vehicle facing). Leg units must include Cover status.

Fire commands must include the target unit type and/or hex for all units, as well as the type of ammo employed. Movement commands must indicate the final hex of movement. Umpire will move the unit in the most direct route unless indicated to him otherwise. Umpire will execute all Overwatch fire at the most advantageous target unless specific and special orders are given. Artillery and Mortar

commands should be reported just as indicated in the rules.

Air, Fire and Movement Phases: The Umpire will execute the commands as given.

Adjustment Phase: The Umpire will adjust all markers as ordered, check fires, and perform all end-of-turn chores. Remember that all pivoting and turret adjustments are performed during the next turn's Command Phase.

2. Soviet Forces Doctrine: With the exception of the following, all other Doctrine rules (specifically those covering tanks) remain in force.

Soviet Artillery must use Planned Fire for two-thirds of their Fire Missions per battery.

Soviet Motorized Infantry transport units (BMP-2s in this case) will use an alternate Doctrine rule. The transport unit must remain in the same hex as *their* squad at all times. If the squad should enter a vehicle-prohibited hex, the transport unit must remain in an adjacent hex. Commands must be given to conform to this. The transport unit may only fire at the same target the squad is engaging (even with Overwatch), but is never required to fire. If the squad is eliminated, the transport unit may act independently, and even team up with another squad which may have lost its transport unit. If in a Building hex, the transport unit can be considered to be outside the building; it is not required to follow the squad within.

3. Optional Rules: The following are in effect:

Area Effect Fire (17.1)
Special Leg Unit Losses (17.2.2)
Bailing Out (17.2.3)
Optional Hull Down (17.2.5)
Radar/Missile Destruction (17.2.6)
Crew Loss=Officer Loss (17.2.7)
Quickmarch (17.4.2)
Machinegun Pinning Fire (17.4.3)
Hasty Entrenchments (17.4.4)
Mines and Minefields (17.5)—*a bit of disinformation*
Fires in Building Hexes (18.3)
Artillery (19.0)
Air Units and Anti-Aircraft Fire (20.0)

C. OPPOSING FORCES:
GERMAN PANZER COMPANY (CROSS-ATTACHED) (+): 2135 points.

"113" Panzer Company Headquarters: CO in #101, XO with #1. 1×Leopard 2 (#101), 1×Marder A3 (#145), 1×Squad Standard Infantry [with PZF-44] (#1). Average.

Attached Artillery: 1×Heavy Battery [with 4×HE, 2×Smoke fire missions]. Average.

1st Panzer Platoon: CO in #102. 4×Leopard 2 (#102, 104, 106, 108). Average.

2nd Panzer Platoon: CO in #103. 4×Leopard 2 (#103, 105, 107, 109). Average.

3rd Panzergrenadier Platoon: CO with #2. 3×Marder A3 (#141, 142, 143), 3×Squad Light Panzergrenadier Infantry [with PZF-44 & Milan] (#2, 3, 4). Average.

(Att) 4th Panzer Battalion Recon Platoon: CO in #161. 4×Luchs 2 (#161, 162, 163, 164). Average.

(Att) 5th Mortar Section: 2×M113GA1/120 (#150, 151). Average.

(Att) 6th FLAK (Gun) Section: 2×FLAKPZ1 (#171, 172). Average.

SOVIET GUARDS TANK COMPANY (+): 2145 points.

"27" Guards Tank Company Headquarters: CO in #101. 1×T-64B/ERA (#101). Average.

Organic Artillery: 1×Heavy Battery [with 4×HE, 2×Smoke fire missions], 1×Medium Battery [with 4×HE, 2×Smoke fire missions]. Average. With Doctrine.

1st Tank Platoon: CO in a tank. 3×T-64B/ERA (#102). Average. With Doctrine.

2nd Tank Platoon: CO in a tank. 3×T-64B/ERA (#103). Average. With Doctrine.

3rd Tank Platoon: CO in a tank. 3×T-64B/ERA (#104). Average. With Doctrine.

(Att) 4th Motorized Rifle Platoon: CO with #1. 3×BMP-2 (#141, 142, 143), 2×Squad Heavy Rifle Infantry [with RPG-18] (#2, 3), 1×Squad Light Motorized Infantry [with RPG-18 & SA-7B] (#1). Average. With special Motorized Infantry/Transport Doctrine.

(Att) 5th Recon Platoon: CO with #51. 4×BRDM-2 (#171, 172, 173, 174), 4×Team [with MG & RPG-18] (#51, 52, 53, 54). Average.

(Att) 6th Mortar Section: 2×MT-LB/2S12 (#191, 192). Average.

SU-25 Frogfoot: (#201) [with 1×Iron Bomb, 1×Cluster Bomb, 1×Rockets, 1×Napalm loads]. Average.

D. VICTORY CONDITIONS:

WEST GERMAN: Each controlled building hex on map sections #1 and #3 is worth 17 victory points, and on map sections #2 and #4 is worth five victory points. To win, one side must have at least 215 more victory points than the other side.

SOVIET: Each controlled bridge hex on map section #4 is worth 50 victory points, and each controlled building hex on map sections #2 and #4 is worth 20 victory points. To win, one side must have at least 215 more victory points than the other side.

G-161* : 4Y9/3/O/3	R-172 : 3EE7/5/O/5
G-162 : 2DD8/3/O/4	R-173 : 3X6/4/O/4
G-163 : 2Y8/6/B/6	R-174 : 3N6/5/O/5
G-164 : 4Z7/2/B/1	R-51* : LD/171
G-150 : O/1—OW	R-52 : LD/172
G-151 : O/1—OW	R-53 : LD/173
G-171 : 4AA7/4/B/1—V	R-54 : LD/174
G-172 : 2Y9/4/B/4—V	R-191 : 3V2/5/O
	R-192 : 3V2/5/O

West German: No contact; no shots; no action. Nothing to report.

Soviet: It's too quiet. The recon boys should have been taking fire by now. Hmmmm. Something that I did not anticipate was the necessity of having someone in position to "sight" the proposed impact points for the artillery. I cannot tell whether this turn's mission impacted on target or not, but it is at least in the ballpark. I hope any Germans trying to use that road got slowed down in the smoke.

Neutral Commentator: *Jay is still looking for the enemy, and is using this smoke mission to cover his advance. The Soviets are starting to spread out their forces along a slightly broader front. Meanwhile the West Germans have continued the path of advance they utilized in Turn #1. But they have heard, and are now actually seeing, part of the smoke from the impact of the Soviet barrage. Bill knows that something will probably be following closely behind it.*

TURN #3

West German:	Soviet:
G-101* : 4F7/2/B/2	R-101* : 3Z4/4/O/4
G-102* : 4Y3/1/O/2	R-102A: 3Y7/4/O/4
G-104 : 3Y10/1/B/1	R-102B: Same
G-106 : 3Y10/1/B/1	R-102C: Same
G-108 : 3Y10/1/O/6	R-103A: 3DD6/4/O/4
G-103* : 4K5/6/O/6	R-103B: Same
G-105 : 4K5/6/O/6	R-103C: Same
G-107 : 4F7/2/B/2	R-104A: 3X6/4/O/4
G-109 : 4F7/2/O/2	R-104B: Same
G-141 : 4K7/1/B/1	R-104C: Same
G-142 : 4E7/2/B/2	R-141 : 3Y7/4/O/4
G-143 : 4K7/1/B/1	R-142 : 3Y7/4/O/4
G-145 : 4E7/5/O/5	R-143 : 3Y7/4/O/4
G-1* : LD/145	R-1 : LD/141
G-2* : LD/141	R-2 : 3Y7/4
G-3 : LD/142	R-3 : 3Y7/4
G-4 : LD/143	R-171 : 3V7/4/O/4
G-161* : 4V5/6/O/6	R-172 : 3CC8/5/O/5
G-162 : 4B8/1/O/1	R-173 : 3V7/5/O/5
G-163 : 2X8/4/B/4	R-174 : 3O7/4/O/4
G-164 : 4GG6/1/O/1	R-51* : LD/171
G-150 : OW	R-52 : 3DD7/4
G-151 : 6/O/6	R-53 : LD/173
G-171 : 4Y6/1/O/1—V	R-54 : 3M6/5
G-172 : 4H8/2/B/2—V	R-191 : 3X6/5/O
	R-192 : 3X6/5/O

West German: Where are they? He must be using his artillery fire to seal off his northern flank while he advances on in the south. Which means there should be contact soon with our Leopards there.

Soviet: This is starting to get spooky. Here we are about to take the first set of objectives and still no Germans to be seen. At least the artillery seems to be getting into the action, accuracy wise. So it's time to take the first victory points, as I send in the grunts on foot. The Germans have to be defending the town, don't they? Hope our artillery did the job, or this could be messy fighting from house to house. Well, we should find out something about what we face and where they are when we clear the treeline to our front.

Neutral Commentator: *The Soviets seem to be advancing slower than had originally been planned. The "fear of the unknown" is probably starting to set in and make them cautious. I think Jay must have anticipated contact would be made very early in the game, and now doesn't have a clue as to what's going on. The Soviet heavy battery impacted as planned in hex 4Y1 (just missing some West Germans); the fire destroyed the wooden buildings in hex 3Y9, which is now considered a Block hex. This could impede Soviet progress slightly, as well*

as that of the West Germans. The Russian infantry has started to dismount; they must be planning to advance on foot to the bridge in 4Y2.

TURN #4

West German:	Soviet:
G-101* : O2—OW	R-101* : 3Y7/6/O/6
G-102* : 3Y10/1/O/1	R-102A: 3Y8/4/O/4
G-104 : 3Y10/1/O/1	R-102B: Same
G-106 : 3X8/1/0/1—S	R-102C: Same
G-108 : 3X7/1/O/1—S	R-103A: 3CC8/5/O/5
G-103* : 4K3/6/B/6	R-103B: Same
G-105 : 4K3/6/B/6	R-103C: Same
G-107 : HDN/N	R-104A: 3X6/4/O/4
G-109 : B/2—HDN/N	R-104B: Same
G-141 : 4L6/1/B/1	R-104C: Same
G-142 : 4G5/2/B/2	R-141 : O/6—OW
G-143 : 4K6/1/B/1	R-142 : 3Y8/4/O/4
G-145 : OW	R-143 : 3Z8/4/O/4
G-1* : LD/145	R-1 : LD/141
G-2* : 4L6/1	R-2 : 3Y8/4
G-3 : 4G5/2	R-3 : 3Z8/4
G-4 : 4K6/2	R-171 : 3U9/3/O/3
G-161* : 4T3/6/O/6	R-172 : OW
G-162 : 4B6/1/O/1	R-173 : 3U9/4/O/4
G-163 : 4I9/1/B/1	R-174 : OW
G-164 : 4GG4/1/O/1	R-51* : LD/171
G-150 : AEF	R-52 : 3CC8/5
G-151 : AEF	R-53 : LD/173
G-171 : 4Y2/1/O/1—V	R-54 : 3L6/5
G-172 : OW—V	R-191 : 3X6/4/O
	R-192 : 3X6/4/O

West German: We have established an ambush position on the northern part of Board #4, ready for an enemy tank company as it comes barreling down the 4I1 road. The Leopards in the south were supposed to be on a safe probe of the woods and were not expected to make contact, but now they have found some enemy MBTs! Hopefully, this is also a small force probing forward. Well, at least we now have their attention.

Soviet: Things have started hopping, Sergei. I guess we found the enemy, huh? Now I'm not sure that ignorance isn't bliss. Four Leopards! So much for that chance that we might be facing the second-string down here. Once we generate a bunch of "shots" at the Germans that we see, we need to maintain someone moving forward, though this role will be limited to the scouts and one platoon of tanks for this turn. We are falling behind my planned artillery plot, but the batteries apparently did some good—it drove these Leopards into our hands. My worst nightmare is getting into a tank duel, and then finding panzergrenadiers in the woods I want to hide in. I figure that these enemy tanks will Fire/Move, and so will order ours to do the same—except for an Overwatch by #103. We may never get a better chance to air-condition some Leopards, and so will grab this opportunity.

Neutral Commentator: *Jay has continued to employ his planned artillery fire accurately; he's been lucky so far in that none of his missions have been affected by "fire delay". Two German Leopards are suppressed by this latest mission. With his aggressive advancing, Bill has now forced the action. In addition to being substantially outnumbered down here, his two lead tanks are suppressed (this unknown to Jay). Yet even as the battle begins to take shape, the Soviet infantry continue to unload for their assault on the bridge. Little do they know that they are opposed by only a single panzer platoon!*

TURN #5

West German:	Soviet:
G-101* : OW	R-101* : 3X7/4/B/4—FM:3X7/D
G-102* : 4Z3/6/B/6	R-102A: 3Z9/5/B/5—D
G-104 : 4Y4/2/B/1—D	R-102B: Same
G-106 : 4W1/2/B/2—S/D	R-102C: Same
G-108 : 3AA6/6/B/6—S/D	R-103A: OW
G-103* : OW	R-103B: Same
G-105 : OW	R-103C: Same
G-107 : OW	R-104A: 3X7/4/B/4—FM:3X7/D
G-109 : OW	R-104B: Same
G-141 : OW	R-104C: Same

West German:	Soviet:
G-142 : OW	R-141 : 3Z8/4/O/4
G-143 : OW	R-142 : B/5—OW
G-145 : OW	R-143 : 3Z10/4/B/4
G-1* : OW	R-1 : LD/141
G-2* : 4N5/1	R-2 : C:3X8
G-3 : OW	R-3 : 3Z10/4
G-4 : OW	R-171 : 3T10/4/O/4
G-161* : 4R5/2/O/2	R-172 : 3Y10/4/O/4
G-162 : 4C1/2/O/2	R-173 : 3T10/4/O/4
G-163 : 4O4/1/O/1	R-174 : OW
G-164 : 3GG9/1/O/1	R-51* : LD/171
G-150 : AEF	R-52 : 3Y10/4
G-151 : AEF	R-53 : LD/173
G-171 : 4Y5/1/B/1—V/D	R-54 : OW
G-172 : OW—V	R-191 : 3W7/4/B
	R-192 : 3W7/4/B

West German: Those Soviet units in the south I've seen can't be their entire force; they must have an entire battalion total. So Jay must have a tank company and a half-dozen or so BMPs on the prowl in the north. We must take advantage of our thermal sights when the smoke starts impacting. I will exploit this fact with an orderly retreat from the horde in the south. Hopefully, Leopard #108 is moving faster than the T-64Bs can track it.

Soviet: I wonder if our guys remembered to load their weapons before pulling the trigger. I didn't expect much from #101 and #104; those were low-odds shots, but I am really disappointed in the miss by unit #2. I guess I should be happy with not having lost anyone. Next turn, we burn some Leopards.

Neutral Commentator: *Bill checked the fire of the mortars; he has now realized that a strong Soviet thrust, if not the main body, is approaching in the south. Both sides fired off smoke dischargers. And the Soviets took a few low-percentage shots, but they didn't bother. The suppressions limited the West German options, so they didn't bother. A third of the way through, things will start to heat up now.*

TURN #6

West German:	Soviet:
G-101* : OW	R-101* : O/4—S—F:4W1
G-102* : 4AA5/6/B/6	R-102A: 4Z1/4/O/4
G-104 : 4V5/6/B/1	R-102B: Same
G-106 : 4U1/1/B/2—FM:3X7	R-102C: Same
G-108 : 3CC6/6/B/6—FM:3X7	R-103A: 4Y1/4/O/4
G-103* : OW	R-103B: Same
G-105 : OW	R-103C: Same
G-107 : OW	R-104A: O/2—S—F:3AA6
G-109 : OW	R-104B: Same
G-141 : OW	R-104C: Same
G-142 : OW	R-141 : 4Y1/4/O/4
G-143 : OW	R-142 : 3Y10/5/O/5
G-145 : OW	R-143 : 4X1/4/O/4
G-1 : LD/145	R-1 : OW
G-2 *: 4P4/1	R-2 : 3Y10/5
G-3 : OW	R-3 : 4X1/4
G-4 : OW	R-171 : 4U2/3/O/3
G-161* : OW	R-172 : 4Y3/4/O/4
G-162 : 3G8/2/O/2	R-173 : 4U2/3/O/3
G-163 : 4Q2/1/B/1—FM:307	R-174 : 3O7/4/O/4
G-164 : 3GG7/6/O/6	R-51* : 4U2/3
G-150 : OW	R-52 : F:4W1
G-151 : OW	R-53 : LD/173
G-171 : 4Y6/1/B/1—V	R-54 : OW
G-172 : OW—V	R-191 : 3W8/4/B
	R-192 : 3W8/4/B

West German: We have set up a second line of defense in the south, thin as it is. And I continue to wait for the main Soviet thrust in the north.

Soviet: There is definitely something wrong with the Russian gun tubes. We only knocked out one Leopard. Son-of-a-Commissar! One bright spot in this situation is that the Germans did not make a fight for the woods; that could have been time-consuming for us. From my viewpoint, the whole operation looks pretty good at this point—as the few Germans keep getting pinned down in the open under our artillery fire and smoke, while our own advance, though off-stride, is still reasonably well-organized. That enemy MBT in 4W1 is soon going to have three KE rounds and a horde (well, at least a squad) of infantry crawling all over it. That should help me put things back on track.

Neutral Commentator: *First blood has been drawn. However, the Soviets definitely got the short end of this deal in trading two T-64Bs destroyed and two suppressed (a Brew-up suppresses all other units in hex 3X7) for one Leopard. The West Germans continue holding still in the north; Bill must be unsure as to the disposition of the Soviet forces and unwilling to guess wrong about it. Luchs #162 is probing towards the buildings at 3J7, however. But, the Germans are going to be hard-pressed to hang on in the south if they don't get some support from the north.*

TURN #7

West German:	Soviet:
G-101*: OW	R-101*: S—F:4W1
G-102*: OW	R-102A: 4X1/4/O/4
G-104 : F:4X1	R-102B: Same
G-106 : 4U1/1/B/2—FM(H):3Y10	R-102C: Same
G-108 : KO (R104)	R-103A: 4Y3/4/O/4
G-103*: OW	R-103B: Same
G-105 : OW	R-103C: Same
G-107 : OW	R-104A: O/4—S—F:4W1
G-109 : OW	R-104B: BU (G106)
G-141 : 4O5/1/B/1	R-104C: KO (G108)
G-142 : OW	R-141 : 4Y3/4/O/4
G-143 : OW	R-142 : 4DD1/4/O/4
G-145 : OW	R-143 : OW
G-1* : LD/145	R-1 : 4Y3/4
G-2* : 4R4/2	R-2 : LD/142
G-3 : OW	R-3 : S—C:4W1
G-4 : OW	R-171 : 4T2/4/O/4

G-161*: OW	R-172 : 4DD2/3/O/3
G-162 : 3J7/2/O/2	R-173 : 452/4/O/4
G-163 : 4R2/6/B/3—FM:307	R-174 : OW
G-164 : 3GG9/6/O/5	R-51* : 4U3/4
G-150 : 2/O/2	R-52 : 4Y1/4
G-151 : AEF	R-53 : LD/173
G-171 : F(G):4Y3	R-54 : OW
G-172 : OW—V	R-191 : 3Y10/4/B
	R-192 : 3Y10/4/B

West German: Leopard #106 fired HEAT at a BMP, hoping to suppress all the other units in the hex; but, as it turned out, #104 brewed-up its target BMP. The fire at the BMPs was taken knowing that the T-64B's reactive armor would negate such shots. The suppression on the other units should help slow up the Soviet advance. The smoke from the heavens appeared again; but this time it will cover one of my remaining Leopards holding the south flank. And this allows me to continue our own HE artillery barrage instead of switching to smoke as I'd planned. I certainly want to thank the Soviet players for this gift.

Soviet: Whatever the West Germans may or may not have, they seem to keep coming out of the woodwork. High on the growing list of things that need some immediate attention is the one Gepard that has been spotted so far. I would really like to see that puppy burn before our Frontal Aviation makes its appearance. (I wonder where the other one is; prob-

ably on the other side of the map.) But before we go blazing away at it, let's see if the artillery barrage buries it. If not, next turn we must target it for sure.

The Recon CO is now in position. With a little luck, he can sit there awhile undisturbed talking to his buddies back at the artillery batteries. In the same vein, the tank CO needs to reach the buildings at 4X1 or 4Y3 so he can perform the same function—spotting for artillery. Our own Red Army infantry should be in the woods at 4AA5 this turn watching the artillery display at 4Z6, so we are off the pace. But, we are only one turn behind where my plans say we should be. All things (visible) concerned, we are not doing too badly.

Neutral Commentator: *The West Germans were able to extract two more casualties from the Soviets this turn. However, Bill is still having to fall back in the south, and this allowed the enemy to capture the bridge and two building hex objectives around 4Y2 (some 90 points in the bag for them). And the action leaves Bill only two Leopards to hold the southern flank. He does have one advantage in that he has three observer-capable units (#102, #161 and #2) in the area. But the Soviets still have their ace-in-the-hole unplayed—the SU-25 Frogfoot.*

Figure 1: Contact—Situation at the end of Turn #4.
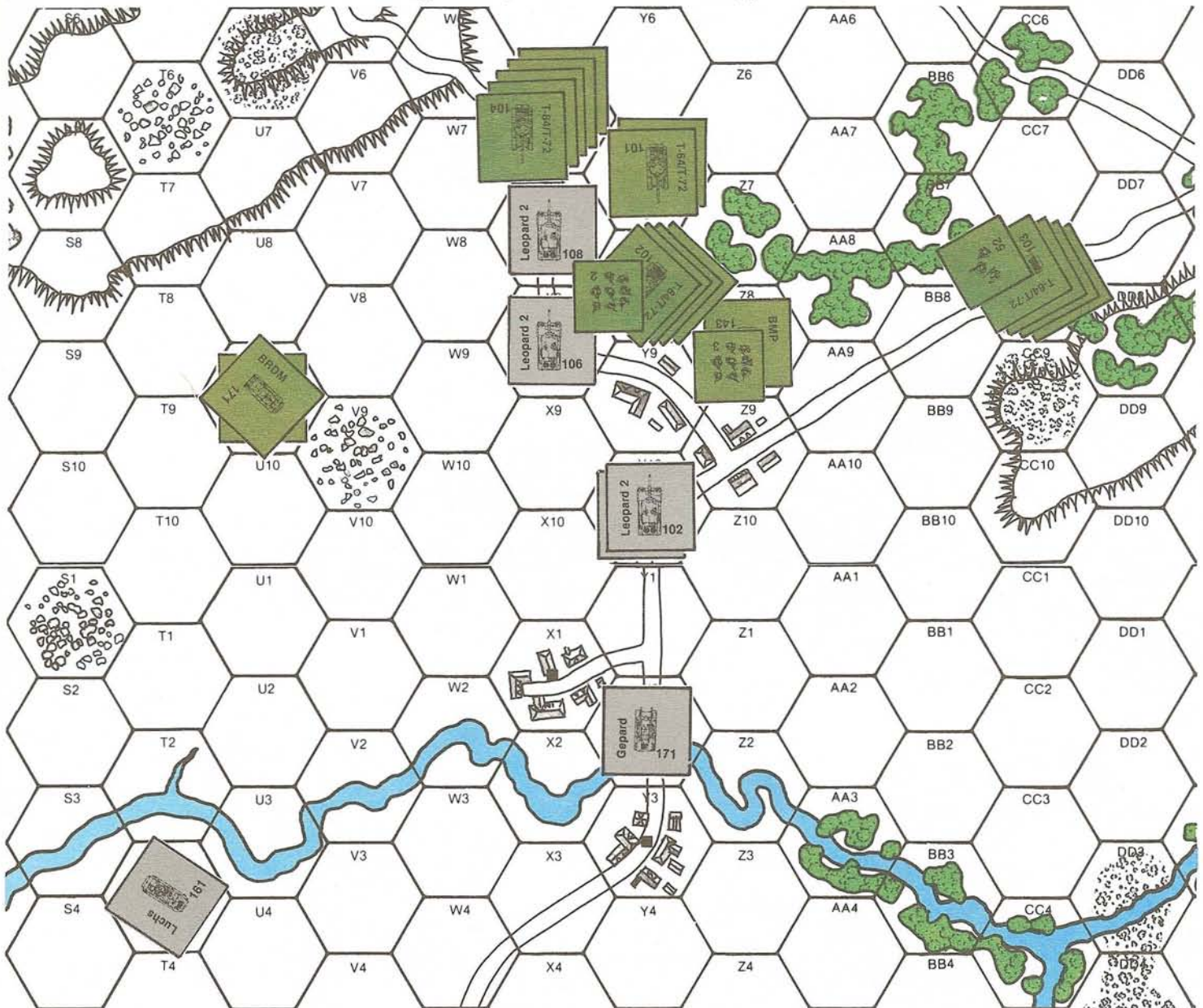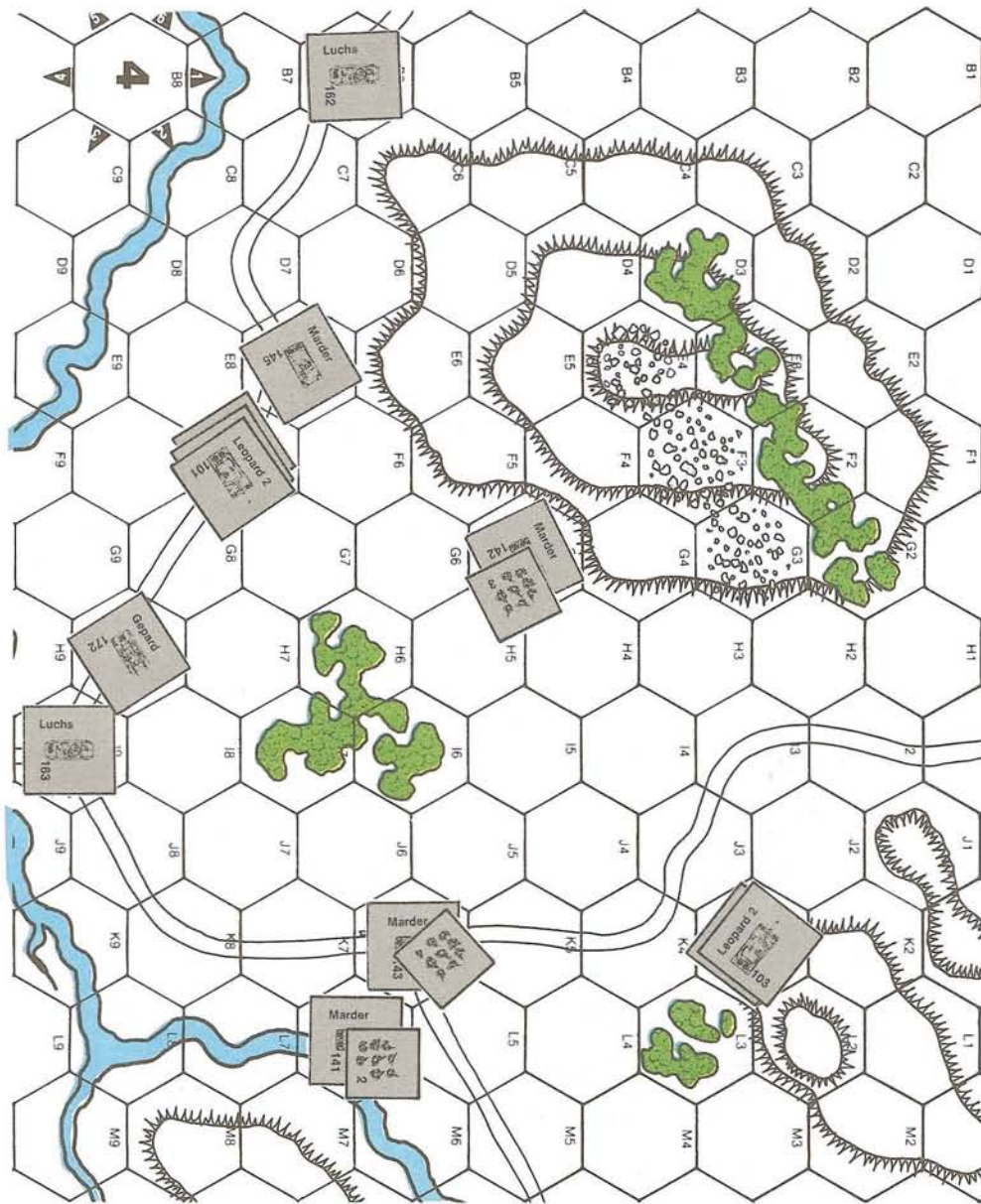
Figure 2: The Ambush—German positions in the North, Turns #4—#7.

TURN #8

West German:		Soviet:	
G-101*: 4K4/6/O/6		R-101*: 3X9/4/O/4—FM:4V5	
G-102*: 4AA6/6/B/6—RFM:4Y3		R-102A: 4Y3/4/O/4—FM:4V5	
G-104 : 4V6/2/B/2—FM:4Y3		R-102B: Same	
G-106 : KO (R101)		R-102C: Same	
G-108 : ——		R-103A: 4Z3/4/O/4—FM:4AA5—S/D	
G-103*: 4K2/1/B/1		R-103B: Same—E	
G-105 : 4K2/1/B/1		R-103C: Same—D	
G-107 : 4J10/1/B/1		R-104A: 3X9/4/O/4—FM:4V5	
G-109 : 4J10/1/B/1		R-104B: ——	
G-141 : F(A):3O7		R-104C: ——	
G-142 : 4I1/2/B/2		R-141 : 4AA4/4/O/4—D	
G-143 : 4I1/2/B/2		R-142 : 4DD3/4/O/4—D	
G-145 : 4K4/6/O/6		R-143 : BU (G104)	
G-1* : LD/145		R-1 : 4AA4/4	
G-2* : F(A):4T2 & F(G):4U3		R-2 : 4DD3/4	
G-3 : 4H3/2		R-3 : S—OW	
G-4 : OW		R-171 : 4S2/5/O/5	
G-161*: OW		R-172 : KO (G102)	
G-162 : KO (R54)		R-173 : 4S2/4/O/4—S	
G-163 : B/6—F:3L6		R-174 : OW	
G-164 : F:4DD1		R-51* : S—OW	
G-150 : OW		R-52 : 3Y10/2	
G-151 : AEF		R-53 : 4S2/4	
G-171 : 4Y8/6/B/6—FM(G):4Y3		R-54 : OW	
G-172 : 4K6/2/B/2—V		R-191 : 4X1/4/O	
		R-192 : 4Y3/4/O	

West German: The pressure on our southern flank is mounting; I must now start to commit reinforcements from the German forces in the north. We must also begin our own advance up there; the loss of the Luchs must mean that the Soviets have some sort of force in this area. This turn, our beleaguered Leopard platoon did its best to simply make each tank as hard to hit as possible. Help should arrive soon if they can survive.

Soviet: OUCH! Just when things were looking darkest, I find out that the Germans have artillery support too. And I dearly love the Soviet smoke barrage; it screws up Soviet sighting but doesn't affect NATO's. In any event, we have to pick up the pace of the advance, not because I have some sort of abiding desire to lose more tanks but rather because maneuver is the key element in this sort of situation. We can never afford to bog down in a standing firefight, when other unknown enemy forces are out there. We'll keep firing as best we can (our luck has got to change soon). Meanwhile, maybe it's time to send the Recon unit on the north side of the board towards 4I10.

Neutral Commentator: *The Germans laid a very accurate and expedient artillery barrage into hex 4X2—a full squad knocked out and a tank suppressed. Both sides are, however, plagued by bad luck this turn; BRDM #174 was even hit by a Milan that caused no damage! The Leopards in the south continue to fall back, but can only give up so much before handing the Soviets objective hexes on a platter.*

TURN #9

West German:		Soviet:	
G-101*: 4Q2/2/O/3		R-101*: 4Y3/4/O/4	
G-102*: OW		R-102A: 4W4/4/B/4—FM:4V6	
G-104 : F:4Z3		R-102B: Same	
G-106 : ——		R-102C: Same	
G-108 : ——		R-103A: S—F:4V6	
G-103*: OW		R-103B: TK-BO (G104)	
G-105 : 3L8/1/B/1		R-103C: F:4V6	
G-107 : 2T9/5/B/5		R-104A: 4Y3/4/O/4	
G-109 : 2T9/5/B/5		R-104B: ——	
G-141 : OW		R-104C: ——	
G-142 : 3J6/2/B/2		R-141 : O/5—F(A):4R5	
G-143 : 3I7/2/B/2		R-142 : 4CC5/4/O/4	
G-145 : 4N4/2/O/2		R-143 : ——	
G-1* : LD/145		R-1 : KO (Art)	
G-2* : F:4U3		R-2 : 4CC5/4	
G-3 : 4H1/2		R-3 : OW	
G-4 : 4M5/2		R-171 : BU (G2)	
G-161*: OW		R-172 : ——	
G-162 : ——		R-173 : O/5—S—F:4R2	
G-163 : F:4S2		R-174 : 3J10/4/O/4	
G-164 : 3GG7/6/O/6		R-51* : S—OW	
G-150 : AEF		R-52 : 3Z9/2	
G-151 : AEF		R-53 : F:4R2	
G-171 : OW—V		R-54 : Q—3K8/4	
G-172 : 4R2/3/B/3—V		R-191 : 4Y3/5/B	
		R-192 : F:4V6	

West German: We have tried to position our reinforcements so as to provide for the most advantageous defensive positions. We must be careful, however; his 125mm gun can be deadly at close range.

Soviet: We are thoroughly bogged down—so much for a schedule. The loss of the Recon Platoon CO effectively shuts down my indirect fire. In order to get the forward momentum going again, we are going to have to take some risks. Next turn I need to start moving some folks down the road to 2X8. Once #103 and the infantry clear 4Z6, someone in that party will try the round-about route to 2X8, via 2I4 and 2N4. I can but hope that suffices. The Soviets have now found a total of six Leopards, four Luchs and two Gepards; plus an artillery battery and some mortars have made themselves felt. I wonder what else we'll see soon? Is half of *Panzer Lehr* really waiting to enter Board #2?

Neutral Commentator: *The well-placed German artillery smoke barrage totally disrupted the Soviet fire. The Soviets have themselves lost one of their two spotter units, which will really limit calls on their artillery. Of course, the West German players have no idea what the results of this one shot foresee. And, the rest of the Germans are closing in from the north and the northeast.*

TURN #10

West German:		Soviet:	
G-101*: OW		R-101*: O/5—OW	
G-102*: 4Z7/2/B/2—FM:4W4		R-102A: F:4Y8	
G-104 : 4U7/6/B/1—FM:4Z3		R-102B: Same	
G-106 : ——		R-102C: Same	
G-108 : ——		R-103A: 4AA5/5/O/5	
G-103*: F:3K10		R-103B: ——	
G-105 : 3N8/2/B/2—FM(G):3K8		R-103C: Same	
G-107 : OW		R-104A: F:4V6	
G-109 : 2Q8/4/B/4		R-104B: ——	
G-141 : OW		R-104C: ——	
G-142 : 3O7/3/B/3		R-141 : F(A):4R5	
G-143 : 3N6/2/B/2		R-142 : 4CC8/4/O/4	
G-145 : 4N1/2/O/2		R-143 : ——	
G-1* : LD/145		R-1 : ——	
G-2* : F(A):4Y3		R-2 : 4CC7/6	
G-3 : 3I10/2		R-3 : 4Z2/4	
G-4 : 4O5/1		R-171 : ——	
G-161*: OW		R-172 : ——	
G-162 : ——		R-173 : F:4R2 (Luchs)	
G-163 : F:4S2—S/D		R-174 : 4K6/4/O/4	
G-164 : 3GG8/1/O/1		R-51* : KO (G2)	
G-150 : AEF		R-52 : OW	
G-151 : AEF		R-53 : F:4R2	
G-171 : 2H9/5/B/5—V		R-54 : F:3L8	
G-172 : F:4S2—V		R-191 : F:4R4	
		R-192 : F:4R4	

West German: Leopard #102 redeploys in anticipation of a flanking attempt by a BMP that may have escaped our view on the southern flank. Luchs #164 is deploying into "PacMan" mode, and heads for the large village on Board #1. Two of the Marders

bypass the infantry in the woods to head for more VP to be had in the eastern villages. Gepard #171 is redeployed to cover our southern flank; the Soviet aircraft could make things difficult.

Soviet: Michael wanted to try the aircraft rockets on that Leopard in 4V6, but the near-sighted pilot missed. In fact, we did not kill anything; our shooting is still in the dumpster. At this point, I'd trade the reactive armor for some post-1920s optics. The T-64B (#102A) destroyed was going to be left behind anyway (Rule 13.4.2.5), so no great loss. One of our mortar vehicles got hull-compartmented so it cannot move or pivot, but it is already facing in the right direction. Not much gained or lost of note this turn, but wait until Turn 11. The air's target is that cluster of West German vehicles in the center of Board 3; that should be an impressive show (CBUs are fun)!

Neutral Commentator: *Bad luck still haunts the Soviet gunners; their fire has been abysmal. The Frogfoot finally makes it appearance, but was called upon to make a shot that only a miracle could have seen hit. The ground observer in 4Y3 had to look through a tremendous amount of smoke to even sight the target in 4V6. As a result, the rockets scattered harmlessly. On the other side, the West German gunners have been taking their toll even though they have been plagued by a number of "no damage" results. The Germans have a 3:10 ratio in losses at this point. But Bill did have one bit of bad luck when the fire from the German's heavy battery scattered long to 4CC2. Since the German observer wasn't able to see the impact, they will now have to re-call the battery.*

TURN #11

West German:	Soviet:
G-101*: OW	R-101*: 4V5/5/O/5
G-102*: 2H9/5/O/5	R-102A: KO (G102)
G-104 : OW	R-102B: 4X8/4/O/4
G-106 : ——	R-102C: Same
G-108 : ——	R-103A: 4Y6/6/O/6
G-103*: 4P1/2/B/3	R-103B: ——
G-105 : 3S5/O/B/2	R-103C: Same
G-107 : OW	R-104A: 4T6/4/O/4
G-109 : 2L9/4/B/4	R-104B: ——
G-141 : 3S10/3/B/3	R-104C: ——
G-142 : 3T4/3/B/3	R-141 : F(A):4R5
G-143 : 3T3/2/B/2	R-142 : 4AA7/6/O/6
G-145 : 3S10/3/B/3	R-143 : ——
G-1* : LD/145	R-1 : ——
G-2* : F(A):4Y3	R-2 : 4AA7/6
G-3 : 3J8/2	R-3 : 4AA4/5
G-4 : 4P6/3	R-171 : ——
G-161*: 4Q5/2/O/2—S	R-172 : ——
G-162 : ——	R-173 : F:4R2 (Luchs)
G-163 : F:4S2	R-174 : BU (G103)
G-164 : 1EE9/1/B/1	R-51* : ——
G-150 : OW	R-52 : OW
G-151 : OW	R-53 : F:4R2 (Gepard)—S
G-171 : OW—V	R-54 : F:3N6
G-172 : F:4S2—V	R-191 : F:4R4
	R-192 : F:4R4

West German: We are swinging our northern flank in a hurried attempt to envelop the Soviet thrust. But I find it hard to believe that I am seeing all of the Soviet force. Where is the remainder? Will our northern group arrive in time before the gallant Germans in the south are cut to ribbons? And I found out this turn that Marders are not built to withstand cluster bombs; we're lucky only one of them got snuffed.

Soviet: Wow—the flyboy got one whole Marder. Our air support just hasn't been cost-effective. I didn't expect to get the Leopard, but taking out both Marders would have been nice—and not an unreasonable expectation. But now another prime A/C target shows itself. I really can't believe this one, because the enemy have got to suspect that napalm is part of the load on any ground attack plane. But they line up anyway, just asking for it to be dumped on them. Maybe we can hit this one. Or maybe they've

figured out that my pilot went to the same gunnery school as my tankers. The situation in this scenario is going to hell in a handbasket—for both sides it seems. The game now bears no resemblance to my plans made on Turn #8. If we only had the Recon Platoon CO to do some spotting, that would help dissuade some of those Germans in the woods.

Neutral Commentator: *The Germans must still be firing duds. They had two "no damage" results this turn. Getting hits hasn't been any problem for them, it's doing any damage. Bill was lucky that only one Marder was lost to the cluster bomb; it could have been much worse. The Frogfoot SU-25 is sure pesky, even if it can't seem to hit anything. The Gepards need to get off some shots at it—that's what they are there for. The Soviets are, however, totally unaware that there are Germans running amuck in*

their rear. This is one of those situations that can develop in "blind-play" when opposing forces are given different objectives; their attention can become so focused on only their own that they fail to defend what may be the other guy's.

TURN #12

West German:	Soviet:
G-101*: 4P1/3/B/1—FM:4Y6—S	R-101*: O/6—F:4R2
G-102*: OW	R-102A: ——
G-104 : 4U8/1/B/1—FM:4T6	R-102B: 4T6/5/O/5
G-106 : ——	R-102C: Same
G-108 : ——	R-103A: F:4Q2
G-103*: F:4Y6—S	R-103B: ——
G-105 : 3V6/2/B/2	R-103C: Same
G-107 : F:4T6	R-104A: B/3—F:4U7
G-109 : OW	R-104B: ——

Figure 3: First Blood—Situation at the end of Turn #6. Henceforth, counters shown in white are wrecks; in red, are in flames.
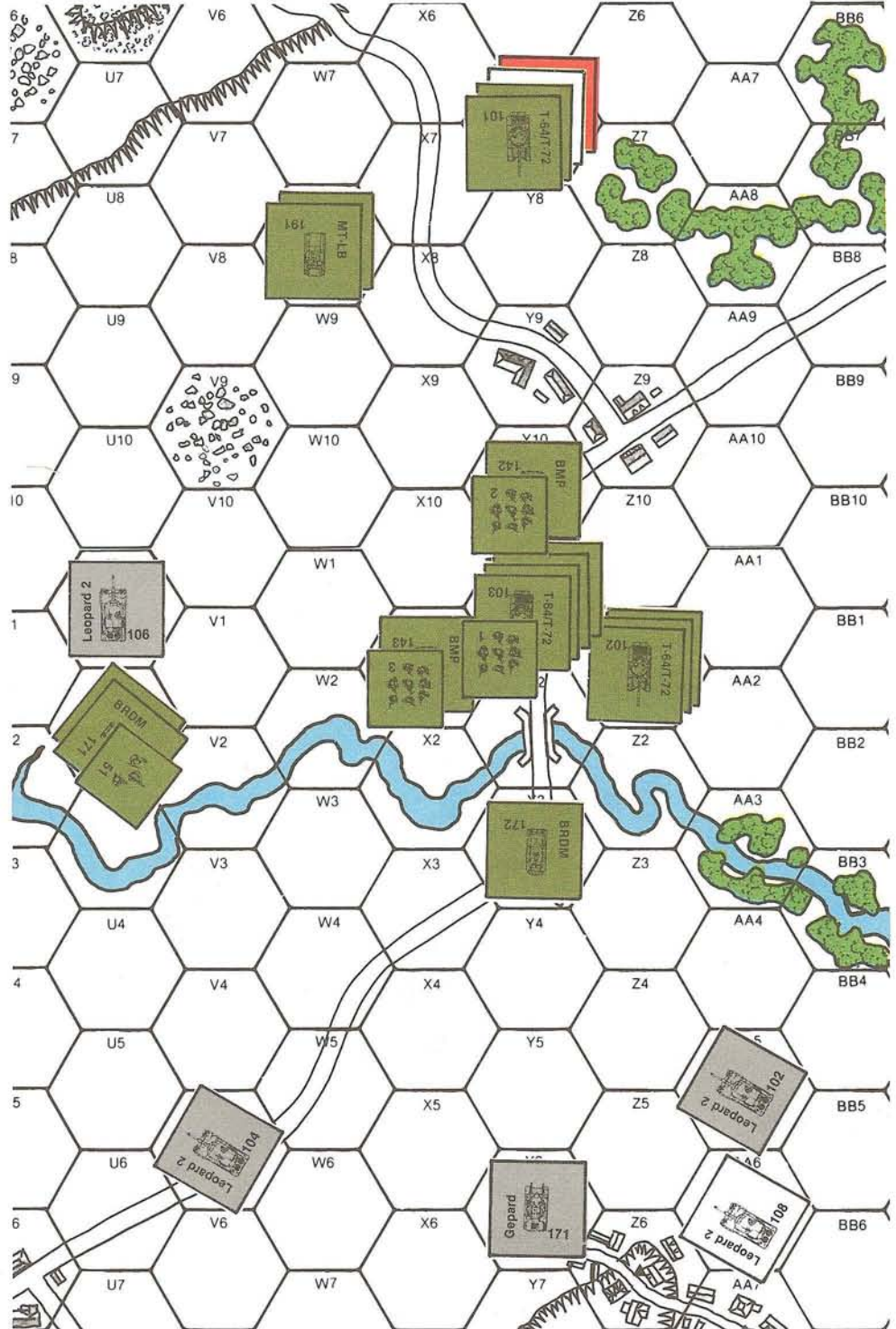
G-141 : 3U10/3/B/3	R-104C: ——
G-142 : 3V2/2/B/2	R-141 : 4AA7/5/O/5
G-143 : BU (Air)	R-142 : 2I8/1/O/1
G-145 : 3T10/3/B/3	R-143 : ——
G-1* : 3T10/3	R-1 : ——
G-2* : OW—S	R-2 : LD/142
G-3 : F:3K8	R-3 : LD/141
G-4 : 4R6/2	R-171 : ——
G-161*: 4R5/3/B/3—S	R-172 : ——
G-162 : ——	R-173 : KO (G163)
G-163 : KO (R173)	R-174 : ——
G-164 : 1EE7/1/B/1	R-51* : ——
G-150 : OW	R-52 : OW
G-151 : 2F0/1/O/1	R-53 : F:3S10—S
G-171 : OW—R	R-54 : F:3J8—S
G-172 : OW—R/D	R-191 : F:4R4
	R-192 : F:4R4

West German: Knocking out those pair of T-64Bs in the south certainly took away some of the pressure there. A BMP did succeed in slipping past us, but we have bigger problems. Our southern defense is still very porous. I don't know why my commanders gave the Soviet pilot such a juicy target by lining up in a neat row for a napalm strike. But I am glad that the Soviet air support appeared so late; we could have suffered severely from an earlier

entry. I will try to guess where he may enter next turn and position the remaining Gepard for a shot.

Soviet: Frontal Aviation has not been, shall we say, "earning their pay". The targets requested are being hit, but I'm not seeing enough secondary explosions to suit me. CBU's don't stand a good chance of killing a Leopard, but the napalm is a different story. We just can't seem to make an impact though. Meanwhile, the Germans continue to claw at us. The loss of tank #102 to overwatch really hurts. I wasn't expecting that one at all. It's going to be a real bear to deal with those Leopards on board #2. The plan now is for the Tank CO (#101) to call down the rest of the artillery missions on the treeline (4R4-R6). Unit #102 takes on the Leopard in 2T9, and my #103 needs to maneuver on 2L9. The infantry with BMP #142 are going to try to make it to 2X8 via the back road.

Neutral Commentator: *The West Germans continue their onslaught towards their objectives on board #1. A hand-to-hand combat should dispatch*

the only remaining Soviet unit in the north (team #R54). Bill had his squad fire on the Soviet team this turn, even though he had a 90% chance to eliminate them with hand-to-hand combat; guess he's not taking even high-percentage chances this late in the game. The SU-25 made another good pass, but only nailed one unit (although the two Leopards suppressed will help Jay, especially as they must exit the hex due to the fire). The Soviets have at last started to extract some noticeable losses against the West Germans; they have knocked out five units in the last two turns.

TURN #13

West German:	Soviet:
G-101*: 4O2/3/B/3—FM:4Y6—S	R-101*: OW
G-102*: 2K9/4/B/4	R-102A: ——
G-104 : KO (R104)	R-102B: B/5—F:2T9
G-106 : ——	R-102C: KO (G109)
G-108 : ——	R-103A: 4X7/4/O/4—S
G-103*: 4P2/2/O/2—FM:4Y6—S	R-103B: ——

Figure 4: The Cavalry Arrives—Situation at the end of Turn #11.
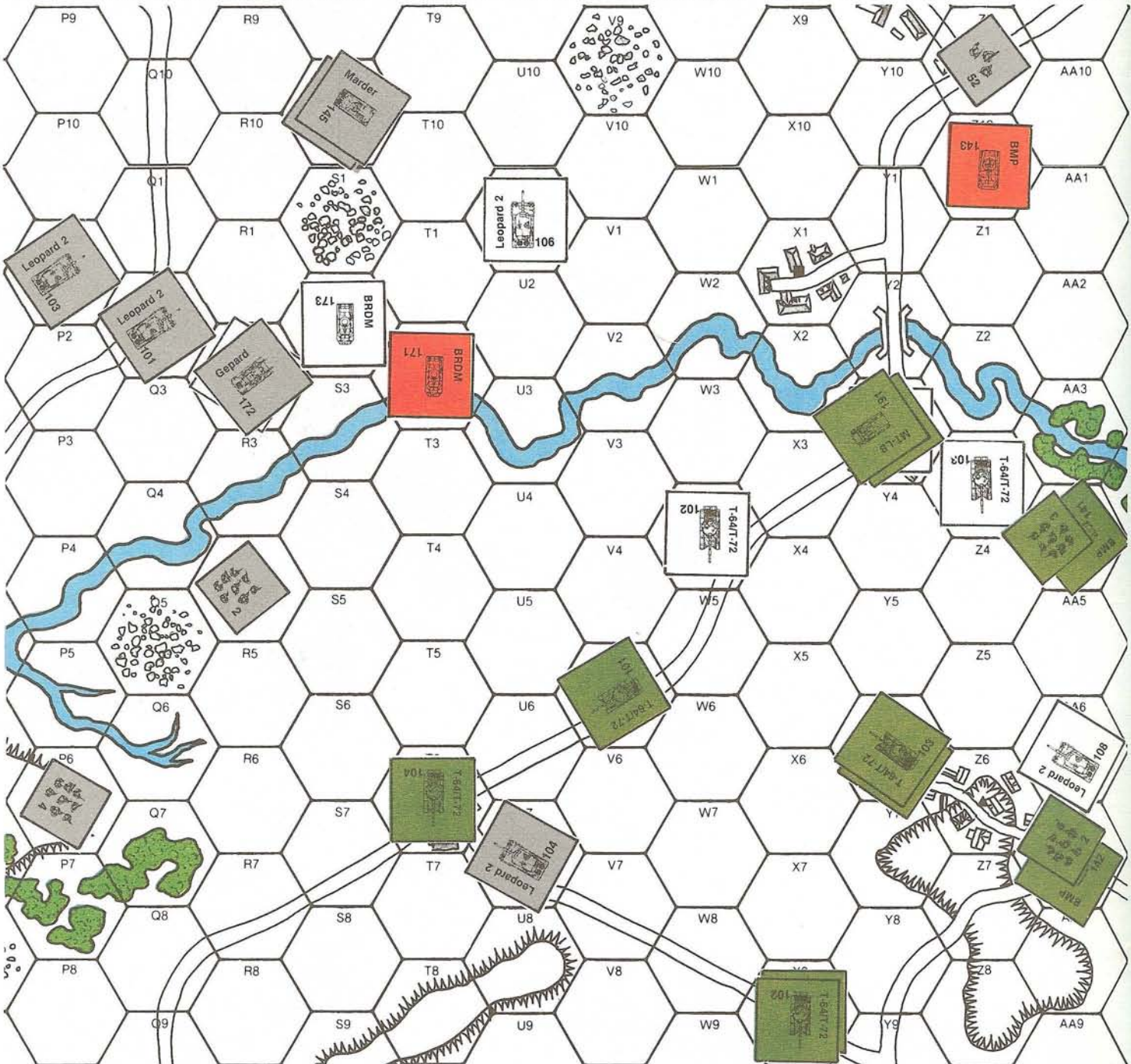
G-105 : 3W8/4/B/4	R-103C: Same
G-107 : 2T8/5/B/5—FM:4T6	R-104A: KO (G107)
G-109 : OW—S	R-104B: ——
G-141 : KO (R53)	R-104C: ——
G-142 : 1Y9/2/O/2	R-141 : 4Z8/4/O/4
G-143 : ——	R-142 : 2N4/3/O/3
G-145 : F(A):4Y3	R-143 : ——
G-1* : OW	R-1 : ——
G-2* : OW—S	R-2 : LD/142
G-3 : H:3K8	R-3 : 4Z8/4
G-4 : F(A):4Y3	R-171 : ——
G-161* : O/2—OW	R-172 : ——
G-162 : ——	R-173 : ——
G-163 : ——	R-174 : ——
G-164 : 1BB7/5/O/5	R-51* : ——
G-150 : AEF	R-52 : OW
G-151 : OW	k-53 : 4T1/1
G-171 : B/3—OW—R	R-54 : F:3J8—S
G-172 : BU (Air)	R-191 : F:4R5
	R-192 : F:4R6

West German: We have them completely surrounded. I feel that the Soviets look pretty thin on the ground, and we should be able to mop-up the remaining units handily.

Soviet: This is no longer any fun. Frontal Aviation is barely able to hit the broad side of a barn; our tankers can't seem to knock out what we shoot at; and the Germans are taking us apart. I am going to send the SU-25 home; it is just not worth the potential loss to try just a strafing run.

Neutral Commentator: *The West Germans laid four more losses on the Soviets that they can ill afford. The Soviets will be lucky to even hang onto the objectives thay have already captured. Of course, the Soviets have taken a toll on the West Germans; they got two more this turn. They have knocked out seven German units in the past three turns; this is starting to rack up some significant victory points. In addition, the BMP on board #2 should also bring some additional points; it appears to be heading for the unguarded bridge at 4I10. The Frogfoot makes another pass, but only suppressed Leopard #109—good plans, poor shooting. The plane's ordnance having now been expended (leaving only cannon), the Soviets would be best served by having it exit play.*

TURN #14

West German:		Soviet:	
G-101* : 4L5/5/O/5		R-101* : B/1—OW	
G-102* : 2J8/5/B/4—RFM:4X7		R-102A : ——	
G-104 : ——		R-102B : 4V7/4/B/4	
G-106 : ——		R-102C : ——	
G-108 : ——		R-103A : 4W8/3/O/3—FM:2K9—S	
G-103* : 4K7/4/O/4		R-103B : ——	
G-105 : 3X7/4/B/4—RFM:4V5		R-103C : BU (G101)	
G-107 : KO (R102)		R-104A : ——	
G-109 : 2N9/4/B/3—S		R-104B : ——	
G-141 : ——		R-104C : ——	
G-142 : 1AA7/6/O/6		R-141 : 4Z9/5/O/5	
G-143 : ——		R-142 : 2V6/3/O/3	
G-145 : 4X1/5/O/5		R-143 : ——	
G-1* : H:4T1		R-1 : ——	
G-2* : F(A):4T6		R-2 : LD/142	
G-3 : 3I7/5		R-3 : 2H10/1	
G-4 : OW—S		R-171 : ——	
G-161* : BU (R191)		R-172 : ——	
G-162 : ——		R-173 : ——	
G-163 : ——		R-174 : ——	
G-164 : 1CC6/3/O/3		R-51* : ——	
G-150 : AEF		R-52 : F:3W8	
G-151 : OW		R-53 : F:3T10	
G-171 : OW—R		R-54 : KO (G3)	
G-172 : ——		R-191 : KO (G4)	
		R-192 : KO (G145)	

West German: We got lucky with the limited effectiveness of the Soviet air. It was a good thing for us that the plane decided to leave.

Soviet: I thought the Germans in the woods might enjoy the artillery show, but one of the barrages scatters out of sight (and therefore can't be continued or corrected onto the target). The enemy actually has a chance to wipe us out, but I don't think they will accomplish that. Once more we will try an infantry close assault, this time against a Gepard. Unit #142 will make a last dash for the bridge, and

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#52 will hustle over that bridge in 4Y2 to secure that objective.

Neutral Commentator: *The Soviet players were wise not to commit the Frogfoot for this turn. The way it has been going for them, it probably would have been shot down for a loss of 230 VP. And the Soviets still have some fight left; they dropped some good artillery missions into the woods line at 4R5. Unfortunately, the medium battery's scattered out of the observer's LOS and cannot be continued or corrected onto the target. BMP #142 seems to be making a mad dash for the bridge at 4I10, but the Germans seem to have figured this out and are moving some units back in response. Marder #145 threatens the bridge at 4Y2 and has already recaptured building hex 4X1. I don't see anything the Soviets have that can keep this area from falling, especially with all that artillery smoke in the area.*

TURN #15

West German:		Soviet:	
G-101* : 4I9/4/O/4		R-101* : B/5—F:4X1	
G-102* : OW		R-102A : ——	
G-104 : ——		R-102B : 4T6/6/B/6	
G-106 : ——		R-102C : ——	
G-108 : ——		R-103A : KO (G102)	
G-103* : 2Y9/1/O/1		R-103B : ——	
G-105 : F:4V5		R-103C : ——	
G-107 : ——		R-104A : ——	
G-109 : O/5—OW		R-104B : ——	
G-141 : ——		R-104C : ——	
G-142 : 1W6/5/O/5		R-141 : 2H10/2/O/2	
G-143 : ——		R-142 : 4I10/1/O/1	
G-145 : 4Y3/5/O/5		R-143 : ——	
G-1* : OW:		R-1 : ——	
G-2* : KO (Art)		R-2 : 4I9/4	
G-3 : 3I8/5		R-3 : C:2H9	
G-4 : OW—S		R-171 : ——	
G-161* : ——		R-172 : ——	
G-162 : ——		R-173 : ——	
G-163 : ——		R-174 : ——	
G-164 : 1EE6/3/O/3		R-51* : ——	
G-150 : 2GG4/2/O/2		R-52 : Q—4Y1/5	
G-151 : OW		R-53 : KO (G1)	
G-171 : 2G9/4/B/4—FM:2H10		R-54 : ——	
G-172 : ——		R-191 : ——	
		R-192 : ——	

West German: We find very few Soviets remaining in the area. However, they are not without teeth as we have only a few MBTs left in the area ourselves. Looking back over the entire game, the thermal imagers really paid off for us. The Germans were able to keep firing many times while Soviet fire was significantly hindered by all the smoke

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around. But we had to face too many close firefights in the bush; this caused the Leopard's exceptional armor to lose much of its benefit. And I spent too much time sitting in the north awaiting an attack that never materialized. If I could have responded sooner, the outcome would not have been as close as it was. The Soviets really started to find the range at last at the end—German losses started to mount. In this playing, we were probably lucky more than anything else; we didn't, after all, win by much.

Soviets: I am informed that we lost. Maybe by points, and maybe by victory conditions; but looking at the ratio of total losses and the distance of advance, I can't see that we lost ignominiously. Frontal Aviation was definitely not worth the cost in points today; that Frogfoot cost us 390 points (with ordnance)—about the same as a Leopard-2 platoon! And we finally were told that this was a meeting engagement with the German objectives on boards #1 and #3. If I had had a firm inclination that that was the case, we would have left some of the grunts in that group of building hexes around 1BB7, thereby possibly denying the Germans some 200+ victory points.

Neutral Commentator: *Turn #15 didn't generate any final surprises. Although the Soviets did manage a couple of final shots. T-64B #101's fire through the smoke at the Marder to save the bridge hex was masterful, but . . . what else would you expect from the company commander?*

The final score was 1428 Victory Points for the West Germans, and 1206 VP for the Soviets. This means a differential of +222 for the West Germans—a very close victory indeed. They needed at least +215 to meet the victory conditions. One alteration in a lost unit either way (or the Soviets capturing the bridge at 4I10—I did not award it to Jay since both sides passed through it on the same turn), and a drawn game could have been the result. If the Frogfoot had been marginally more successful, it could have even turned the tide to the Soviets.

All involved played very well considering the limited knowledge available about the enemy forces and victory conditions, and considering the hidden out-of-LOS movement. Both sides approached the game with a well-formulated plan that could have worked (in the case of the West German, it did—more or less). But, as we all know, "the best laid plans of mice and men often . . . " I highly recommend this type of scenario to all players, if they would truly care to experience as true a simulation of modern combat action as is possible.

FULL THROTTLE
"Improved" FLIGHT LEADER

By George Scheets

For many moons I had been looking for a good air combat game, and at first glance *FLIGHT LEADER* wasn't it. Having enemy aircraft swoop down from eight hexes away while my own planes stood rooted in the sky was not my idea of realism. After a few contests, this title was about to join the several others gathering dust on the bookcase . . . Until, that is, I happened to try Optional Rule 17.6 (Impulse Movement). Now this was more like it! No longer was I able to rush the enemy from afar while he hung around figuratively picking his nose. Now I really had to work my way in, with a thinking opponent countering my every move—provided, of course, he was moving fast enough. Section 17.6 was a giant step in the right direction toward my enjoyment of this game. Still, something was missing.

The designers of every wargame have to strike a balance between realism and playability. Some games, such as *ADVANCED SQUAD LEADER*, are so clearly on the side of realism that the game is just about unplayable; too much time is spent looking up information and charts in the massive rulebook. Other games, such as *ENEMY IN SIGHT*, have gone to the other extreme, offering "user-friendly" instructions at the expense of authenticity. But overall, the designer and developer of *FLIGHT LEADER* seem to have struck a better balance between these two often-contradictory goals.

Yet the rules for movement seem flawed. No matter whether a player uses the standard or the impulse movement system, one cannot accurately simulate many actual modern air combat tactics. For a crash course in modern jet maneuvers, take a look at pages 134-135 of *Rain of Fire* (Boston Publishing Company) which graphically depict the encounter between Colonel Toon and Lieutenant Cunningham (24.17.1) in May 1972. Even using the original impulse rules, players cannot recreate this swirling confrontation; 17.6 is simply too restrictive. It would seem that the delicate balance between realism and playability is still tilted too far. No worry, as I am now prepared to dazzle you with a few suggested rule modifications which can rectify this. Note that all these variant rules are designed for use with the optional Impulse Movement system.

With these modifications in hand, *FLIGHT LEADER* has become a favorite of mine. It's fun, not too hard to play, and one can still play a scenario to conclusion in one (albeit longer) sitting.

SEQUENCE OF PLAY

I. Contact Phase
II. Hidden Aircraft?
III. Compute Initiative
    Altitude + Speed, with
    Inexperienced (-4 if no Tally or Lockon of enemy)
    Experienced (+4 if Tally or Lockon of enemy)
IV. Flight Decision
    Choose Maneuver Matrix
    Throttle
    Fuel Usage
V. Impulse Movement (Move/Shoot)
VI. Resolve Altitude/Speed/Maneuver Matrix Changes
VII. End Hidden Movement

Taking each of these steps in turn, no changes are necessary in the Contact Phase (12.0). The original rules provide a fine compromise between realism and playability.

The section on Hidden Aircraft (II above) is new. Most kills in the real world of air combat occur when an unspotted aircraft jumps an unalerted opponent. This fact is already accounted for to an extent by the restrictions placed on aircraft during the set-up (see 9.4). To help simulate this facet of air combat to a limited degree after contact has been made, allow each side the option of keeping one aircraft "hidden", in line with the following criteria:

a. the plane has not been tallied by an enemy aircraft this turn

b. the plane has not been locked-on by an enemy aircraft this turn

c. the plane is not being tracked by an enemy ground controller.

One aircraft from each side that meets all three criteria can be immediately removed from the board during this phase. Its movement for the next 30-second turn is tracked on a separate sheet of paper, which is kept concealed from opposing players. The "hidden" aircraft will move normally during the Impulse Movement Phase, remaining hidden until it should fire or until Phase VII is reached (at which time it is placed back on the mapboard). Whether the hidden aircraft is placed on board immediately upon firing, or upon completion of the current turn, the opponent must be given the opportunity to examine the hidden movement notation to insure that movement has been conducted within the rules.

For Phase III, two major changes. First is to factor in experience when computing the initiative, just because a pilot has more available energy than the competition doesn't mean that he'll know what to do with it. So, deduct "4" from the Altitude/Speed total when calculating the "initiative" of an inexperienced *pilot* who does not have a current tally or lockon of an enemy plane. And, add "4" to the total when calculating the initiative of an experienced pilot who does have a tally or lockon. This minor modification also serves nicely to simulate the "advantage" that combat pilots always strive for in a dogfight.

The second change concerns how this initiative is used. Each impulse, the moving aircraft compare their initiative levels set during this phase. The jet jockey with the highest initiative this turn decides whether aircraft moving in the current impulse move in descending (i.e, high to low) initiative order or the reverse (lowest initiative moving first, and highest last) order. Much of the time this order, especially when using 17.6, is irrelevant. Occasionally, it is a simulated matter of life and death. Other than this, the "Flight Decision Phase" (IV) remains as it is (17.6.1).

However, some major changes to the movements allowed in each maneuver matrix setting are recommended. Delete Rule 17.6.3 as it is far too restrictive. During the "Flight Decision Phase", choose the maneuver matrix setting most closely approximating what you initially wish to do in the upcoming game turn. The following list specifies the restrictions associated with each setting:

Left: Aircraft is configured for an initial left turn.
Must make at least one turn.
First turn must be to the left.
Multiple turns (in either direction) possible after the first.

Ahead: Aircraft is configured for straight ahead flight.

May not deviate more than 60° from initial heading as a result of all turns taken.

Right: Aircraft is configured for an initial right turn.
Must make at least one turn.
First turn must be to the right.
Multiple turns (in either direction) possible after the first.

Dive: Aircraft is configured to descend.
Must make at least one vertical level change.
First change must decrease altitude.
Multiple level changes (up or down) possible after the first.

Level: Aircraft is configured for level flight.
May not deviate more than one level from initial altitude.

Climb: Aircraft is configured to ascend.
Must make at least one vertical level change.
First change must increase altitude.
Multiple level changes (up or down) possible after the first.

As general rules, in addition: Aircraft may *never* make consecutive turns in adjacent hexes. Aircraft may only make consecutive dives or climbs if: a) executing an Advanced Maneuver (Immelmann or Split-S) or, b) executing a maximum-performance climb or dive (i.e., climbing or diving for the remainder of the current 30-second turn). In all other cases, a minimum of one horizontal movement impulse (i.e., at least one hex of movement) must be imposed betwixt vertical movement.

Prior to *reversing* vertical movement direction, an aircraft *must* expend at least one horizontal movement point (two if supersonic). This "Reverse Vertical Turn" mode for all aircraft is "2" if subsonic and "3" if supersonic. Speed losses here are computed using Rule 7.1.4.3. These rules for vertical movement simulate the inability of aircraft at speed to get the nose up (or down) instantaneously —and prevents the "brick wall" maneuver (e.g., three consecutive climbs followed by three consecutive dives) that plagued us while playtesting.

I also suggest loosening the restrictions for Advanced Maneuvers, and speeding up the execution time for each. In addition, we've devised two more Advanced Maneuvers that are commonly used (or were) in tactical jet combat. The Advanced Maneuvers that are allowed in each are as follows:

from Climb: Immelmann (throttle must be in AB)
Side Slip
Speed Brake (if subsonic)

from Level: Barrel Roll
Side Slip
Speed Brake (if subsonic)

from Dive: Split-S (throttle must be in IDLE)
Side Slip
Speed Brake (if subsonic)

As for the maneuvers themselves, the following is a brief description of effect and restrictions:

Barrel Roll: Change position horizontally while maintaining facing. Expend four Movement Points to move two hexes diagonally. Maneuver setting "Level". Causes a −1 speed loss unless throttle is in "AB". Maneuver may be to the right or left.

Split-S: Rapidly dive and (if desired) change fac-

ing to *any* direction. Throttle and maneuver setting of "IDLE" and "Dive". Must lose at least four altitude levels if speed is 7+, and at least two if speed is less than 6. Expend one Movement Point for each level dived. Speed gain is one greater than normal.

Immelmann: Rapidly climb and (if desired) change facing to *any* direction. Throttle and maneuver setting of "AB" ("MIL" if aircraft has no afterburner) and "Climb". Expend one Movement Point for each level climbed. Speed loss is one greater than normal.

Side Slip: Move one hex diagonally forward while maintaining facing. Expends two Movement Points. Any maneuver setting permissible. Move to new hex only after expending both MP.

Speed Brake: Rapidly slow down. Immediately drops speed one level, and all further movement this turn conducted at that speed. Must be subsonic to apply. No fire nor movement on the turn the brakes are applied.

Remember that technically Advanced Maneuvers do not count as hexes entered for purposes of performing a turning maneuver (13.2.2). Since one often does not know at the beginning of each Action Step if an Advanced Maneuver is going to be executed, we have been allowing hexes entered prior to executing an Advanced Maneuver to count towards turning maneuvers.

Finally, phases V-VII are self-explanatory, or have been touched upon above. Note that, unless already revealed by the act of firing, all hidden aircraft must now be placed on the mapboard prior to beginning the next turn.

The general thrust of all these changes is akin to *perestroika*; the old rules have been loosened to allow you—the cardboard pilot—more freedom. But you still can't do just anything you want. Your aircraft configuration still imposes some key restrictions as to what you may do.

ODD BITS

The use of the above rules and the impulse movement system necessitates a few other adjustments to normal play, primarily in the resolution of combat.

Missile Combat:

When a missile is fired, place a missile counter on the board and move it in a supersonic beeline towards the target. The sole purpose of this counter is to reflect time of flight for the missile. The missile PK number is computed at launch (simply make a side notation of this), but the die is not rolled to determine results until the missile enters the target's hex at the correct altitude. Heat-seeking missiles move at a speed of 25 (i.e., on impulses where an M occurs for speed 5, they move two hexes—otherwise, it moves one hex vertically or horizontally), while radar-homing missiles move at a speed of 30. A radar lockon must be maintained on the target until a radar homing missile impacts, else the missile will simply fly in a straight line and be removed at the end of the game turn.

Once a heat-seeking missile is fired, the firing pilot is out of the loop. The end result, tempered by how well the pilot reached an optimum launch point, depends on the missile electronics and any last-minute evasive action taken by the target. Hence, a die roll to determine the results is appropriate. So long as you can maintain a lock on your target, the same points apply to a radar-homing missile.

Air-to-Air Gunnery:

One can assert that gunnery demands a bit more skill than firing guided weaponry. The ability of a pilot to put a "dumb" round into a target is less influenced by chance than missile combat. So argues my brother-in-law (a USAF C-130 pilot), and I am

Air-to-Air Gunnery Table

Break Up/Down: Aircraft *must* climb/dive one level next impulse.
Break Right/Left: Aircraft *must* turn right/left next impulse.

Jink Up & Left	Jink Up	Jink Up & Right
Jink Left	Break Up (or) Break Right / Break Left (or) Break Down	Jink Right
Jink Down & Left	Jink Down	Jink Down & Right

forced to agree with him. Some of the luck currently involved in gunnery combat in *FLIGHT LEADER* can be removed by instituting the following.

Compute the PK number normally, but instead of rolling a die to determine whether or not a hit has happened, refer to the accompanying chart:

Break Up/Down: target aircraft *must* climb/dive one level next impulse.
Break Left/Right: target aircraft *must* turn left/right next impulse.

The defending pilot must pick and secretly record one of the ten defensive maneuvers (each half of the middle box is considered one). The attacking pilot can counter by selecting one of the maneuvers as well, *and* any number of maneuvers adjacent his selection and equal to the PK number. For example, if the PK number is "3" and the attacker had chosen "Jink Up & Right", he could also choose to cover "Jink Up" and "Break Up/Right" and "Jink Right". If the defender happened to choose any of these four, a hit has been scored.

Since it's an extremely rare individual that can place cannon shells exactly where he wants them on a violently maneuvering and high-speed target at several hundred meters, the results of any hit are determined randomly as per rules 10.7.2 and 18.5.

A "Jink" constitutes a small, quick change of direction designed to throw off the attacker's aim. In terms of the game scale, it has no effect on the defending aircraft's position on future movement. A "break", on the other hand, constitutes a broader, more violent maneuver also designed to throw off the aim; it *does* have an effect on the defender's movement. For example, both "Break Left" and "Break Down" are listed in the lower half of the middle box. The defender must list only one of these two options. If the defending pilot chooses to "Break Left", he *must* make a left turn on his next impulse. If the aircraft cannot make a left turn on its next impulse, the defender *cannot* chose "Break Left"! Note that, if the attacker had chosen to cover the lower half of the middle box, he would score a hit if the defender executed either a "Break Left" or a "Break Down".

Players will find that gunnery will become more a battle of wits now than of pure chance with the

die, as a defender's prior movement may limit his options when the bullets start to fly. And, do you really want to break right when the attacker can slip right in on his next impulse and fire at you again? And, if your speed is too high, do you really want to break down? Or up? And how many possibilities can the attacker cover anyway?

Climb Capabilities:

Despite the statement that vertical level changes in this game represent "zoom dives" (or climbs), the fact remains that a light-weight older generation aircraft—such as the MiG-17—cannot keep pace with the heavier F-15 when it dives (and vice-versa when climbing). Representing these climb and dive capabilities as identical is a gross oversimplification. During the Vietnam conflict, F4s used their superior maneuvering capabilities in the vertical to help offset the MiG's superior level turning ability.

A simple solution is to break the climb and dive capabilities of all aircraft into the following three categories:

1) all subsonic aircraft: +3 and −6
2) 1960-70s supersonic aircraft (N acceleration): +5 and −8
3) late 1970-80s supersonic aircraft (H acceleration): +7 and −8

Just extend the Acceleration Chart (6.6) up and down one or two extra rows to accommodate these extreme altitude changes.

AN EXAMPLE

Since an example (or illustration) is worth "a thousand words" in wargaming, let's take a look at the movement log of an Israeli F4E Phantom that bagged three MiG-21s in Scenario 24.15. Regrettably, I was not piloting this aircraft; instead, I was "Kill No. 2". Remember to keep in mind the above changes to the rules, and the use of the impulse movement system. If following along on your own gameboard, when updating the aircraft speed remember to: 1) cross-reference initial speed with throttle setting with acceleration with net vertical altitude change; 2) check for additional speed loss from horizontal turns; 3) check for additional speed

loss from reverse vertical turns; and 4) check for additional speed loss or gain from Advanced Maneuvers. In the recounting below, given are the settings and information for each turn, followed by the impulses actually made:

Turn 1: Level Left; MIL; Speed 9; Turn Mode 4-3-2

    1 1 L 1 C 1 1 1 D R 1

Note the wide, reverse vertical turn from a climb to a dive. There is no net altitude change in this game turn.

Turn 2: Level Ahead; MIL; Speed 10; Turn Mode 5-4

    1 1 1 1 1 1 R 1 1 1 C

Since the pilot picked "Level Ahead", he could not make another right turn during this 30-second interval. He could have followed the right turn with two left turns (or any other combination) such that he did not deviate from his initial direction by more than 60° but chose not to do so. The same with his dive/climb activity.

Turn 3: Climb Left; AB; Speed 8; Turn Mode 4-3-2-1

    1 C Ss-L 1M 1 C L 1 C

The Ss-L denotes a Side Slip to the left, while the 1M denotes a missile launch (in this case a Sparrow which took out MiG #1 just before the left turn). While not evident here, the first four impulses were conducted via Hidden Movement, the F4E not being placed on the board until it fired its missile. The hex locations of this aircraft during this period were kept on a separate sheet.

Turn 4: Climb Left; AB; Speed 7; Turn Mode 3-2-1

    1M C 1 1 C L 1 L 1 L

Another Sparrow launched from afar splashes MiG #2. By the end of this game turn, enemy aircraft are getting uncomfortably close, necessitating some violent disengaging maneuvers by the Israeli.

Turn 5: Dive Ahead; IDLE; Speed 7; Turn Mode 3

    S-D D D D 1 1 1

A normal reverse vertical turn into a Split-S is executed. At the end of the Split-S, the aircraft is faced in any direction (not shown, since it is a part of the maneuver and does not count as a turn). The net speed gain is +1 (+1 for diving four levels in Idle, +1 for executing a Split-S, and -1 for the reverse vertical turn).

Turn 6: Climb Ahead; AB; Speed 8, Turn Mode 4-3-2

    1-C C C X 1 1 R D D

A wide reverse vertical turn into an Immelman (where once again the aircraft can be faced in any direction as it exits the maneuver) is followed by a normal reverse vertical turn (with no speed loss since throttle is in AB) into a maximum performance dive. Net altitude gain is +1; net speed loss is -1.

Five more turns followed, which I won't bother listing to avoid repetition. I think that the reader can get an idea of how the system works by studying the first three minutes of flight of this particular aircraft. Suffice it to say that during the remainder of this engagement, our hero's airplane fired an additional Sidewinder and two cannon bursts, yielding yet another star on the side of his cockpit.

As the astute *FL* player can see, these rule changes allow much more realistic maneuvering—compounded by the fact that the enemy is moving even as you are in the impulse. You'll see overshoots and undershoots. You won't have to wait 30-seconds to follow your opponent down if you've guessed wrong and plotted a climb when he elected to dive; and you won't be forced to fly straight as an arrow for half-a-minute if you've selected a Level Ahead as he buzzes past your Phantom. ☆

Coming Attractions
IDF

Designed as a follow-up to our *[Jim Day and S. Craig Taylor]* popular *MBT*, which looked at modern tactical ground combat in Central Europe, *IDF* (Israeli Defense Force) will recreate the hotly contested action between Arab and Israeli air and ground units in the Middle East during the 1967 Six-Day War and the 1973 Yom Kippur War. Not just a module, *IDF* is a complete game (ownership of *MBT* is not required) that includes all the significant units that saw combat in these two conflicts.

Combat units represent individual vehicles, fixed-wing aircraft, rotary-wing aircraft, artillery batteries, infantry squads and a myriad of support units. In total, forces of battalion and company size, along with supporting assets, can be fielded by opposing players. Over 40 vehicles, 25 aircraft, and assorted infantry, guns and crew-served weapons are included in the 400+ two-sided counter mix. Examples of some of the more famous include the "Super" Centurian, Paturian, M51 Mark 1 "Super" Sherman, M3 halftrack, Mirage III, T-62A, T-55A, JS-III, Su-100, BMP, OT-64, BRDM/Sagger, Su-7 Fitter and MiG-21 Fishbed. All the combat units are represented wby individual Data Cards that include all pertinent information necessary to simulate the highly detailed nature of contemporary combat. The specific information for vehicle units includes, for example, speed, maneuverability, weapon types, ammo options, armor, defensive capabilities, size and extensive notes. This level of detail has also been extended to the representation of aircraft and infantry units.

In addition to the counters and Data Cards, the game will include four mounted mapboard panels, combat information cards, a battle manual/rulebook and two ten-sided dice. The "Battle Manual" is presented in modular manner, with the rules divided in Basic, Advanced and Optional sections. This will aid players in familiarizing themselves quickly with the game play. In addition, this battle manual will include extensive TO&Es, simulating those fielded by the antagonists in *IDF*.

The four geomorphic map panels can be used to simulate a wide variety of terrain types common to the region, from broken hilly terrain to virtually open desert. A series of color-codes will be used to represent the major terrain features. By designating these as a different terrain type from scenario to scenario, a flexibly wide variation of situations can be achieved. In addition, the map panels can be joined to form many further different combinations as well.

IDF will include a number of historical scenarios, ranging from the "Valley of Tears" to the "Chinese Farm", that recreate the major battles of the two wars. In addition, the battle manual will have an extensive mix of "what-if" scenarios, engagements that will take advantage of the wide variety of combat units included in the game design. Multiple variations of meeting engagements, defensive battles, mobile assaults and counter-attacks have been devised. And, the game system lends itself very well to the design-your-own approach of scenario generation. The extensive listing of TO&Es should cover just about all possible combinations.

The scale is 100 meters per hex, along with a fluid time frame that represents anything from 30 seconds to five minutes of real time per turn. The game system utilizes a quasi-simultaneous movement system that is based (as in *MBT*) upon "Command Order" chits; no written orders are necessary for all the basic commands. Of course, options such as an artillery barrage, minefields and target acquisition demand a certain degree of written notation. But these options are just that, and are kept to a minimum throughout the play.

Command control is is an important element of contemporary combat. *IDF* effectively presents the complexity of the command process. A "command point" system, in combination with unit grade and the command order chits, is utilized to simulate the frustration Arab or Israeli commanders must face. Yet, the system does not overly complicate the game to the detriment of its playability. A wide variety of combat headquarter formations will also be included in the scenarios and TO&E listings to facilitate command control functions. Again, since single units are utilized in *IDF*, COs and XOs and support commands are represented on the map as individual units.

Doctrine again plays as important a role as command control, especially when fielding the Arab forces. Their doctrine followed the rigid Soviet concept (equipment is not the only thing the USSR exported to the Arab countries) and is much more rigid than that of the Israelis. The doctrinal limitations can have far-reaching effects on the degree of flexibility these units can employ during a battle. Yet, the Arab player will more likely have a numerical advantage (significant in some cases); there are trade-offs for everything.

The sequence of play is straightforward, yet effectively encompasses all necessary aspects of combat. If you've read the rules of *MBT* (or even just the articles in this issue), you are already familiar with it. It includes:

Initiative Phase
Command Phase
First Aircraft Phase
Fire Phase
Movement Phase
Second Aircraft Phase
Adjustment Phase

Depending on the level of complexity desired, some of these phases may not even be necessary, or may have some steps therein eliminated. For example, if aircraft are not in play, two of the seven phases are skipped.

Those familiar with *MBT* will quickly grasp the game systems, for *IDF* is but a refinement. Hopefully, those unfamiliar with *MBT* have been encouraged by this issue to explore and enjoy the play of that game, and now also look forward to the release of *IDF*. With *ARAB-ISRAELI WARS* soon off the market, our latest effort fills a void in Avalon Hill's line. We believe it to be one of the most accurate, playable and exciting simulations of the Arab/Israeli conflict yet published.

Jim Day
April 1990 ☆

A FLAME IN THE GULF
The Iran-Iraq War and FIREPOWER

By James P. Werbaneth

On 22 September 1980, Iraq invaded Iran. For the next eight years, a war of awful bloodshed raged at the head of the Persian Gulf, one that had even global repercussions by endangering oil supplies from the Middle East to Western Europe, North America and Japan. It was a trial of strength between one country led by a dictator with a near Stalinist attachment to power and another country headed by a theocrat whose paranoid world view turned out to be a self-fulfilling prophecy. In an age of simmering guerrilla conflicts (such as Vietnam and Nicaragua) and swift mobile campaigns (such as past Arab-Israeli clashes and the Falklands War), the Iran-Iraq clash was a throwback to a simpler, bloodier time. It was a clash in which Iran's massive forces tried to overwhelm strong Iraqi linear defenses, and in which Iraq coped with Iranian breakthroughs with the sort of mobile counterattacks pioneered by the Germans in Soviet Russia during World War II. Despite the prodigious use of modern weaponry, it was—in the end—a very pre-modern war.

The fall of the Shah of Iran and his replacement by a fundamentalist Islamic regime was an event of profound importance in and of itself in our world. It also, of course, has a strong bearing on the outbreak of hostilities between Iran and Iraq. In 1980, Iran was a much different country than it had been at the apex of Mohammed Shah's power. Once a valued ally of the United States, revolutionary Iran had thoroughly alienated the U.S. through a belligerent radicalism most offensively expressed in the holding of American diplomats and businessmen as hostages. America had become, somehow, the "Great Satan", meant to unify the people. But there was discord and disorder in Iran as a variety of secular and religious elements competed for control. In any case, the Shah's brand of dictatorship with imperial trappings was a thing of the past. Socially and politically, in 1980 Iran was starting a time that could hardly be called ideal, and was soon from there to step backward.

But the decision by Iraq's leaders to invade Iran must be counted one of the worst of the 20th Century. Though initially surprised, the Iranians recovered to take the war to the aggressor with a vengeance. All of Saddam Hussein's efforts to hold on to power in Iraq nearly came to naught as the Iranian army pushed his country to the very brink of collapse. Yet, in the process an entire generation of young Iranians was sacrificed and, in the end, Iran suffered a collapse of morale of its own. The Iran-Iraq War ended in a draw. Actually . . . everybody lost.

THE ROOTS OF WAR

The roots of the Iran-Iraq War were watered not so much by religion as by ideology and disputes over the border. It was not fought over "God" nearly so much as over earthly power.

Iraq has long been inherently vulnerable to attack from its neighbor to the east. Half of the country is desert, and half of the population is concentrated around Baghdad and the southern city of Basra, its only important port. There is also a significant population density in the largely Kurdish northern territory centered around Kirkuk. Consequently, Iraqi communications are centered on the Baghdad-Basra axis, which lies much too close to the Iranian border for comfort. In addition, large communities of Iranians lived in Iraq. President Saddam Hussein's perception of their loyalties was apparent in his expulsion of 40000 of them in early 1980.

Iraqi vulnerability is enhanced by its ethnic and religious diversity. Iraq's population as of 1986 was estimated at some 16 million—about 75% Arab and 15% Kurdish, with a Turkish minority taking up most of the remainder. The Kurds represent a practically unassimilatable minority, ethnically and linguistically related to the Persians. There are about one-and-a-half to two million in Iraq, an equal number in Iran (along with some 300000 in Syria, 80000 in the USSR, and three million in Turkey, which denies their separateness and insists on labelling them "Mountain Turks"). The Kurds are an independent-minded people who, because of cultural affinities, co-exist most easily with the Iranians. In religion they are mostly Sunni Moslem, with notable Shiite and Christian minorities. Furthermore, by the early 1960s it was observed that many Kurds were only nominally Moslem, with no attachment to any sort of orthodoxy. Kurdish separatism has led to frequent and often bloody encounters with the several governments under which they live. With the growth of Iranian nationalism after 1900, Kurdish nationalism naturally followed. A sensative issue (to say the least) to Iraq, the Kurds claim for the independent state they have yet to found the oil-rich region at the head of the Tigris and the towns of Mosul and Kirkuk.

Religious differences are likewise a threat to stability. The population draws most of its elite from the 40% who are Sunni. However, 55% of Iraqis share the Shiite creed with an overwhelming majority of Iranians, and the holiest shrines of Shia are located in Iraq at Karbala and Najaf. The religious ties between the Islamic Republic of Iran and most Iraqis formed an incipient threat to the state's security.

Economically, Iraq is dependent upon the Shatt al Arab waterway, formed by the confluence of the Tigris and the Euphrates. It is Basra's easily interdicted connection with the sea. Unfortunately, it also marks the border between Iraq and Iran, an issue that contributed significantly to rising tensions in 1980.

Iran's situation for conflict is much better than Iraq's. Its 1986 population was about 46.6 million, 63% of whom are ethnic Persians, 19% Turcomans and Baluchis, 3% Kurds and 4% Arabs. The Azerbaijanis of northwest Iran are a Turkish-speaking minority that have a deep attachment to Iran and its culture. Thus, Iran does not have the large number of potential ethnic particularists and religious dissenters that Iraq does.

The only possible exception to this lies in Khuzistan, the petroleum-rich province adjoining Iraq. A center for Iran's Arabs, it has been a hotbed of Arab nationalism since the 1920s and has been a source of Iranian vexation periodically because of it. Reza Shah Pahlavi, father and predecessor to the last Shah, tried to inhibit Arab identity by suppressing their language, customs and dress. After he was deposed during World War II by Iran's British and Soviet occupiers, the Arabs returned to their old ways and by 1946 several of their chiefs were calling for Khuzistan's incorporation into Arab

Iraq. Iranian nationalists misread this as a plot by their old imperial nemesis, Britain, and its client, Iraq, to pry away a valuable province. In general, they disregarded this episode as a simple manifestation of Arab nationalism within their own country. Nationalism in Khuzistan increased with the rise of Gamel Nasser in Egypt (just as it did about everywhere else in the Arab world). Iranian perceptions were once more clouded, this time by Nasser's popularity among ethnic Iraqis as well as other Arabs.

Despite persistent Khuzistan restlessness, Iranian-Iraqi relations remained fairly good throughout the 1950s. Problems arose with the rise of General Qasm in Baghdad in 1958, and his popularity in Khuzistan may have overshadowed even Nasser's. Further complicating the picture was that, among the province's largely unskilled classes, communism may have eclipsed nationalism in appeal. Qasm's assassination in 1963 improved matters (at least from the Iranian standpoint). Demographics have lessened the impact of Arab nationalism on Khuzistan, and the province was nowhere near as much a problem for Iran as Kurdistan was for Iraq. By the early 1970s, most of Khuzistan's people were Aryan rather than Arab, and Persians dominated the middle-class and oil-related professions. Education remained in Farsi, continuing the previous Shah's efforts at Persification.

The major bone of contention between Iraq and Iran lay in a border dispute closely linked with modernization in the two countries. The border was never precisely marked by colonial occupiers, except that the west side of the Shatt al Arab belonged to Iraq and the east side to Iran. This arrangement worked nicely enough until the end of the 19th Century, when the growth of commerce and the discovery of oil mandated a more authoritative frontier. Attempts to definitively establish it have often left one party or the other dissatisfied. A treaty concluded with Algerian mediation in 1975 seemed to put the matter to rest. However, the Iraqis understandably felt they had agreed to it under duress, as the Shah of Iran was supporting a major Kurdish uprising at the time. After the settlement was arrived at, Iranian support for the rebels evaporated—and so did the insurgency. This Iranian application of pressure would remain fixed in the long Iraqi memory.

Since a 1968 coup, Iraq has been ruled by the Baath Party, which embraces a pan-Arabic radical socialism. Although the country was first under a figure-head president, the real power for the next two decades was Saddam Hussein, who finally took the office for himself in 1979. Hussein is a ruthless modernizer. Almost all Iraqi homes had running water by 1988, and 85% had electricity. His regime stresses a non-traditional role for women, close to 90% of whom are literate. This is partially due to a government policy of cutting off the water and electricity to the homes of men who refuse to allow their wives to learn to read and write. This direct approach to government is evident in other areas too. Although the same cannot be said for all similarly affluent Arab states, government corruption is not much of a problem; this is because Hussein inhibits it by executing officials who abuse their power.

His grip on power is guarded strenuously. Not even his closest associates are exempt from execution if he sees them as potential challengers. Access to information is strictly limited by tight controls on exit visas, and most Iraqis are barred from using the advanced telephone system installed to encourage business. Typewriters and photocopiers are owned only with the permission of the government, for before coming to power Hussein and his colleagues used them to disseminate propaganda.

Baath ideology irritated Iraqi-Iranian relations from the start. Mohammed Shah was a conservative monarch who tried to harness Iranian nationalism with images of Iran's imperial past and Aryan identity. An ideology that was expressly both socialist and non-Aryan held no appeal to him. Then came the revolution. The Islamic fundamentalists who took over in Teheran urged Shiites everywhere to similarly dispose of their secular regimes—including Saddam Hussein's. Even without such a strident call, the new rulers of Iran were implicitly anti-modern and anti-secular, and Hussein was an advocate of both.

The revolution also brought about a perceptible weakening of Iranian national power. Formerly a bastion of stability in the region, the country plunged into chaos. Purges of the police and armed forces did nothing to alleviate the disorder. Internationally, the United States was divorced from Iran, with no compensating new relationship with the USSR (although at first the Soviets saw the revolution as "progressive").

At this point, ideology assumes greater importance especially in the context of each country's ambitions. Revolutionary Iran aspired to the overthrow of regimes such as Hussein's, something that he would go to any length to prevent. And, both wished to become the premier power in the Persian Gulf, a goal that could be served by an aggressively revolutionary, perhaps even messianic, ideology. Saddam Hussein had more personal ambitions as well. The Camp David accords had removed Egypt as the leader of the Arab world. Hussein wanted to step into the vacuum left by the Egyptian-Israeli rapproachment. He aimed to fill a role similar to that of Nasser in an earlier day. Just as Nasser had propelled himself to the forefront of the Arab cause by a dramatic gesture (the seizure of the Suez Canal in 1955), Saddam Hussein wanted a dramatic gesture of his own.

Once again rearing its head was the persistent border issue, never really satisfied to Iraqi liking by the 1975 treaty. Hussein expressed a revanchist attitude toward the pact, and a concern about Iranian proximity to the Shatt al Arab. Tied to the border dispute was his concern about strategic vulnerability. With its population and communications perilously close to a hostile frontier and the country dependent on the Shatt al Arab, the border was critical.

Conspicuously missing in all this as a factor was religion. It was a root of the war only so far as Iran's leaders incorporated it into their own ideology, and as Iraq's leaders feared Shiite restlessness. There was no *jihad* in the beginning, no desire to destroy the heretics. The Iran-Iraq War was between nations and ideologies, not faiths. Saddam Hussein started the war for the most worldly of reasons, national power and security and prestige. The invasion was not a crusade but a cynical effort to take advantage of the crises faced by a rival, crises themselves rooted in a revolution that, though dominated by religious elements, was a reaction to political and economic stimuli. The Shah fell not because he was an affront to Shia Islam, but because he was a failure as a monarch. This sparked the Iranian revolution, and it in turn made Iran an attractive target for Hussein's ambitions.

THE INVASION

Mohammed Reza Phalavi, last Shah of Iran, fled his country on 16 January 1979. The moderate, secular government that he left behind under Prime Minister Shapur Bakhtiar was quickly swept away after the return from French exile of the Ayatollah Khomeini on 31 January. The institution of fundamentalist Islamic rule in Iran resulted immediately in a dramatic deterioration of relations with Iraq. In turn, Saddam Hussein saw Iraqi defeat of revolutionary Iran as the Nasser-like dramatic act that would make him a world figure.

Strains in relations took the form of low-level violence that the Iranians, with some justification, saw as Iraqi-engineered subversion. Restlessness grew among the Khuzistani Arabs and there were explosions along the pipelines running through the province. Teheran also saw Iraq's hand in fights between the regime's Revolutionary Guards (the *Pasdaran*) and Iranian Kurds. These escalated into border skirmishes. Between 28 August and 3 September 1980, Iraq reported repulsing fourteen Iranian attacks. By the end of August, the Iranian provincial governor of Kermanshah claimed that Iraqi shelling of towns such as Naft-e Shah and Qasr-e Shirin was so severe that civilians were forced to evacuate them. For its part, Iraq accused Iran of burning Mandali and Khanaqin on 4 September.

Iraqi attacks increased sharply in severity on 10 September. Iraq seized the strips of land around Zaya al-Qaws and Sayf Sa'ad that Iran had occupied for several decades but were to return under terms of the 1975 treaty. The Iranians there were routed in a matter of hours. The border treaty was formally abrogated by Iraq on 17 September. On the 22nd, its forces invaded Iran.

The primary effort was launched in the south, against Khuzistan, from the cities of Basra and al-Amarah. The thrusts from al-Amarah were in two directions—toward Dezful and along the Bostan-Susangerd road against Khuzistan's capital of Ahvaz. From Basra the Iraqis made a second drive on Ahvaz, and pushed toward Khorramshahr and Abadan. Secondary fronts were opened in a central region between Qasr-e Shirin and Mehran, and in the mountainous north opposite As Sulaymaniyah.

The earlier clashes around Zaya al-Qaws and Sayf Sa'ad were harbingers of the first stage of the real war. The Iranian border posts were largely indefensible and prepared only for limited combat—and certainly not against an invasion made in earnest. Only token resistance was offered, and the defenders fell back to the cities. Thus the Iraqis moved rapidly at first. But by 26 September, they were stopped 15-20 kilometers from Ahvaz and Dezful (the most important objectives), although Khorramshahr by that time was mostly occupied and Abadan threatened.

Iraq made securing these cities the center of attention. Both are highly defensible, with Khorramshahr located where the Karun River joins the Shatt al Arab and approachable only from the north. Abadan lies on the island of the same name formed by these waterways and the Bahmanshir River. Further aiding the defense, the terrain south of the Karun and east of the Bahmanshir is swampy and prone to flooding. The Iraqis moved in heavy artillery to the edge of the Shatt al Arab and shelled both cities unmercifully. Within days, the northern approaches were secured, in part because of an Iranian unwillingness to defend in the desert.

They changed their minds when it came to the cities, however. For a month, vicious house-to-house fighting raged in Khorramshahr as the Iraqis gradually advanced from the northwestern sections towards the bazaar district in the southeast. A bridge there across the Bahmanshir provided the single route through which the Iranians poured reinforcements and supplies. The link was never severed and was a major reason why the Iranian army, although eventually losing Khorramshahr, was able to make the battle for it as long and bloody as it was.

Abadan was the next objective. In late October, the Iraqis crossed the Karun east of Khorramshahr and cut the road linking Abadan to the port and supply sources of Bandar Khomeini (formerly Bandar Shapur). The city was to be starved into submission. But the plan was undone by Iranian success in keeping Abadan supplied. Their mastery of the Persian Gulf waters was uncontestable by the Iraqi fleet and the Iranian navy kept a supply route open through the Gulf and up the Bahmanshir. It became clear that if Abadan was to fall, it would have to be by direct assault. Saddam Hussein was unwill-

ing to pay the price in blood, so Abadan remained in Iranian hands.

Less dramatic but still important were events on the central front. The Iraqi objective here was to secure approaches to Baghdad via the road through Qasr-e Shirin, a scant 80 miles or so from the capital. The heights around the town also dominated the Iraqi lowlands, adding even more to its importance. Occupation of this area was essentially a defensive measure meant to preclude an Iranian drive on Baghdad. A really credible Iraqi offensive in the region would also divert forces from the southern front and the critical operations in Khuzistan.

By mid-November 1980 the war had settled into a stalemate. Hussein's gambit to knock out Iran with one blow had failed. The Iranian soldiers certainly deserve a great deal of credit for this, especially for their actions in the south. Despite initial unpreparedness, recent defeats, and surprise, Iranian forces put up an extremely brave and effective fight in Khorramshahr. The city fell, but the drawn-out battle bought valuable time for Iran, and appears to have deterred Iraq from undertaking an even more expensive assault on Abadan. There the Iranian navy defeated the siege by keeping the city supplied despite losses.

Assisting the Iranians was nature. Khuzistan is subject to heavy winter rains and flooding that continues into the spring as snow melts in the Zargos range to the east. Khuzistan turns into an expanse of mud that confines vehicles to paved roads, a debilitating limitation on the extensively mechanized Iraqi forces. As it was, the floods of 1980-81 were especially severe.

The Iraqi military also made its contribution to defeat through its own shortcomings. Never during the war would its navy enter as a factor, as it was confined to port by Iranian dominace. (In the end, only the United States would be willing and capable of engaging Iran at sea, and of defeating it rather handily.) The Iraqi air force should have been a major contributor to the invasion, but had negligible impact at best. When the war started, it was timidly dispersed to friendly neighboring Arab countries, thus hiding at the time when aggressiveness was most necessary.

Perhaps most salient were failures in Iraqi command and control. Organized along Soviet lines with rigid control of junior officers and NCOs, the Iraqi army discouraged initiative. Low-level initiative is necessary for effective operations on any modern battlefield of course, but against the ineffectual defense first offered by Iranian forces it would have been a boon to pursuit. Iraqi command and control problems contributed to numerous failures to exploit breakthroughs. Units halted rather than moving on immediately, waiting for orders to do so. When they did advance, Iraqi formations tended to lack the independence and flexibility to maneuver around fixed Iranian positions. Furthermore, their armor was too rigidly employed. Due to poor command control, the Iraqis entered and abandoned Susangerd twice, and left open key positions near Dezful.

A lack of a clear objective for the war hampered Iraqi strategy. Saddam Hussein apparently wanted to hurt Iran economically by detaching from it Khuzistan's oil resources. But his earnestness in this is made suspect in that, despite an extended and highly destructive conflict, the province's oil producing infrastructure remained intact as late as 1982. More probably, Hussein's goal was to injure Iranian morale so badly and so quickly that the clerics would immediately sue for peace. This would give him the prestige he craved to become the premier Arab leader, or at least the stature to energize Arab nationalism as Nasser had. It was a disastrous miscalculation.

Iranian nationalism was fully aroused, fueled by outrage at Iraq's aggression and a bizarre world

view held by the country's new leadership. They felt that Iran was the victim of a vast conspiracy, in which the United States orchestrated the invasion. According to their perspective, the USSR and Israel were partners of America in this, leading an anti-Iranian cabal that included King Hussein of Jordan (long regarded as an "American puppet"), Kings Fahd of Saudi Arabia and Hassan of Morocco, Presidents Sadat of Egypt, Bourghiba of Tunisia, Numeiri of the Sudan, and a chorus of lesser Arab leaders. (The conspiracy of the Great Satan, Zionism, Godless Communism and their pliant Arab stooges remains a matter of faith.) Paranoia takes the place of logic even further; Saddam Hussein is portrayed as a Soviet tool first, then an American one after 1975. That he could have ordered the invasion of Iran on his own and for his own agenda is scarcely imagined.

Ironically, such a world view can be quite comforting. It certainly takes all the work out of figuring out just who the enemy is, or his reasons. Too, a persecution complex can have a galvanizing effect on national morale, as Iran's did. However, in practical terms it is a bane to normal diplomacy. In any prolonged third-world war a small country is hardpressed to survive—let alone win—when it must stand alone. With a stridently subversive ideology and a perchant for waxing hostile at the world, Iran's rulers helped isolate their country.

The alignment of most of the Arab states toward Iraq was not due to superpower or Israeli machinations, but perceived self-interest. In the Gulf, Arabs faced the difficult problem of whether to adopt a quasi-neutral position or openly support Iraq. Supporting Iran was out of the question. To them, Khomeini's fundamentalist revolutionism was a threat to the status quo, and most wanted to see his regime weakened or toppled. On the other hand, a quick Iraqi victory could make Iraq the dominate power in the region, and the Gulf Arabs had no illusions about Hussein's willingness for vengeance against anyone he felt was less than forthcoming with support for his cause.

So, the Arab leaders tried to walk a fine line. The states on the Arabian peninsula took limited action to aid Iraq, starting with providing a haven for its air force. They also commenced giving Baghdad substantial "unofficial" support, without explicitly saying so. As the Iran-Iraq War dragged on, these countries all stressed that two Islamic nations were at war. This distracted attention from the "struggle against Israel" and left the Persian Gulf open to superpower intervention, certainly welcomed by some.

Saudi Arabia gave material assistance in order to help brother Arabs and, if possible, separate Iraq from the Soviet Union. The Saudis also beefed up their own defenses to ward off Iranian retribution, augmenting their strategic independence.

Jordan unequivocally supported Iraq from the start, besides taking in its fugitive airplanes. With Iraq's sea communications disrupted, Jordan's government made the port facilities at Aqaba available and set up a "land bridge". In early 1982, King Hussein went so far as to announce that Jordanian "volunteers" would be encouraged to go to the front. His motives seem to have been to wean Iraq from its radicalism and diplomatically isolate Syria. Moreover, the King strongly wished to topple Khomeini. His early support for Iraq led to a military crisis of his own in early December 1980 with Iran's ally Syria, which stopped just short of actual fighting.

Weak, bordering much stronger neighbors, and heavily Shiite, Kuwait was the most gravely threatened by the war. It has been perennially vulnerable to demands and punitive actions by both belligerents, and its long coastline is a target of Iraqi territorial aspirations. Consequently, its foreign policy is one of careful balance, including good relations with both Washington and Moscow. It had

also been the periodic target of Iranian intimidation and air/missile attacks, especially during the period when Iran held the Fao peninsula in Iraq. Now it appears that with support from its neighbors and conspicuous American protection of its shipping, Kuwaiti fears were allayed late in the war.

Like Iraq, Syria is ruled by the Baath Party, which seized power in March 1963. Ironically, it is also Iran's chief Arab ally. (Besides Syria, Iran's friends number Yasir Arafat and much of the PLO, Khaddafi and Libya, and, with some reservations, Algeria.) Baath pan-Arabism and a shared ideology not withstanding, Hafez Assad feared the emergence of a Baghdad-Riyadh-Amman axis that could threaten to isolate Damascus. Also, like Saddam Hussein, Hafez Assad has his own designs on the position of "leader of the Arab world".

A consistent object of Arab venom, Israel had an interest in prolonging the war. Israel covertly supported Iran, an effort culminating in its participation in the American-orchestrated initiative to sell Iran weapons. The American goal in this effort was to secure the release of hostages held by Iran's radical Shiite supporters in Lebanon; Israel's were to not only assist its patron, but to keep its Arab enemy tied up with Iran as long as possible. Thus, a leading member of the imaginary conspiracy that dominated thinking in Teheran actually had interests that converged with those of Iran and was a secret supporter—though certainly not an overt friend.

The superpowers were initially neutral, though both pre-disposed toward Iraq. American hostility toward Iran was at its zenith; but its support was somewhat tempered by Iraq's hardline stance towards Israel and its previous history of support for terrorism, and by fears of Soviet inroads into Iran. For the USSR, the Islamic revolution was soon perceived as an immediate threat. With substantial Moslem groups within its own borders in the Caucasus and Central Asia, the phenomenon represented by Khomeini is as much a threat to Soviet stability as it is to that of any Arab state. At the opening of the Iran-Iraq War the Soviets were already embroiled in their own struggle with militant Moslems in Afghanistan, and Khomeini's subsequent ruthless destruction of the Communist opposition in Iran did nothing to endear him to Moscow's leadership. Saddam Hussein may have been something of a wayward ally, but at least he posed no direct threat to the Soviet state.

STALEMATE AND CRISIS

From the Iranian perspective, the first objective of the war was to stabilize the Khuzistan front. Contributing to accomplishment of this first was their stand at Abadan. Second, the Iranians used the floods to help bring the Iraqi offensive to a halt. And, of course, the populace had to be roused to resist.

Calling Iran angry would be a gross understatement. The people of any country subjected to such an act of aggression would surely be furious (as exemplified by American reaction to Pearl Harbor). It was completely understandable that Iran's leaders were determined to throw the invaders off its soil, and punish Iraq. Magnifying these sentiments were their ideological self-righteousness and prevailing persecution complex. Iraq's action was not just an attack on a nationalistic neighbor proud of an identity separate and distinct from that of all others, but one against a regime that deliberately confused the secular and sacred. This mandated a transition from a national war founded on historical factors and Iraqi ambitions to a "holy war".

That a prolonged conflict was likely was due to Saddam Hussein's personality. His initial goals were overtly moderate and geared towards gaining the favor of other Arab countries, along with some territorial aspirations for Iraq: Iranian recognition of Iraqi jurisdiction in areas over which Baghdad

claimed sovreignty; Iranian non-interference in its neighbors' affairs; return to the United Arab Emirates of the Persian Gulf islands occupied by Iran. But where Hussein's moderation ended was his grasp for power; and this was precisely what the Ayatollahs demanded he relinquish, making his fall a pre-requisite for any peace settlement. And that was completely out of the question so far as he was concerned.

During that first rainy season, Iran launched its first offensive. This was a poorly planned and executed affair that might have been the result of simple political pressure to go onto the attack. In the area of Susangerd the Iranians were surrounded on three sides by Iraqi forces. In concert with a push from the southeast, the Iranians there tried to break out of the salient and envelop a large part of the enemy line. Initial operations penetrated the Iraqi line and drove as far as Hoveyzah. Then the Iraqis counterattacked and shattered the spearheads (especially at Hoveyzah).

The Iranians recovered and retook the initiative in May 1981. Once more they attacked out of Susangerd, making a frontal assault against the Allah Akbar hills that dominated the city. In a three-day battle, the Iraqis were expelled from their positions and driven several kilometers to the west. This success set up another Iranian attack toward Bostan later in the year, and was a boon to national morale as the first tangible Iranian victory.

On 29 September, the Iranians struck at Abadan, hitting Iraqi forces south of the Karun. This engagement lasted only a day, ending with a disorderly Iraqi retreat across the river. The siege of Abadan had been lifted and land communication restored with Bander Khomeini. However, Hussein's forces remained dug in at Khorramshahr on its approaches.

Their victories emboldened the Iranians, who now confidently predicted the fall of Hussein and were convinced that God was on their side. Demonstrating their displeasure with the Gulf Arabs who supported (even nominally) Iraq, Iran forces attacked a Kuwaiti oil facility on 1 October, sending ripples of concern throughout the world.

The Bostan offensive raged from 29 November to 5 December. Iraqi units had withdrawn there after the second battle of Susangerd. They were again defeated and the town recaptured in a battle costly to both sides in both men and equipment. This action cut Iraqi communications from al-Amareh and severed the logistical links with the units still near Dezful and Ahvaz; redeployment between the cities became near impossible. Not only were the Iraqis precluded from making flank attacks, they were now themselves vulnerable to Iranian encirclement. The defeat at Bostan was a logistic and strategic nightmare for Iraq's army.

A fourth Iranian offensive opened west of Dezful in March 1982, the most ambitious effort to date, aimed at destroying all Iraqi resistance in Khuzistan north of Bostan. The first two phases of the week-long battle were Iranian probes to prepare for the main assault. When this came, as many as 100000 Iranians struck at the 70000 Iraqis, who were driven back almost to the border. Some 20000 Iraqis were taken prisoner, including hundreds of officers. The battle left Iran in a position to push on into Iraq itself, and left the Iraqi positions remaining in southern Khuzistan open to attack.

These reverses led Iraq to soften its demands. They were now distilled into the simple and conveniently vague goal of checking Iranian expansionism. Iraq attempted to force Iran into negotiations by initiating air warfare against its cities and petroleum infrastructure, especially the oil terminal at Khang Island and the newer one at Sirri Island, beginning in August 1982. This would eventually escalate into the so-called "War of the Tankers" in which each side attempted to interdict the other's commercial sea lanes.

But the Iranians saw no reason to negotiate, nor did they abandon the initiative. Iranian forces had entered Iraqi territory in July 1982.

The Iranian ground forces were a much different entity than the army built so carefully by the Shah. His was a cohesive, professional military, equipped with vast quantities of Western-made arms (notably a veritable flood of American ones facilitated by friendly bureaucrats in the Carter administration). However, due to their imperial roots, the Iranian armed forces were subjected to terrible purges after the fall of the House of Pahlavi. In effect, the professional military was destroyed by Khomeini.

This policy stopped with the invasion of Iraq. Military professionals, many under sentence of death, were "rehabilitated". But once the front stabilized in July 1982, the purges resumed (and continued to the end of the war). In all, more than 5000 Iranian officers were executed by their own government, and tens of thousands more were imprisoned or fled into exile. Writing in the summer of 1988 issue of *Foreign Affairs*, David Segal called this "perhaps the most devastating destruction of a military force by its own government since Stalin's Red Army purges of 1936-38." Despite the considerable pressure of fighting a war, the purges shrank the Iranian military from a peak strength of 450 thousand to somewhere under 200 thousand. Training and maintainence suffered, and morale plummeted among the few professionals.

The trained military was thus limited to few roles; it conducted the air and naval operations, and commanded the bulk of the armor and heavy artillery. Most of the burden of prosecuting the war was assumed by the Pasdaran. These were young men of working class and lower-middle class background, with high school educations (at best). They were closely associated with the Islamic Revolutionary Party, assisting it against domestic opposition groups. The Pasdaran represented a separate military structure to which the old one is increasingly subordinated, even today. From their ranks came the bulk of the manpower for the Iran-Iraq War, mostly infantry. Pasdaran officers were promoted for religious and political reasons. Early in the fighting they were shown to be mostly military incompetents; but as high casualties weeded out the worst (along with their unfortunate men), a solid cadre of veteran leaders was left behind, with a corresponding improvement in performance.

The Pasdaran exhibited particular skill at infiltration. They conducted nighttime raids on targets deep behind the Iraqi lines, although largely with negligible impact on the war. More important was the use of infiltration in the 1981 and 1982 offensives. Later ones would introduce the mass assaults and "human waves". But when these met with failure, small-unit maneuver and infiltration were reinstated by the Iranians, although manpower-intensive attacks remained a distinctive feature of this war.

By the end, the Pasdaran numbered 250000, organized into nine infantry divisions and an unknown number of small air, naval and security formations. Supporting them were half-a-million militiamen of the *basij* ("Popular Mobilization Army"). Under direct Pasdaran command, the *basij* was a source of raw, low-quality troops used when quantity was paramount to quality. They appeared to have been a staple of the mass assaults.

Besides infiltration, the Iranians showed some skill at combat engineering and artillery fire. In the stalemated war of attrition that constituted much of the conflict, these were valuable skills.

A persistent Iranian weakness was logistics. Supplies and troops had to be accumulated for months in the area where an offensive was to be launched. This, of course, alerted the Iraqis to the most likely routes of advance, facilitating defensive preparations. Furthermore, once the offensive got underway, the carefully hoarded resources were quickly

expended. Thus, after 1982, Iranian operations were quick, costly and (with a few important exceptions) of limited success.

Having pushed the Iraqis back to the border, the Iranians opted for a war of attrition. Quite simply, their military forces were probably not capable of a sustained war of maneuver, as Iraq had waged in the first stage of hostilities. However, Iran did have significant advantages in terms of demographics and economics—chiefly, a much larger population. With morale high from a war-fever fanned by anti-Iraqi rage and some victories, Iran appeared much more suited to such a war of attrition. The war now assumed a nature dictated by climate, geography, Pasdaran lack of finesse, and national strength of will.

Geography divided the front into three primary sectors. In the north was a mountainous stretch through Kurdistan. Between the first Iraqi advance and 1988, not much happened here in comparison with the other sectors.

The south was wet and dominated by water obstacles, most importantly the Shatt al Arab and the lower Tigris. Using their own formidable talent for military engineering, the Iraqis in 1984 strengthened the defenses still further by building an artificial moat east of the Tigris. This stupendous work is 18 miles long and a mile wide.

Most Iranian efforts from 1983 through 1986 were directed at besieging and taking Basra. The terrain there is typical of the southern sector of the front, flat and open, but wet and marshy and unsuited to armor. Stymied by the strong fortifications erected by the Iraqis, the Iranians opposite Basra were repeatedly cut to shreds. Yet their pressure on Basra was acute. By January 1987, almost four-fifths of its million original inhabitants had fled or died.

Iranian attacks all along the front were nearly always directed at geographical objectives and not Iraqi military units. Despite their ability to infiltrate past Iraqi strongpoints, there was a strong tendency among the Pasdaran to attack frontally with little maneuver. Where Iran used tanks, they were committed piecemeal. Iraq was not idle in adapting to this sort of warfare. Improved relations with the Soviet Union resulted in a massive infusion of Russian weaponry in 1984, permitting a more active defense. The United States also discreetly assisted the Iraqi military, notably with satellite photos, which gave them advance notice of Iranian buildups. In August 1986, the CIA opened a top-secret channel to Baghdad to provide even more timely intelligence.

The Iraqis themselves introduced chemical weapons to the battlefield in 1982. Close to defeat, they seemingly felt compelled to utilize their most frightening asset. At first, the chemicals were used to blunt enemy offensives (and not to launch their own). Iran, however, quickly adopted countermeasures, and by 1987 was using chemical arms of its own.

Of more lasting importance was the devlopment of an effective mobile defensive doctrine by Iraq. This was facilitated by arms from the USSR, but the tactics were essentially Iraqi. The first line of defense in their system was a series of strong defensive positions, with carefully planned anti-armor defenses comprised of AT guns, guided missiles, extensive minefields and artillery. Crucial to this is a militia that was what, with some rational forethought, the Iranian *basij* could have been.

The Iraqi "Popular Army" was formed in 1970, originally as a Baath Party militia. It was theoretically under party control, but in practice was actually subordinate to the chief of the Iraqi armed forces Adnan Khairallah (in contrast to the position of the Pasdaran and *basij*). Whereas the Iranian militia was commended in large part by political and religious hacks, the Iraqi Popular Army was trained and led by regular army officers. In terms of quality, the Iraqi militia is equivalent to the best front-line Iranian units. The Popular Army proved itself

repeatedly in halting the Iranian offensives in 1982 and 1983. It remained vital to the end of the war in screening and pinning down Iranian attacks.

Returning to the theory of Iraqi defense, they also depended on mobile reserves to counterattack, isolate and finish off Iranian spearheads. To facilitate this, the Iraqi command and control system seems to have adjusted to the need for far greater independence and initiative in the lower ranks. In addition, Saddam Hussein gave up his pretensions of military leadership and left the conduct of the war to his generals. Successful Iraqi commanders were not popularized (as that would have threatened Hussein's position), but they were suitably rewarded and left free from political interference. (By contrast, Iranian officers were continuously spied upon, castigated and brought to trial occasionally by a distrustful government.)

By the last two years of the conflict, Iraq fielded an army of impressive numbers, considering the country's small population. There were 475000 regular army soldiers, another 75000 trained reservists, and about 450000 troops in the Popular Army. Combined with the quality of both equipment and training and methods, Iraq had a military force to be reckoned with.

Airpower was likewise greatly improved. The bulk of the Iraqi air force is still of Soviet manufacture, but much has changed since the early days of the war when it fled abroad and failed to support the nation's effort. French training replaced Russian tutelage. Aggressiveness came to be stressed, along with flexibility. Iraqi planes attacked Iranian troops and supplies in their assembly areas, then in transit to the front. Close air support of Iraqi ground units became quite effective, and particularly targeted enemy tanks and artillery. In the later course of the war, Iran and Iraq traded air strikes on each other's cities. This strategic bombing duel was, by 1987, an increasingly one-sided proposition. Carried out by both airpower and missiles, the Iraqi economic and morale campaign against Iran was a major success.

Diplomatically, Iraq also gained the upper hand. The USSR had feared Iranian ideological agitation, and came to see a converging interest with Iraq. Consequently, it threw its weight behind Hussein, reaching a rare concensus with the United States in the process. A manifestation of this direct Soviet support was a series of Iraqi air strikes on Iranian targets on the Caspian Sea, which appear to have been reachable by the short-ranged Iraqi planes only by refueling at bases inside the USSR.

Iranian isolation was facilitated by the Iranians themselves. They tried to punish the Gulf states, especially the Kuwaitis and Saudis, for supporting Iraq. This reached its climax in the summer of 1987 when, on 31 July, an Iranian-instigated riot at the Grand Mosque in Mecca killed 400 people. The next month, a mysterious explosion destroyed a Saudi natural gas complex. Such provocations drove Saudi Arabia and Kuwait ever closer to Baghdad.

The United States and Europe meanwhile, concerned about stability in a region on which their economies depended heavily for oil supplies, were antagonized by Iranian use of mines in the Gulf. Iran might have been able to bottle up the Iraqi navy in port for practically the duration of the war, but the decision to expand American presence in the Gulf allowed the Iraqis to finally do as they pleased at last—including savaging Iranian oil facilities.

The year 1986 saw the last major Iranian victory on the Basra front. In February, Iran launched a massive offensive against the Fao Peninsula, a swampy tongue of land across the Shatt al Arab from Abadan island. The action began with an amphibious assault in the Iraqi rear, followed by capture of the main Iraqi naval base at Fao. The Iranian drive threatened to roll up the whole Iraqi line. It was contained only at great cost to the best of the

Iraqi mobile units, particularly the elite Republican Guards Armored Brigade.

The human costs by this stage of the war were staggering, as was the determination of both sides to carry on. Perhaps a negotiated settlement was possible, but only in the event of Hussein's or Khomeini's abdication—the two most unlikely events in the Middle East. Thus, Iraq was backed into a corner (admittedly one of its own making) and, so long as the Ayatollah's power was undiluted, Iran had martyrs to send to the front.

END OF THE LINE

Key to the outcome of the war was logistics. In this, the Iraqis had a clear superiority. The Iraqi system of supplying its troops was able to function from the opening salvos to the end, whether on offense or defense. At no point does it appear that Iraqi operations were significantly impaired by difficulty in transport or shortages of supplies. By contrast, to a great extent the Iranian operations were dictated by a ponderous and inefficient logistical system. This was a major factor in their resorting to intense, seasonal offensives of limited stamina. As preparations for these entailed the slow accumulation of huge stockpiles, they were often undone by the increasingly aggressive Iraqi air force. The purges of the trained technical cadres in Iranian service no doubt contributed to the breakdown of this (and other essential) service.

On a higher level, Iran also came off second-best. Because of its better relations with the Arab world, the European nations and both superpowers, Iraq had far better access to arms supplies. And Iraqi purchases were not made haphazardly. Iraq bought armored personnel carriers and armored cars from Brazil, vehicle designed expressly for the Third World powers with low maintainence requirements. From the French, Baghdad acquired AMX-30 main battle tanks (although they were reportedly never used in combat). And the Iraqi practice of relying on Soviet-bloc equipment served them well; it was dependable, familiar, and Iraqi supply and support facilities were already geared to its use. Thus, despite a long and arduous war that it very nearly lost, Iraq actually managed to streamline it logistical system and upgrade its equipment.

Iran's military was based originally on Western hardware. As its animosity alienated former suppliers, the Iranians were forced to turn to middlemen and new types of equipment. This not only made resupply problematic, but hampered upkeep of what the Iranian military already had (due to shortages of spare parts). This compelled them to purchase arms from China and North Korea, and possibly even from the USSR itself. Considering the urgency of Iran's needs and the seriousness with which the Communists worldwide viewed Iranian-style Islamic militancy, none had much reason to offer easy terms. By 1987, a reliance on Soviet-design weaponry by Iran was evident. But unlike Iraq, Iran still had a mixture of weapons systems, some quite dated. The introduction of these new arms sorely tested support and logistical services already decimated by the regime and the war.

Meanwhile, Iranian morale suffered a bad blow in early 1987. Iran launched a four-month assault on Basra. Wave after wave of attackers hurled themselves into the teeth of a highly coordinated Iraqi defense, gaining nothing in return except frightful casualties. Of an original commitment of some two hundred thousand, it is estimated that Iran lost between 50000 and 70000 men; the military's morale would never fully recover.

Not that Iraq was out of the woods herself. On 7 September 1987, a parade viewed by foreign diplomats was broken up by gunfire. Thousands of armed Iraqi deserters were hiding in the Hawiza marshes north of Basra. In the summer of 1988, deserters even shot down an Iraqi helicopter. It was

therefore with some trepidation that Iraq awaited the first Iranian offensive of 1988. In January, there were supposedly a quarter-million Iranian troops facing Basra, soon to be reinforced by another mass call-up. In the central region, Iranian TOW missiles dominated the flat desert terrain so ideal to their employment. And in the north, the Kurds were once again growing rebellious and cooperating with Iran.

But the great Iranian offensive of 1988 was significant only because it never happened. Iran had been incapable of recruiting sufficient new troops to mount it. Not coincidentally, Teheran exhibited a new willingness to end the war. Through European political and business figures trusted by both sides, Iran—still insisting that Iraq acknowledge guilt in starting the hostilities and pay war reparations—made it known that dropped was the old demand for the ouster of Saddam Hussein. Iraq had rejected similiar initiatives in the past, holding out for hoped for United Nations sanctions against Iran. But this overture must be viewed in the context of the events of 1988 as the first sign of Iranian wavering.

Nonetheless, even without the infusion of new troops, Iran's actions began well enough in mid-March, in Kurdistan—the last major Iranian victory. Halabja was an Iraqi town with a heavily Kudish population, which had earlier revolted and been driven into exile by Iraqi operations. In March 1988 the exiles returned, supporting an Iranian force that proved quite adept at mountain warfare. The Kurds and Iranians took Halabja. The town's importance lay in its location near Lake Darbandi Khan; there a dam controls the irrigation of the Diyala River basin and supplies Baghdad with most of its electrical power. The battle carried the Iranians within five miles of the dam.

The Iraqis reacted to their defeat with chemical weapons again. But instead of bombarding the enemy troops, the cyanides and mustard gas were directed against the town itself in order to punish the Kurdish inhabitants for their disloyalty. This vindictive atrocity inflicted heavy civilian casualties, which the Iranians claimed reached 4000. Moreover, the retaliation was a serious blow to Iranian confidence. There now arose a strong fear that Iraq would add chemical weapons to the strategic bombardment of Iranian cities. In light of Halabja, they had good reason to doubt Baghdad's compunctions against doing so.

The next month was a hideous one for Iran. The air war was decisively lost, and several hundred missiles fell on Teheran alone that spring (possibly including massive Soviet-made SS-12s). The Iranian navy clashed with the American fleet, and in less than two hours the cream of that Iranian branch was destroyed. On the same day, Iraqi forces retook the Fao Peninsula. Besides depriving Iran of a launching point from which to direct Chinese-made Silkworm missiles against Kuwait, it showed that the Iraqi military was back on the offensive.

In the wake of the April disasters, Parliment Speaker Hojatolislam Ali Akbar Hashemi Rafsanjani was appointed commander of the Iranian armed forces by the Ayatollah. What he found convinced him that Iran was incapable of continuing the war. Casualties came in at something between 750 thousand and 900 thousand. The oil industry, crucial to Iran's economy, was crippled by air and missile attack, and likely to be destroyed altogether. Former Iranian diplomat Shireen Hunter estimated that Iran needed ten billion dollars a year to import arms and food; she claimed that oil exports for 1988 would come to only six billion dollars.

Iran's once unshakable morale was low too. By one estimate, more than 300000 young Iranian men went into hiding or exile to escape the latest draft. Recruitment by this point in 1988 was a third lower than the previous year. In Teheran there were frequent stories of units that refused orders to advance for fear of Iraqi chemical attacks, for which the

troops were ill-prepared. Emotionally and physically, Iran was exhausted.

Iraq pressed home its advantages in July 1988. In a four-day battle, Iraqi attackers took the border town of Zubaidat, north of Basra; it was reported that some 7000 Iranians surrendered, all members of once-fanatical Pasdaran units. In the central sector, an Iraqi offensive rolled forward. Among the objectives was the Saif Sa'ad again. But Hussein now found that assistance from other Arab states bore a price—and this was the time to pay it. Its supporters put tremendous pressure on Iraq not to extend its claims beyond the pre-war frontiers, despite the 1975 settlement which had awarded the region to her.

So Rafsanjani saw peace as necessary for the survival of the Iranian Islamic revolution. The Iranians were reluctant to negotiate directly with the hated Hussein, so UN Secretary-General Javier Perez de Cuellar mediated. The old Ayatollah was the only man in Iran with the prestige to end the war, in Rafsanjani's view, and his health was highly suspect. He decided that he must act before Khomeini died. Before the month was out, Iran accepted a UN cease-fire plan (although Khomeini reportedly said, "Taking this decison was more difficult than taking poison"). Undoubtably influenced and pressured by other nations, Hussein had the good sense to want the war ended as well.

On 20 August 1988, the Iran-Iraq War ended with a cease-fire.

CONCLUSIONS

The wargamer's image of the modern Middle Eastern war is founded on the conflicts waged against Israel. It is of rapid, sharp and decisive conflict in which, although one side might field large numbers of troops, quality matters more than quantity. Casualties are not particularly heavy, due in part to the short duration of hostilities. And there is a reliance on mechanized operations with very little use of fortifications. The fighting is "clean", with low civilian casualties—taking place on a sanitized desert or barren hills. Due to the short duration, political and economic concerns are of secondary importance.

The Iran-Iraq War broke all these "rules". It proved a long war in which mobile operations gave way to attrition, very nearly won by Iran's resort to raw numbers of low-quality Pasdaran and *basij* troops. Iraq was, in turn, saved by effective use of static defenses in 1982, and then by a qualitative improvement of its armed forces that finally enabled it to exploit the break in the stalemated war.

Playing roles as least as important were non-battlefield actions. Strategic bombing by both aircraft and missiles crippled the Iranian economy and effectively took the war to the Iranian civilian population. Skillful Iraqi diplomacy took advantage of the spectre of Iranian militancy and subversion, isolating the enemy. Neither could have been so decisive in a shorter war.

Casualties were horrendous, especially on the Iranian side. This was due to the manpower-intensive operations intended to exploit the Iranian advantage in numbers and offset Iranian shortcomings (partially self-inflicted) in the more technical branches of the armed forces, principally armor and logistics. Willing to accept casualties, the Iranians suffered them in First World War levels.

Further confounding expectations was the relatively minor role ultimately played by ethnic minorities. Iraq might have contemplated encouraging rebellion among Iranian Kurds, but Kurdish nationalism is a two-edged sword that threatens to get out of control and harm Iraq far more (as demonstrated by the battle for Halabja). Despite a history of disquiet and periodic disputes with the country's Farsi-speaking majority, the Arabs of Khuzistan remained largely loyal to Teheran for the entire war.

The aftermath of the Iran-Iraq War is not especially pleasant to contemplate. Consequent to the "War of the Cities" bombing campaign, both belligerents now maintain stocks of ballistic missiles of unprecedented range for the region. Also forced to acquire them in response were Saudi Arabia, Syria and Israel. Compounding the threat of these weapons in a Hobbesian political environment is the impending marriage, so feared by Iran, of ballistic missiles and chemical warheads.

By its nature, a cease-fire such as the one halting open hostilities between Iran and Iraq is a temporary measure. (Yet, in the Middle East a formal state of war between Israel and most of the Arab countries is the normal state of relations, with the several cease-fires acting as more or less permanent affirmations that the war is not a shooting one.) Even if Iran and Iraq never make formal and lasting peace, the cease-fire agreement might be enough to prevent the renewal of actual conflict. Enforcing the agreement is the fact that both sides were close to defeat at one time or another, and both experienced some war-related internal discord. There is nothing like a heavy dose of reality to take all the romance out of war—even a "holy" one.

Looking at the results of the war, Iran's regime must repair its credibility at home and abroad. The morale collapse of 1988 damaged domestic standing, as did economic mismanagement, disgraceful human rights abuses, and the arms deals. From an Islamic fundamentalist point of view, public morality has deteriorated. A shortage of skilled labor has now forced the employment of women in key trades (although they must provide certificates of virginity). There have also been increases in drug trafficking and prostitution, sure signs of dissatisfaction in the population of such a "perfect Islamic state".

Khomeini's brand of revolution also failed to live up to expectations abroad. The Ayatollah and his adherents were never able to bridge the gaps between Sunni and Shiite, or Iranian and Arab. Islamic fundamentalism is on the rise, but it is generally indigenous and not oriented toward Teheran. Saudi Arabia, Kuwait, Bahrain and Iraq all have large Shiite populations. All met the challenge of Shiite restlessness with tightened security and modest reforms. Only Lebanon proved too disorganized to stave off Iranian-style Shiite extremism.

With the failure of revolutionary export and the survival of Saddam Hussein, Iran's leaders must now consolidate power at home and restore relationships abroad—especially with one or the other superpower. With their history of stridency, and the death of Khomeini, both will probably be difficult. Iran cannot face another outbreak of war with Iraq in such an isolated and troubled position and hope for victory.

Despite its close call in the early '80s and the economic dislocations of the war's middle years, Iraq emerged with a strong military and a sound economy. But the disturbances of 1987 and the need to subdue the deserters in the swamps show that Saddam Hussein must do some consolidating and reform of his own. An upsurge of human rights abuses in Iraq shows that he is undertaking the task in his usual manner, however.

If his primary ambition was to replace Egypt with Iraq as the leader of the Arab world, Hussein has taken a long step backwards. The anti-Camp David coalition was faltering when the war started, and the failure of the Iraqi invasion killed it for good. Egypt was readmitted to Arab circles to compensate for the impending Iraqi defeat, and at one point the Arab Gulf states even tried to persuade Egyptian leaders to turn its powerful air force against Iran. That the Iraqi defeat did not take place does nothing to change the fact that Egypt's moderates are now looked to for guidance by many smaller Arab nations.

Also contending for the mantle is Syria. Once Iran's chief ally in the Arab camp, by the 1987 Arab summit it had backed away from Teheran, and by January 1989 Syria and Iran were waging a proxy war through their respective Shiite militias (Amal and Hezbollah) in Lebanon. Always a foe of Camp David and no longer tainted by association with the fundamentalists, Syria is another of Iraq's primary rivals for Arab leadership.

Living up to King Hussein of Jordan's expectations, Iraq has softened its rhetoric to the point that its policies sometimes sound moderate. Saddam Hussein went so far as to tell American legislators that he can appreciate Israeli concerns for security (even calling that nation "Israel" instead of "the Zionist entity"). Hussein has also, apparently as a result of the war, moved to develop an Iraqi nationalism that the late Shah of Iran would have appreciated. He has tapped into ancient conflicts between the Arabs of Mesopotamia and the Aryans of the lands to the east; his regime now regularly conjures up images of Babylon, Assyria and Sumeria.

For Israel, the long-term ramifications of the Iran-Iraq War are of concern. For eight years Iraq opted out of the anti-Israeli equation and diverted its attention from Israel to Iran in world councils. In that, it surely did Israel a favor. But during that period, immersion in the Lebanese quagmire cost Israel its aura of military invincibility. Then, in 1988, Iraq emerged from its war with a military that was experienced, tough and had exchanged Soviet-style rigidity for flexibility and innovation. Should a new war break out against Israel, the Iraqis might prove her greatest test.

The Iran-Iraq War also demonstrated the limits of American and Soviet ability to influence events. Small, weak and militarily-dependent states were shown to be quite willing and perfectly able to resort to force to settle disputes without permission of their patrons. Furthermore, the superpowers were unable to prevent the belligerents from securing strategic weaponry, although American and Soviet commitment to this goal was notoriously inconsistent. In the future, control of arms sales will be a less effective component of either's foreign policy.

Perhaps the only party to come out clearly ahead in the war was the United Nations. The negotiations that culminated in the cease-fire could not have taken place without UN mediation. At the same time, the international body was a key element in the process that led to withdrawal of the USSR occupation forces from Afghanistan. After years of ineffectuality and serving as a debating society with lofty pretensions, the UN proved its value as an agent for peace. That may be the only bright spot in a conflict that was, in the end, all savagery and hazard for nothing of value.

SCENARIO DESIGN GUIDELINES

The geography over which the Iran-Iraq War was fought is quite varied, especially by Middle East standards. In the north there are the mountains of the Kurdish border area. The central front is typically flat and, for most of the year, oppressively hot and arid (the sort of terrain and climate most associated with the region); this extends deep into Khuzistan, the primary theater of the war's early stages. From just north of Basra to the Persian Gulf the ground is flat and marshy. And there was urban fighting in Khorramshahr. So a variety of terrain is available to would-be scenario designers.

The Iraqi army is highly mechanized and embraces a modern combined-arms approach, which should be reflected in *FIREPOWER* scenarios. By contrast, the Iranians relied to a much greater extent on the weight of human numbers, with armor relegated to infantry support (if it was used at all). The Iraqis also proved adept at field fortifications, which were relied upon to turn aside many an

Iranian assault. However, the Iranians exhibited a perchant for infiltration that can be reflected by attacks against unprepared Iraqi positions.

The dominant form of scenario for the Iran-Iraq War should be the Assault (page 46 of the rulebook). Defensive units, obstructions and mines, should be liberally used, perhaps more so than in any other conflict covered by the game. Meeting Engagements occurred less often, chiefly during periods of flux in the front lines in clashes between patrols in the "No Man's Land" or in connection with especially deep Pasdaran infiltrations. The latter also would permit play of an Ambush (although this format is the least applicable type of scenario here).

The Pasdaran represent a challenge to the designer in that, until 1988 they combined uncertain and poor quality troops with a morale that ranged from good to fanatical. In general, no Pasdaran squad should have more than one leader. If a "C" is present in a Pasdaran or *basij* squad, that unit should have no "S" or "A" leaders. Unless representing a proven and phenomenally good formation, a Pasdaran or *basij* squad should have three sequence chits with two actions per impulse, and have 10-15 soldiers in a full-strength squad. As for morale, Pasdaran (but not *basij* or regular army) squads should have a "−1" modifier when checking for Panic—but only in scenarios set through 1987.

Readers are strongly urged to use the following optional rules when playing the following scenarios:

16.2—Assorted Optional Firing Modifiers
16.4—Suppression by Non-Automatic Weapons
16.6—Pinned and Inactive Status
16.7.2—Optional Nightsight Rules
16.8—Extra Major Personal Weapons
16.9—Standing Behind "2" Height Cover
19.—Vehicle Options
21.—Fires
23.—Wounds and Cover
24.—Morale
27.—Nuclear, Biological and Chemical Protection

The existing listings are a fine place to start for squad organizations for the Iraqi and Iranian units. But these should be modified for some changes in equipment (especially that of Iran):

Revised National Equipment Lists: (These are for the Iran-Iraq War era only.)

Iranian Weapons: FTR1; GLR2 (rare); GLR3 (HK69—rare); GMG5 (MG1, MG1A1); LCW3; LMG15 (ZB26/30); LPL3; MMG1; MPL7, MPL8 (increasingly rare), MPL20 (early '80s on, especially from 1986); MRT6 (M2, M19), MRT11 (M1), MRT12 (M29); MSL4 (especially from 1986 on); PST1; RFL1 (especially from 1986 on), RFL11 (decreased use after 1986), RFL13, RFL18 (M1 Garand); SMG2, SMG4 (PPSh41, M22), SMG7 (Uzi).

Iranian Vehicles: APC1, APC2 (few available), APC4 (M113A1); IFV5 (BMP1—from 1984 on), IFV6 (BTR60PB, BTR60PK—also from 1984 on); LTK5 (Scorpion); MBT5 (Mk 3/3, Mk 5/5—police use only), MBT16 (T62, from 1984 on), MBT19 (unconfirmed use), MBT21 (mid-80s on); MCV3; RCV3 (from mid-80s on), RCV4, RCVI1 (from early '80s); TDR6 (Weapon 42—generally few available, but resupplied to Iran 1985-86), TRK2 (Weapon 31), TRK3 (Weapon 42—see notes on TRD6), TRK4 (Weapon 31).

Note: Do not use HGN7 or RGN1.

Iraqi Weapons: FTR1, FTR2, FTR3; GMG4 (PK, PKM), GMG6; LCW2 (B10); LMG12, LMG20 (RPD); MMG1 (SGM); MPL20; MTR13 (M37); MSL4; PST3 (TT33), PST4 (PM); RFL1 (AK47, AKM), RFL8 (Moisin-Nagant Sniper Rifle), RFL19 (SVD).

Iraqi Vehicles: APC1, APC2, APC6, APCI1 (from mid-80s on); IFV5 (BMP1), IFV6 (BTR60PB, BTR60PK); MBT1 (never used in combat), MBT5 (probably never used), MBT15 (T54, T55), MBT16 (T62), MBT17, MBT21 (early '80s on), MBT23 (early '80s on); RCV1, RCV2 (few), RCV3, RCVI1, RCVI2; TDR4; TRK2 (Weapon 31), TRK3 (Weapon 36).

For all scenarios, Victory Conditions follow the rules found on Page 42 of the *FIREPOWER* Battle Manual. In scenarios in which VP are awarded, players receive one point for each enemy soldier eliminated or wounded, and two points for each captured. Unless otherwise stated, Iranian Pasdaran squads enjoy a "−1" modifier whenever rolling for Panic.

SCENARIOS

The following scenarios are based on actual actions of the Iran-Iraq War.

"KORRAMSHAHR 1980"

The initial Iraqi invasion advanced quickly, due to a combination of Iraqi surprise and ability and Iranian unpreparedness and unwillingness to defend open ground. But when the Iraqi right wing approached the cities of Khorramshahr and Abadan, the situation changed dramatically. There the Iranians elected to make their stand. The urban fighting in Khorramshahr was some of the most brutal since the Second World War, and proved sufficiently costly to the Iraqis that they were dissuaded from assaulting Abadan.

A. MAPBOARD TERRAIN: Only mapboard panel 4 is used.

All buildings are of stone construction; use all stories depicted on the Building Card.

B. SPECIAL RULES: Game length is 5 Turns. Iraqi units may only exit off the north mapboard edge, and Iranian units may only exit off the south mapboard edge.

WEATHER: Normal.

VISIBILITY: Condition 1.

FIRES (OP): Normal.

C. OPPOSING FORCES:

a. Defenders: Iranian Pasdaran. Set up first anywhere in buildings A-H (432-372-60 points).

1st Pasdaran Infantry Squad: 3/2; 1C; 1×LMG15, 10×RFL11, 1×SMG7.

2nd Pasdaran Infantry Squad: 3/2; 1S; 1×LMG15, 10×RFL11, 1×SMG7.

Extra Equipment: 2×PST1 (for LMG), 50×HGN3 and/or HGN5; 4×RGN2 and/or RGN4.

b. Attackers: Iraqi Regulars. Set up second anywhere in buildings I-O (751-615-136 points).

1st Motorized Infantry Squad: 4/2; 1C, 1S; 1×LMG20, 1×MPL20, 8×RFL1, 1×PST3.

2nd Motorized Infantry Squad: 4/2; 1S; 1×LMG20, 1×PML20, 8×RFL1.

3rd Motorized Infantry Squad (+): 4/2; 1S; 1×FTR1, 1×LMG20, 1×MPL20, 8×RFL1.

Extra Equipment: 1×BNC, 7×PST3 (for LMG, MPL, FTR), 80×HGN3, 16×MPL20AMO, 4×DMC.

D. VICTORY CONDITIONS: Each side receives two victory points for each *floor* of buildings D, E, F and G controlled at the end of the game.

"BEHIND ENEMY LINE 1981"

Early in the conflict, the Iranian Pasdaran proved adept at working themselves behind Iraqi lines and raiding logistic targets. In themselves, these operations had little effect on the Iraqi operations, but they were the first counterblows to the invasion—and they set a precedent for the infiltration methods in later Iranian offensives.

A. MAPBOARD TERRAIN: Only mapboard panel 2 is used.
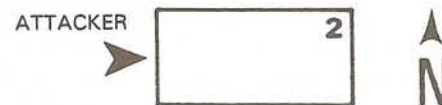
Ignore all trees, hedges and fences. Hills are height "1", but no terrain can be higher than height "2"; ignore all higher contour lines. Depressions are "−1". Brown hexes are scrub. Roads are unpaved.

B. SPECIAL RULES: Game length is 3 Turns. Iraqis may exit off the west board edge only, except to receive victory points (for which they exit the east edge). Iranians may exit off either the north or south board edge, or both. Iranian sets up secretly as per "Ambush" special rules (on page 45 of *FIREPOWER* Battle Manual). Iraqis enter, infantry as passengers, on the west mapboard edge in accordance with the same set of special rules. Iraqi TRK may carry no passengers.

WEATHER: Normal.

VISIBILITY: Condition 3 (Night).

FIRES (OP): Normal.

C. OPPOSING FORCES:

a. Defenders: Iranian Pasdaran Infantry Squad: 3/2; 1S; 1×LMG5, 9×RFL11; 1×PST (for LMG); 1×BPD, 20×HGN3 and/or HGN5, 1×LPL3 (140-111-29 points).

b. Attackers: Iraqi Regulars (340-278-62 points).

1st Motorized Infantry Squad (−) (includes truck crews): 3/3; 1C, 1S; 4×RFL1, 1×PST3; 1×TRK1 (Weapon 1), 1×TRK5.

2nd Motorized Infantry Squad (includes BTR70 crew): 4/2; 1S; 1×LMG20, 1×MPL20, 10×RFL1; 1×IFV6 (Weapon 4).

Extra Equipment: 3×NST, 2×PST3 (for LMG, MPL), 45×HGN3, 6×MPL20AMO.

D. VICTORY CONDITIONS: The Iraqi player receives two victory points for each Iraqi soldier, regardless of wounds, exited from the east mapboard edge on Turn 3, and five points if the medium truck exits the east mapboard edge at any time during the game. The Iranian player receives two points for each soldier, regardless of wounds, exiting the map during Turn 3.

"ALLAH AKBAR 1981"

In May 1981, Iran launched its first successful offensive. The site of an earlier, ill-fated attack, Susangerd was to be the objective of the new Iranian effort. But the first objective were the Allah Akbar hills, against which a frontal attack was launched.

A. MAPBOARD TERRAIN:

Ignore all trees, hedges and fences. Hills are height "3". Roads are unpaved, and buildings are of stone construction.
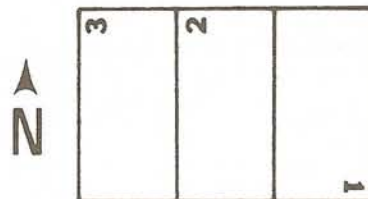
B. SPECIAL RULES: Game length is 5 Turns. The Iranians may exit off the east mapboard edge only; the Iraqis off the west. Iraqi units and fortifications set up anywhere on mapboard 3, or on mapboard 2 within two hexes of any building hex; wire and mines may be placed anywhere on either panel. The Iranian player receives one "bonus" impulse to enter the mapboard, along the west edge. Any desired actions may be performed during this bonus phase, following which the normal draw of sequence chits commences.

WEATHER: Normal.

VISIBILITY: Condition 1.

FIRES (OP): Dry.

C. OPPOSING FORCES:

a. Defenders: Iraqi Regulars (727-502-225 points).

1st Motorized Infantry Squad: 4/2; 1C, 1S; 1×LMG20, 1×MPL20, 8×RFL1.

2nd Motorized Infantry Squad: 4/2; 1S; 1×MMG4, 1×MPL20, 9×RFL1.

3rd Motorized Infantry Squad: 4/2; 1S; 1×LMG20, 1×MPL20, 7×RFL1.

Extra Equipment: 1×BNC, 6×PST3 (for LMG, MMG and MPL), 16×MPL20AMO, 90×HGN3; 1×BKR, 5×DFX, 10×WIR, 5×DWR; 4×PMN1, 2×VMN2.

b. Attackers: Iranian Regulars (1318-1195-123 points).

1st Infantry Squad (+): 3/3; 1C, 1S, 1A; 1×LMG5, 11×RFL11, 1×MTR6.

2nd Infantry Squad: 3/3; 1S, 1A; 1×LMG5, 10×RFL11.

Assault Squad: 3/2; 1S; 8×SMG7; 2×MBT10.

Extra Equipment: 3×BNC, 1×RDO, 22×BDA, 3×PST1 (for LMG and MTR), 50×HGN3 and/or HGN5, 10×MRT6AMO.

D. VICTORY CONDITIONS: The Iranian player wins by controlling three buildings, or any one building and the bunker, at game end. The Iraqi player wins by avoiding the Iranian victory conditions.

"BASRA EMBATTLED 1982"

With the expulsion of the invaders from its soil, Iranian forces carried the war into Iraq. By 1982, Iraq was on the verge of collapse, even as the Iranians sought to grind down Iraqi strength before Basra.

A. MAPBOARD TERRAIN:

Ignore all buildings, well, trees, hedges, walls and fences. Hills are height "1", but no hill is over "2" high (ignore higher level contour lines). Depressions are height "−1" and filled with water 30 inches deep. Roads are unpaved.
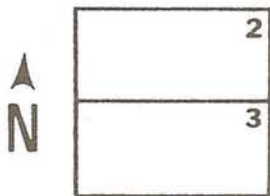
B. SPECIAL RULES: Game length is 4 Turns. Iranian units may exit off the north mapboard edge only; Iraqi off the south. Iraqi units and fortifications set up south of the east-west road on board 2; craters may be deployed anywhere on board 2. The Iranian player receives one "bonus" impulse to enter the mapboard, along the north edge. Any desired actions may be performed during this bonus phase, following which the normal draw of sequence chits commences. Each side may deploy its mortar, crew and one radio offboard, from which the mortar may engage in indirect fire only at a range of 100 hexes; radio LOS rules do not apply.

WEATHER: Mud.

VISIBILITY: Condition 1.

FIRES (OP): Wet.

C. OPPOSING FORCES:

a. Defenders: Iraqi Regulars and Popular Army (496-295-201 points).

Army Infantry Squad (−): 4/2; 1C, 1S; 1×MMG4, 1×MPL20, 6×RFL1; 1×BPD.

Popular Army Infantry Squad: 3/2; 1S; 1×LMG20, 1×MRT13, 9×RFL1; 1×BPD.

Extra Equipment: 4×PST3 (for MMG, LMG, MPL, MTR), 4×MPL20AMO, 3×MRT12AMO, 60×HGN3; 7×TRN, 1×BKR, 4×DCH, 9×DWR, 6×WIR; two single and three double craters.

b. Attackers: Iranian Pasdaran and *basij* (673-496-177 points).

1st Pasdaran Infantry Squad: 3/2; 1C; 1×LMG15, 11×RFL11, 1×MPL7.

2nd Pasdaran Infantry Squad (+): 3/2; 1S; 1×LMG15, 12×RFL11, 1×MRT12.

Basij Infantry Squad: 3/2; 1S; 8×RFL18.

Extra Equipment: 1×BNC, 4×PST1 (for LMG, MPL and MRT), 3×SHG, 2×RDO, 94×HGN3 and/or HGN5, 5×MPL7AMO, 4×MRT12AMO, 6×DMC; three single and two double craters (placed immediately after Iraqi deployment).

D. VICTORY CONDITIONS: The Iranian player receives two victory points for each controlled trench and four victory points for controlling the bunker at the end of the game.

"COUNTERATTACK AT FAO 1986"

Iraq recovered gradually from the dark days of 1982 and 1983, pursuing support from abroad and developing an effective doctrine for mobile defense. In February 1986, a new crisis arose when Iran seized the Fao Peninsula, threatening to envelop the whole Iraqi line. Mobile reserves sprang into action in counterattacks on the Iranian spearheads and eventually contained them, although at great cost. Here, elements of the Republican Guards Armored Brigade strike at Iranian formations that have emerged from the marshes of the peninsula.

A. MAPBOARD TERRAIN:

Ignore all hills, trees, buildings, well, walls, fences and hedges. Depressions are height "−1". Brown hexes are scrub. Roads are unpaved.
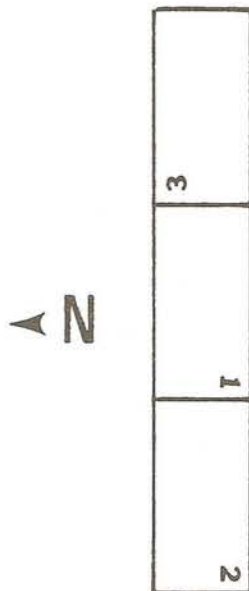
B. SPECIAL RULES: Game length is 5 Turns. Iraqi units may exit only off the west mapboard edge, except to gain victory points (in which case, exit is off the east edge). Iranian units may exit off the east mapboard edge only. Iranian player sets up first anywhere on board 3. Iraqi set up is second, with tanks on mapboard 2 west of hexrow S and infantry units anywhere on board 1. (*Note: for this scenario, players must fashion an additional LGV counter.*)

WEATHER: Normal.

VISIBILITY: Condition 1.

FIRES (OP): Wet.

C. OPPOSING FORCES:

a. Defenders: Iranian Pasdaran and Regular Army AT (691-594-117 points).

1st Pasdaran Infantry Squad: 3/2; 1C, 1S; 1×LMG5, 1×MPL7, 7×RFL1, 1×RFL13 (M2).

2nd Pasdaran Infantry Squad (−): 3/2; 1S; 8×RFL1.

Regular Army AT Squad: 3/3; 1S; 4×PST1, 6×SMG2; 1×TDR6 (Weapon 42), 2×TRK3 (Weapon 42).

Extra Equipment: 1×BNC, 2×PST1 (for LMG, MPL), 5×MPL7AMO, 70×HGN3 and/or HGN5, 2×LPL3; 3×SFX, 2×VMN2.

b. Attackers: Iraqi Republican Guards Armored Brigade.

Motorized Infantry Squad: 5/2; 1S, 1A; 1×LMG20, 1×MPL20, 8×RFL1; 1×BPD.

Armored Squad: 3/2; 1C; 6×RFL1; 2×MBT17.

Extra Equipment: 1×BNC, 4×PST3 (for LMG and MPL), 70×HGN3.

D. VICTORY CONDITIONS: The Iraqi player receives ten victory points for each tank on mapboard panel 3 at the end of the game, and fifteen for each that has exited the east edge.

"ZUBAIDAT 1988"

Iranian morale started to crumble after the costly 1988 offensive against Basra. The final blows came in April 1988, when Iraqi forces retook the Fao Peninsula. In July, the Iraqi army commenced what turned out to be the last offensive of the long war. At Zubaidat, Pasdaran units did not to live up to their former reputation for fanatical resistance.

A. MAPBOARD TERRAIN:

Ignore all trees on mapboard panels 1 and 2. Hills are height "1"; depressions, "−2". Buildings are of stone construction. Roads are unpaved.
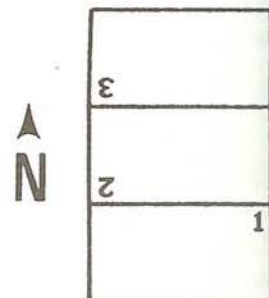
B. SPECIAL RULES: Game length is 6 Turns. Iraqi units may exit from the south edge of the mapboard only; Iranian from the north. Iranian units set up first in any whole hex on mpaboard 3. Iranian Pasdaran squads do not receive a "−1" modifier when rolling for Panic (although they still receive the usual "−1" as defined defenders). Iraqi units

Dear Rex,

Please allow me to correct some errors that crept into my article "Tommy Atkins at War", published in The *GENERAL* (Vol. 25, No. 6):

1. Page 8, first paragraph of "Infantry Weapons": should read "ran her railways and aging industrial plants into the ground" (not just "aging railways"). I chose my words carefully here since Britain's railways were in excellent condition in 1939, despite the neglect and the miserly government compensation that the Great War brought. The widespread use of freight cars chained together without any continuous brakes may have been crude, and British locomotive technology was certainly up to 20 years behind the USA's about 1900, but then Britain had the world's best coal and highly skilled labor in plentiful and cheap supply—hardly an incentive for technical innovations or improvements.

2. Page 8, middle column: the "Weapons Table" should have the double-asterisk in the MMG & HMG (not the "Heavy Mortar") column, and the corresponding footnote should read "Motor Battalions" (not "Mortar Battalions").

3. Page 11, fourth paragraph (Fireflies) should read "the 2000 that the Army wanted" (not 200).

4. Page 11, middle column, penultimate paragraph, "30(t)" should read "38(t)".

5. Page 12, first paragraph: should read "by senior British commanders (who were happy to let their subordinates . . .)". As printed, the sentence does not make sense.

6. Page 12, third paragraph: all references to "Staghound II" should be instead "Staghound III".

7. Last sentence of the article: "Through Mud and Blood" is actually the *unofficial* motto of the RTR; the official motto is the rather unpoetic and less inspiring "Fear Naught".

Since writing the article over some 15 months ago, a few other points have come to light which might interest readers:

A. There are various stories about how the British soldier gained his "Tommy Atkins" nickname, the favorite being the incident between the future Duke of Wellington and the dying Private Thomas Atkins in 1794; but the evidence suggests that the term was in use as early as 1743—some 26 years before Arthur Wellesley was born!

B. Churchill was not alone in demanding the restoration of the death penalty for certain misdemeanors; both Generals Auchinleck and Alexander agreed with him. The Army's refusal to do so was more of a political than a humanitarian decision.

C. In his brilliant work *Decision in Normandy*, the U.S. historian Carlo D'Este includes some information that he received only shortly before its publication, to the effect that 6373 officers and 109251 men (who had been trained as infantry, moreover) languished in Britain while the fighting in North West Europe raged and field commanders clamored for reinforcements and replacements. D'Este, whose researches on this aspect were obstructed by the British authorities, does not speculate as to why this happened, but the most tempting theory is that Montgomery was deliberately starved of these men to prevent a repetition of the 1914-18 slaughter. The British infantry shortages seem, therefore, to have been something of an oft-repeated myth that previous writers never challenged. Incidentally, the wartime strength of the British Army was in excess of two million men most of the time; D'Este gives a figure of 2.9 million in January 1945 (Mollo gives the date as June 1945). A total of 2.6 million men "served overseas", plus about another 1.4 million Commonwealth troops.

Charles Markuss
Bolton, Lancashire

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Dear Rex,

My article on two-player *ST. NAZAIRE* ("But Not Alone" in Vol. 25, No. 6) appears to have become mangled somewhere in the editing process. A crucial rule was omitted from 5.1:

"Each VP foregone in a Zone 2 or 3 square Area generates 2VP extra which may be allocated to any square Area(s) in Zones 1 or 4 with a Selection DR > 60, or to Hexagonal Area(s)."

The clarification printed in 8.7 is also misleading. A boat attempting to leave a Landing Area which fails to cross an underwater obstacle of course remains in the Landing Area, not, as the clarification implies, in the Avant Port.

The purpose of the variant was not only to "animate" the German side but also to widen the scope of the game to include completely unhistorical objectives if the British player so desires. The doubling of transferred victory points is designed to give the British player an incentive to try the toughest assault of them all: an assault across the Penhouet Basin against the railway marshalling yards represented by Areas 461, 463, 464, 465, 466 and 484. Against a live and intelligent German player, this assault is given some hope of success by the German player's need to cover the southern Zone 4 sites (such as 460, 467 and 468) and the U-Boat Pens, which are highly lucrative objectives. If forces accompanying the Campbeltown race for the critical swing bridge 261 while others land at 407 and head for the U-Boat Pens, the German player will be faced with an agonizing decision: which is the real assault and which the feint?

Marcus Watney
Headington, Oxford

In playing through Mr. Watney's variant, we felt that the doubling of the transferred VP imbalanced the game. Hence, in our final version, this proviso was dropped. As for the "clarification" to 8.7, since the boat began in the Avant Port, it will of course still be in the Avant Port—whichever side of the barrier it started—if it fails the dr. Sorry if this caused confusion to anyone; it was meant only to indicate that this was the sole zone this might occur in. As usual, we playtested this variant several times (I dragooned a couple of fellow gamers up in Gettysburg who were familiar with the solitaire game); it was our concensus that the published version represented a better balance.

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Sir:

I have just finished your column ("AH Philosophy, Part 133") in the new issue of The *GENERAL*, wherein you express some righteous indignation at recent criticism. I am not one of the endless "complainers"; indeed, this is my first letter ever to The *GENERAL*. I have been an avid gamer since I was introduced to *THIRD REICH* by a college roommate in 1975, and have almost 40 titles in my collection now. Allow me, first, to express my deepest gratitude to, and admiration for, you and your staff. You have given me and many like me a hobby which seems trivialized by the word, so great is my enjoyment of it.

Nonetheless, let me express a sentiment that many of my gamer-friends share. It is related, I think, to some of the letters you have no doubt received in which people blow off steam without stopping to isolate the source of their frustration. I am a historical conflict nut. I cannot explain it, but that's what does if for me. I would never suggest that some of your sports/fantasy games are not worth playing. I know that is not the case. I have enjoyed many games of *STARSHIP TROOPERS*, myself. But the historical simulations are a breed apart, and that is where my passion lies.

Issues of The *GENERAL* are too few and far between for those of us who are passionate about this hobby. It is more than a pleasant surprise to find one in the mail, and I retreat immediately to my study. Family knows better than to disturb me for an hour or so after its receipt. I must say that it is a let-down to find that 60-90 percent of each issue is not of interest to me. Lately, it seems to tend toward the higher end of that range.

I wonder if you have considered publishing two magazines. In the last 15 years, the number of games you publish has increased dramatically. Is one magazine enough? Most of the readers I know would gladly accept a price increase in exchange for more articles devoted to historical simulation. Your $15 is darn cheap, anyway. It might even be possible to lower your standards a bit in order to have more articles to publish. Print a disclaimer with them, if you wish—or print them "untried and untested", maybe even unedited. Readers will devour them, I assure you. If some of the articles are poorly written or not well-researched, let the readers tear them up in your "Letters" section. Let some good old-fashioned controversy start in your pages. That would only promote the hobby further. As it is,

these articles end up published by little fly-by-night garage operations and making the rounds anyway.

My feeling is that many of the old tribe feel a little abandoned. I have issues of The *GENERAL* from 10 years ago that were devoted almost entirely to games I play. Maybe we're just behind the times, but these games are classics now, by anyone's definition. I'm lucky to get a couple of interesting articles along with the "Squad Leader Clinic" these days. I understand that Avalon Hill probably wouldn't have survived without the sports and fantasy games, but we're not talking survival here—just magazine content. Don't let the critics get to you, but do consider where they're coming from. This is just a suggestion. Keep it up, and thanks for all the good times.

Keith Miller
San Antonio, Texas

The critics can hardly "get me down", for I—at heart—tend to smypathize with them; I too came to this hobby through my love of military history. Although I also played games on other topics, I too felt any attention devoted to them, in deed or print, to be a pure waste of time. But my tenure here at Avalon Hill has brought me to recognize that there are many excellent games on other topics, and that our hobby is no longer confined to stale recreations of hoary old battles. I have consistently tried to keep the magazine fresh, and to attempt to offer some coverage for virtually every Avalon Hill game in our catalogue. Even in the rip-tides of a ballooning line of titles and the concurrent weeding of the old, I hope I've done moderately well given what is submitted by your peers. I wish I could do more. But the addition of another magazine to the already bloated periodical field that purports to cover our hobby isn't the answer. Beyond the question of making a profit, I suspect that such a venture would only prove more of an irritation to the "old guard". Instead, I opted to increase the size of The GENERAL, hoping to, in that manner, provide more of what readers wanted; and the extra space has allowed me to bring articles to them that otherwise would never have seen print. But we still have much more submitted than can be used, and that allows me to be selective in what I place in these pages. Quite frankly, I wouldn't have it any other way. For, even with a disclaimer, I'd hesitate to associate my name or Avalon Hill's with the "untried and untested, poorly written, not well researched, and unedited". I'll leave that to others.

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Dear Rex,

Felt obligated to write a letter of praise regarding the latest issue of The *GENERAL* (Vol. 26, No. 1). It is the first time I have ever given an "issue as a whole" a "1" rating in my survey (which, I might add I, and about 20 other SC-area gamers, always answer). I also loved the "AH Philosophy, Part 133" when you reamed the critics of non-wargames. I have always said that there are as many excellent AH games that do not involve a military premise as there are that are simulations of war. You mentioned many games to illustrate your points, all superb games, but I would like to expound on another. Except for *PENNANT RACE*, I found no mention of games in your sports line. Though it may be out-of-print, *SUPERSTAR BASEBALL* continues to have a large following in my circle of friends, and it doesn't cost as much as rotisserie baseball does. *WIN, PLACE & SHOW, PAYDIRT* and *DECATHALON* are also proven winners with us.

In closing, thanks for being open-minded enough to diversity—and gutsy enough to tell the critics where to stick it!

Roger Cox
Inman, South Carolina

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Dear Mr. Martin:

Issue 26-1 is execrable. Look at the back cover: wargames and military history—NOT fantasy. Please get back to what made Avalon Hill the hobby's standard.

Chris Roehl
San Antonio, Texas

Dear Mr. Martin:

My subscription to The *GENERAL* lapsed with the last issue (Vol. 26, No. 1). I was considering not renewing, because I am among the readership who tends towards the "non-traditional" wargames formerly rarely featured in your magazine. In fact, one more ho-hum ten-page WWII dissertation and I was going to cancel. But Vol. 26, No. 1 changed my mind. I was very glad to see thoughtful analysis and well-deserved space dedicated to some to your other offerings, especially *DARK EMPEROR* and *STELLAR CONQUEST*.

For your remarks in the "Avalon Hill Philosophy", I would like to say "Bravo!" Don't be brow-beaten by the hard-line traditionalists, the WWII-military-simulationists and their "purist" ideology. This group, although vocal, is no longer the bread and butter of the gaming industry—as your sales and research demonstrate. Now, how about a multi-player political-economic-military game (with or without hexes) featuring the late Roman Empire and its barbarian adversaries . . .

Glenn Jaspers
Denton, Texas

Don't know about the late Roman Empire, but we've one in the offing concerning the Republic (as you no doubt know from reading the "Coming Attractions" in Vol. 26, No. 1).

⭐⭐⭐⭐⭐

Dear Mr. Martin:

Having allowed my subscription to lapse over 10 years ago and being too poor or cheap (or both) to renew in the interim, it is finally a pleasure to rejoin *les grognards* amongst the subscription list, rather than rely on the availability of the magazine via retail purchase. Despite the outlay of fifteen whole dollars (at once), the sustained high quality of the magazine convinces me that the investment is worth it.

In reading the "Letters to the Editor" over the past ten years—I have purchased at least four issues annually—it is interesting to see the reflection of American culture written small on Page 40 every other month. I've noticed a decreased civility, an increased specialization, and an overt politicization of every facet of human activity. People, I guess, just like to complain; but I fail to understand what good it does.

For the strength of The *GENERAL* has been its diversity, and the Editors' willingness to experiment with off-beat subjects, and to reach the interests of as many different people as possible—and you can't do it in one issue, but must spread the wealth. Were I Editor of this publication, I would be happy if I knew that each reader could, from each volume year, compile the equivalent of one issue of information useful to him and his interests. So, looking at Volume 25, Number 6 (which I purchased today), I see a lengthy article on *ASL*, which bears no attraction to me, owning as I do the original and modules; but the two-page article on the armies of the minor powers is of interest with its historical information. I do not play *PAA*, and so ignoring the letters and the Philosophy, and the other lists, I still found five or so pages in an issue which so many of your faithful grumblers would normally *kvetch* about (except that it's centered on *ASL* . . .).

In my profession, I receive a number of professional journals; each issue does not concentrate on items of interest to me solely, and some contain nothing of interest to me. Over all, however, I am happy with the investment I've made therein, because most of the time I do not waste my time looking in vain for articles of interest. I can count on a high frequency of useful information.

So it is with The *GENERAL*. I look forward to the articles on *SIEGE OF JERUSALEM* promised in the rules thereto (I bought the game, incidentally, because of its appearance in "Coming Attractions", as I have bought a number of games on the strength of articles published, and know that I will consider my subscription money to have been well-spent. Who knows, I may even read the articles on *ASL*.

(In and aside, I, for one, would be delighted to game against Mr. Schwobel; not only do his points make perfect sense, but he expresses them in such an artful and enjoyable manner that he must have some character. Remember, gang, that not all teenagers are derelicts and deterioroids—some I know I'd rather have voting than many so-called adults.)

William M. Cooper
Lexington, Virginia

ACQUIRING THE KNACK
Improving Your Play of a Classic

By Richard Berthold and Lawrence Waldman

A couple of observations are appropriate before we proceed. For those who may not be familiar with one of the greatest games of finance, and certainly one of the easiest to learn, *ACQUIRE* is based on the premise of players (as many as six) seeking to amass the greatest block of wealth through investment in one or more of seven hotel chains. As with any relatively simple design that has managed to survive two decades as a popular pastime, there is a great deal of subtle play necessary for victory within that framework. Given the nature of the game, we can provide only general principles and guidelines for victory, which must always be tempered by the particular situation and your own inclination towards bold or cautious play. And, as with any good game, the finer points of *ACQUIRE* are better discovered through actual play, rather than learned from any article.

It should also be noted that we play with some variation to the published rules. These changes are slight, and do not affect the nature of the game, so our analysis remains valid for all *ACQUIRE* fans; but we do feel that these "house rules" improve play and would heartily recommend that you adopt them, if asked. These four simple changes from the usual tournament fare are:

1. Randomly select the first player, but without playing the tiles onto the board. Instead, the first player places the first tile from his hand.

2. Players may hold seven (rather than six) tiles.

3. The game be ended when all chains are "safe" only if no more chains can possibly be formed.

4. Stock certificates and money holdings are open to inspection (the published rules seem rather ambiguous on this point).

We also suggest that when playing tiles, players orient them towards themselves—thus making it always clear who played which tiles. Finally, it should be noted by readers when perusing the following, that unless stated otherwise, our comments are made with the three-player game in mind.

As with many games, *ACQUIRE* has three distinct stages in its play. What exactly constitutes the "Opening", "Middle" and "End" games can't be precisely defined and is certainly not important, but this division provides a convenient scheme for organizing our remarks. The "Opening Game" lasts until primary interest has shifted from forming new chains to maneuvering for mergers, which typically coincides with the founding of the last of the seven chains—at which point you move into the "Middle Game". Precisely when the "Middle" gives way to the "End Game" is more vague; by our definition this is when very few or no more chains can possibly be formed, when there are few mergers left, and when one chain is close to the 41 tiles needed for halting play.

OPENING GAME

Play of tiles is one of the crucial elements of *ACQUIRE*. To start, play your tiles at the corners and along the edges of the board in order to reduce the chances of opponents "hitting" such (forming a chain using them), unless you have in your hand adjacent tiles—in which case you may wish to play one and hope to "hit" it on your next turn. If there already exists a chain in which you have no interest or investment, add tiles to it. Not only can such tiles not be "hit", but they also undermine the immedi-

ate early value of the chain by making it larger and thus less likely to earn money by merging. Too, those other players interested in investment in this chain will have to lay out more of their own operating cash, a particularly nice ploy if a battle for control of a chain is underway between two of your rivals. This can lead to a chain becoming a "tile dump".

If you must play an "open" tile—one not connecting to an existing chain or along a boardedge—play one that lies near a chain you control so that if it is "hit" merger possibilities are created for your chain. This is a particularly good tactic if the open tile is but one square away from your chain and you happen to hold the connecting, or merger, tile. Should an opponent found a new chain based on it, you can immediately merge your chain into it for a tidy profit. This, of course, applies only if your chain has but two hotels. If, however, your chain has already grown larger than two, avoid playing any open tile nearby unless you can hit it yourself to create the new chain.

Players will usually, but not always, want to form a new chain when it is possible—even if this means taking none but the bonus stock certificate. If there is any sort of choice, form new chains near other tiles or near the center of the board. If you have the choice of forming it based on a tile you have played or one played by an opponent, opt to hit the other guy's tile as you may be preventing him from forming a chain there himself; of course, you can later then probably hit your own first tile to form a second new chain.

Form the "cheap" chains, unless you can guarantee quick merger of your new chain—in which case, you want to found the most expensive. If the new chain is fairly isolated and/or you need to spend your money on other things, form *Continental* or *Imperial* and take only the founder's share of stock. Advanced players should always keep in mind "Jackson's Rule": When possible, form *Festival* first. (Only when you have understood and mastered this truism can you be said to have achieved true *ACQUIRE* enlightenment.)

Since your primary objective in the "Opening Game" is to create possibilities for obtaining more money in the Middle, buy stock shares to secure "firsts" and "seconds" in hotel chains that have merger potential. Don't waste money on large or isolated chains. Avoid investing too much money in a single chain first (unless, of course, you can merge it quickly) and try instead to open up several money-making possibilities—even if that might involve giving up a "first" place control of a chain. Remember, money management is the ultimate key to victory in *ACQUIRE* (as it is in the best of the many money-games that have come after).

Always consider the "tempo" rather than the number of stocks when purchasing. Because holding 13 shares wins automatic first place, in any competition between two players in a chain, the one who first reaches one, then four, then seven, then ten will always be able to dominate the chain—assuming no interference from the third player. Thus, if you have four shares and your opponent buys up to six, you still have the "tempo" and ultimate control in a buying race; allow him to jump past you to seven shares, however, and you have given him the chain. If you should play after the founder of a chain, buying but two shares will guarantee a second place in that chain against any competition from the third player (assuming no involvement from the founder).

If you have the buying power and time, you should later consider buying up to four shares, which will then "push" the first place share holder, forcing him to buy up to seven or lose the tempo. Generally, the third player should not invest in the new chain, since he cannot get any placement if the others defend their position. If he believes another chain is about to be formed, however, he might risk a buy, since this would guarantee him a second place in one of the two chains.

MIDDLE GAME

The first part of the "Middle Game" is characterized by the continued need to make money (as opposed to "accumulate"), so one should play tiles to maximize merger possibilities for yourself and minimize them for opponents. Play to enlarge chains dominated by others, especially if by doing so they grow towards one you have invested in heavily. Don't worry that you are increasing the value of an opponent's chain; cash is what counts at this stage, and mergers are how you make it (if you make enough, that chain may no longer be his later). Avoid playing "open" tiles if there are any chains available for formation, unless you can play one of an adjacent pair and are willing to take the risk that it won't be hit first by another player. Open tiles are perfectly safe to play if all seven chains are in play, but keep in mind that all will become potential foundations as soon as a merger occurs. If you should hold the majority of saved stock from a chain that has recently been absorbed (or the minority if the majority holder is in a weak position), you definitely wish to play open tiles to maximize your opportunities for bringing the hotel company back. If your opponents are saving stock and you are not, however, then try to "kill" any open tiles by connecting them to existing chains.

Try to form new chains near your own, near large chains, near the center of the board—in that order. At this point in the play, don't form a new chain if you can't defend your position in it; the bonus stock share is not worth giving another player the majority position in it. If, however, the new chain is for the moment isolated and unpromising, or if your opponents like you have no money to invest, then you might wish to reconsider. Which particular chain you form depends upon your cash in hand and the tile situation. If you have sufficient money or a merging tile for immediate play, form the most expensive available. If you have saved a block of stock from the last merger, form that chain (unless there are a number of open tiles, in which case you may wish to form something else). Not reforming, at the first opportunity, a chain in which you have saved shares involves some risk, but by forming something else you can deprive your opponents of yet more stock. Only you can judge the situation: how many open tiles, how many can you take advantage of, how much stock have you saved from previous ventures, what stock you and your opponents hold, whether you are a bold or cautious player. For instance, consider the following: another player has saved a lot of stock from a previous merger and there are a number of open tiles so that he should have no problem bringing the company on again; what would you do? One suggestion might be to bring it on yourself, in the most out-of-the-way place you can; this will temporarily neutralize his options and give you a free stock share in the bargain.

Never rush into mergers at this stage of the game. The ideal situation is for you to have money while your opponents do not. But unless you control both ends (both chains) during a merger, it will certainly grant money to another player as well. Merge only with a good reason—you need money immediately; you fear losing the majority; you fear the chain might grow too large to merge; you wish to bring a windfall to another for help against a third; the merger allows you to seize control of the larger chain (by trading stock shares two-for-one) when that is appropriate.

What you do with your stock shares after a merger depends of course on the overall situation. Sell stock only if you need the money. Often the stock is worth more when sold immediately than when returned as a two-tile chain, but don't think only of short term profits. If your money is comfortable, whether because of adequate reserves or expected mergers, consider hanging onto that stock. Save stock if doing so will give you a defensible spot in the hierarchy when the chain is reformed, and if there are plenty of open tiles to reform it on. If you play next after the merger and have such a tile, then this tactic is risk free. How much stock to save depends on several factors, notably: your own money needs and the value of the stock when it merged, how much stock is held by others, exactly when in the order of seating you must make your decision, the number of open tiles and the risk that the chain may never be reformed. Generally, you want to save enough so that you can guarantee a first place in the chain even if another player should reform it (which means saving at least four shares to keep the tempo even if no one else saves any). Obviously you must save more (remember tempo) if another saves any, but saving large blocks of stock is valuable even if there is no pressure from other players. The more stock you have in a chain when it is reformed, the more cushion against a challange for majority ownership you have before you must defend it. Further, should the new chain reappear near a large chain lightly held by others, you pose an immediate threat to take over control of that larger chain because of your trading potential in case of a merger. For this latter ploy, you might also consider holding onto a large amount of stock in a merged chain even when another player can save more and keep you in the minority. Finally, as a last suggestion, always try to save at least one share. Even if chances of reforming the chain are slim, it is often worth the risk to save a share or two since that means an opponent can't form the chain without your being involved (and prevents one player from reforming a chain and cornering the stock when other players are out of money).

Trading shares will generally come later in the "Middle Game", when players are typically not as pressed for liquid cash and as opportunities for reforming chains are dwindling. Primarily, you trade shares to gain a role in a large, secure chain—but you might also trade in order to help a weaker player defend his position against another, even though you can't take the majority or minority. Opportunities for trading during a merger may occasionally arise earlier in the game, at least if you are not desperate for money. If the chain into which yours has just merged can itself merge into an even larger chain, such a trade may give you a place in this new potential merger. You may even at times consider trading shares in a merger simply to gain a foothold or improve your position in a large chain (shares in a secure chain are never worthless). This is particularly attractive when the trade is financially a "steal" (e.g., a two-tile *Tower* merges into a 15-tile *Imperial*); but immediate "paper" profits should be by far the least important factor in any decision until the "End Game". Remember, trading *usually* represents an investment in a chain that will be safe at game's end, which means that this money is tied up in a long-term investment and unavailable

for use during the rest of the game. Sooner or later you must start maneuvering for majorities and minorities in these stable chains, but the timing depends on the game and you money situation in it.

For the most part, you will be spending money throughout the better part of the "Middle Game" to gain or better your spot in chains likely to merge, and thus to earn you ever more money. Be careful not to buy more stock than you need to hold a first or second slot, and always consider "tempo". It is frequently hard to resist the temptation to buy some extra security in a chain (especially when there is nothing else available worth having), but very often this can come back to haunt you when later you are just that $100 short of being able to protect or seize a majority place in another chain. If one has no better business at the moment, a player with the minority in a chain can buy up to the same level as the majority holder and thus force him to buy three more shares on his next turn to defend his position—an excellent tactic if that player obviously had other purchases he wanted to make. The problem with this sort of sparing, however, is that the two of you are spending money, usually without changing anything, while other players are not. Again, let us stress that you shouldn't be afraid to pass a turn without buying. Consider carefully where you might be threatened in the future, what you have to defend, and what your income possibilities may be, and avoid committing your money until something profitable materializes.

It is virtually impossible to arrive at any general rule concerning how much money you should spend defending your position in a chain, since this depends wholely upon the situation and your own playing style. Each player has limited money and buying time, so defending a position (or more often, being prepared to defend a couple of attractive majorities) will generally close you out of other chains that may be significant. The cautious approach offers a high reward, but also a certain risk—for unless you come up with a merger-making tile you will just sit while other players gain ground. The opposite approach is to give up majority holdings when pressed and invest your money gaining as many second places as possible, thus increasing the chances that you will make money whenever a merger happens. The best policy is somewhere between these two extremes I suspect, and is shaped by the situation in the game.

Towards the latter part of the "Middle Game", you will generally begin investing in the larger, secure chains (those having at least 11 tiles). Exactly when this process starts depends mostly on your money situation, and only you can judge when you have sufficient cash and income potential to allow you to tie up usually large sums in the safe chains. Obviously, you will tend to invest in those in which you already have a stake first, but don't ignore possibilities in a larger, more profitable chain. Consider carefully all potential mergers and share trades. Can an opponent snatch your majority position in a large chain by merging and trading? Can you do the same to another? Try to buy stock in the secure chains to cover yourself against such attacks, and to threaten others with the same. Remember, the order of stock disposal after a merger (which is dependent upon who played the tile) is extremely important. Often, there are but a few shares in a secure chain, and trading first can be more important than trading for a large block.

END GAME

The "End Game" will consist mostly of struggles for position in the safe chains, and calculation of possible outcomes and who is likely to hold what position in each chain plays the pivotal role. Play tiles conservatively in order to avoid giving your opposition the least chance to reform a chain—unless you yourself are significantly behind, in which case

play all the open tiles you have and hope for the best. Forming a new chain, if the opportunity arises, is usually correct play at any stage (especially if you are stuck sitting on some saved stock), but always evaluate the situation; getting the majority in a new two-tile *Tower* at this point in play is hardly worth giving up your position in a well-established *Continental* chain. Obviously, play tiles to try enlarging your own chains.

Finally, always be aware of the approaching end of the game, which means keeping track of the size of the largest chains, the number of unsecured chains, and the possibilities for new chains forming. Very frequently, the player who can end the game (by adding that 41st tile to a chain, or merging with the last small chain, or by removing the last place for a new chain) has the opportunity to score a coup, since he gets to make the last stock purchase of the game—and may thus win a contested chain even if his opponent for control has the "tempo".

VARIANTS

After a few hundred playings, even the most classic game can come to seem stale. Not that we don't readily play it with others at any opportunity, but we've devised a couple of suggestions to liven play when sitting down to our regular session. All of the following suggestions have been tried (although we can hardly claim rigorous playtesting), and hope that you find one to your taste.

For those who regularly play *ACQUIRE* with the same group of people, we suggest that you play series of games and award Victory Points. Since there is a fair amount of randomness in any single playing, such a series is a better gauge of skill. The winner of each game receives 100 victory points, and the others receive whatever percentage of the winner's cash total their final tally may be (VP rounded down). For example, in a four-player game, one ends with $52000, winning the game; each of the others would gain the following if they had: $40000—76 VP, $30000—57 VP, $26000—50 VP. Ten games is a good three-player series, while a 12-game series serves nicely for partnership play (allowing each player to play four games with each of the others). And real fanatics can even use the same mechanism to turn series victory point totals into "meta-points" for continuous competition, rather than simply keeping track of the number of "wins" by each of your group.

Several variants deal with the tiles held, and we have two that we are particularly fond of. In the first, all the tiles are dealt out at the beginning of the game. At the price of an extremely slow game (due to the need to study so many tiles each turn), randomness is reduced and planning is emphasized over all else in the play. In another variant, we play with the players' tiles unhidden. This also makes for a slower game (this time, you are studying the others' tiles as well as your own) that emphasizes planning, but certainly tests the mettle and ability of the players.

We have tried several games in which the players begin with less than $6000. These versions emphasize buying strategy. Obviously, the less money you commence play with, the faster the game will develop (as periods will pass in which no one can purchase stock), but randomness increases because the lower initial funds make the bonus share for starting a company even more crucial. Try $3000 for a three-player game, and $2000 for a four-player game.

A most interesting variant is the "Play-Buy", in which a round of tile-playing is followed in turn by a round of stock-purchasing. Each turn follows the same pattern, and the lead rotates to the next player for the next turn of two rounds. This is *ACQUIRE* with a definite twist, and changes the nature of the game more than any other variant. Buying tempo

and share trading is dramatically changed, since the player who forms a new chain or makes a merger is not always the player who will buy first. And, obviously, the importance of being the last player to take action in a game is lessened. But for pure ruthless enjoyment, this variant has proved popular among our jaded group.

In closing, we once again admonish readers to keep in mind that this look at *ACQUIRE* provides only general guidelines (and a few variants to then throw them all out), which *you* must apply and modify according to the circumstances in each game. Always remember the immortal words of Georgie Patton: "There is no approved solution to any tactical situation."

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Flame in the Gulf . . . *Cont'd from Page 40*

are set up second in any whole hex on mapboard 1. The Iraqi mortar may be deployed offboard, engaging in indirect fire only at a range of 100 hexes. Radio LOS rules do not apply.

WEATHER: Normal.

VISIBILITY: Condition 1.

FIRES (OP): Normal.

C. OPPOSING FORCES:

a. Defenders: Iranian Pasdaran (450-316-134 points).

1st Pasdaran Infantry Squad: 3/2; 1C; 1×MMG1, 1×MPL20, 7×RFL1, 1×SMG7; 1×BPD.

2nd Pasdaran Infantry Squad (−): 3/2; 1S; 1×LMG20, 6×RFL1; 1×BPD.

Extra Equipment: 1×BNC, 3×PST1 (for MMG, LMG and MPL), 8×MPL20AMO, 60×HGN3 and/or HGN5, 1×LPL3; 2×PBX, 3×SFX, 10×WIR.

b. Attackers: Iraqi Regulars (913-770-143 points).

1st Motorized Infantry Squad: 4/2; 1C, 1S; 1×LMG20, 1×MPL20, 8×RFL1, 1×PST4; 1×BPD.

2nd Motorized Infantry Squad (+): 4/2; 1S, 1A; 1×LMG20, 1×MPL20, 10×RFL1, 1×MRT13.

3rd Motorized Infantry Squad (−) (includes crew of Urutu): 3/2; 1S; 1×LMG20, 1×MPL20, 7×RFL; 1×APCI1 (Weapon 5)

Extra Equipment: 1×BNC, 6×PST (for LMG and MPL), 18×MPL20AMO, 100×HGN3.

D. VICTORY CONDITIONS: Each player receives four victory points for each building and pillbox controlled at the end of the game. However, the Iraqi player wins immediately, regardless of points, anytime that both Iranian squads are simultaneously panicked.

In the course of his article, Mr. Werbaneth makes reference to three vehicles not included in FIRE-POWER. Although only one is utilized in the above scenarios, players wishing to add them to their arsenal should incorporate the following information (presented in same order as on Vehicle Charts):

LGV; APCI1; **Urutu**; MW; 24/3; 3/A; 16; −1; 3/2; 3; 3; 2; 2; 2; 2; 2; D4; 12; 1,8; 3,1; A,J; 20/15; 2/-; 5; HRS; 74; 24.

LGV; RCVI1; **Cascaval**; MW; 19; 3/33; 3; 13; 0; 2T; 4; 3; 2; 2; 2; 2; D4; 2,8,12; 1,1; K,J; 17/14; 2/X; 5; H; 74; 33.

SMV; RCVI2; **Jararaca**; W; 23/3; 3/A; -; 6; −1; 2T; 2; 2; 2; 2; 2; 2; -; 1; 2,7,13; 1; H; 20/15; 5; HS; 81; 15.

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COMPUTER CORNER

Computer ACQUIRE

By John Huff

Before I get too far along, I would like to address a question put before our editor in a letter from Mr. Patrick Sorrentino. I felt that a response here might do more good than a personal letter as (from the content of the letter) I had obviously left the readers with some confusing impressions in a recent column (Vol. 26, No. 1). Mr. Sorrentino's concern was this: "If the IBM is the strongest presence felt in the computer market, why were we releasing Computer *THIRD REICH* for the Atari ST?"

The reason is simple: the developer preferred to do the initial release on this machine. When the project started, the IBM machines did not have sufficient graphics to handle the job. Now, with the availability of inexpensive EGA and VGA systems, it does. Computer *THIRD REICH* will be released on the Amiga and the IBM after the ST version is complete. For those readers who may have seen the alpha-version at ORIGINS '89, you will have to be patient for a few more months. The computer games currently in production are being very carefully scrutinized before release to avoid some of the mistakes that have plagued us in the past. If this takes longer than expected, I apologize as the agent responsible for the delay. For those who are impatient, you will have to content yourself with heaping abuse on me.

If readers find this attitude contradictory in a market where the life of new games is measured in weeks, I shall try to clarify. MicroComputer Games is not concerned with flash-in-the-pan games; we are seeking to produce intelligent, innovative games with long replay value these days. At the current prices of computer games, this seems an obligation—and as a division of The Avalon Hill Game Company, it is expected of us. All of the new releases are titles which I am proud of and which I think will entertain gamers of all levels.

Mr. Sorrentino was curious about what plans we do have for IBM releases. Those which we are willing to talk about at this point include:

Conqueror: An empire building game which has 58 active countries on another world. Each player (human or computer) uses their knowledge of economics, warfare, espionage and people to guide their country as best they can. You can win the whole world is good enough!

Third Reich: A faithful conversion of the boardgame to the computer.

Tokyo Express: A full implementaion of the boardgame by its designer, Jon Southard.

ACQUIRE

This new release for the IBM has been through one beta-test, and is currently undergoing a number of cosmetic revisions. I hope by the time you read this installment that it will be complete. We've been delighted with the results of our first playtest. The comments of the testers were of a very high standard and were well taken. Unfortunately, this added some development time. Most players are no doubt familiar with the principles of the game. *[Especially if they've just read Mr. Berthold's piece.]* The computer version simply moves the game onto the computer screen and makes input simple and easy to control. All the rules are implemented, so the elegant strategies players have concocted can all be employed.

The real strength of the program lies in its computer "players". When a computer player is called for, the computer selects the personality from a number of "templates" and then assigns a name to that player. The template is the strategy favored by that computer player. If the computer-driven player has the money and stock to follow that strategy, it will do so whenever possible. The template thus governs how much the player will hold stock of a defunct chain, how it plays tiles, how much it will trade in a merger, and a number of other parameters. Winning the game will still demand that you (the human) gets the right stock at the right time, and that you study your opponents' strategies and use your observations to anticipate their moves. While no computer player will ever be as challenging as a human one, these electronic phantoms will keep you guessing.

The most difficult thing to accomplish in any computer game is to craft a synthetic opponent who can provide a challenge. In computer game design this has been generally handled in one of two ways. The first is to allow the computer to have access to data not available to the human player. But when a human player does this in a boardgame, he is called a "cheat"; the same applies to computer players. The second method is to introduce random events that have a chance of interfering with the human player's strategy. Both these design philosophies can work—except that the human players soon learn how to defeat the computer, rather than to win the game.

A better approach, now in vogue, is to build a "Synthetic Opponent". (I have coined this term because the more common "Artificial Intelligence" is misused *and* misleading in this context.) An SO uses the same rules as the human player to gather information and play the game. It is then provided with a mechanism for evaluating the information and rules and prioritizing these to decide upon the best possible course of action. Many computer games appear to do this, but that is often an illusion introduced by random elements. In point of fact,

Sports Special

STATIS-PRO BASEBALL

Part Two

By Jim Burnett

In our previous installment (Vol. 26, No. 2) on *STATIS-PRO BASEBALL*, I concentrated on the hitting and pitching aspects of the game. While these are certainly and justly perceived as the most important factors in baseball, a good deal of the interest in the game is centered on the finer points of the sport—fielding and base-running.

Table 5 is the "error" listing. The numbers listed here are the times a card appears for a particular number and the accumulated percentage giving the initial chance of a fielder making an error. From this table, even the worst fielder has over an 86% chance of coming up with the ball. Additionally, the numbers can be combined with the values from Table 6 by position to create Table 5a. Astute observers will further notice that even this is not the final answer since different batters have different chances of hitting into errors (a pitcher hitting has the most!), but these will do for practical purposes. Also to be noted is that the table is only accurate for pitchers and infielders. The catcher has additional chances for errors from passed balls, and outfielders may commit errors as a result of cards turned over from hits on the batter's card. These cannot be factored in since they are a reflection of the statistics of the individuals involved. Still other sources of errors (pun intended) come from the "Z" cards and the optional game tables. These then are a result of an option, and are not forced by the game system itself. Figures 5 and 5a, therefore, show the chances of different rated players committing errors on routine plays.

Table 5: Error Chances by Error Number

Error #	# Cards	Cumulative #
1	6	1.54
2	5	2.83
3	5	4.11
4	5	5.40
5	5	6.68
6	5	7.97
7	5	9.25
8	5	10.53
9	6	12.08
10	5	13.37
None	337	

Table 5a: Final Error Probabilities on Routine Plays, summarized by chances per Position and by Error Rating for a given Position.

	P	C	1B	2B	3B	SS	LF	CF	RF
Chances	222	199	366	425	452	516	159	186	202
Errors	198	67	276	323	322	428	6	2	5
Percentage	89.2	33.7	75.4	76.0	71.2	82.9	3.8	1.1	2.5
Error #									
1	1.37	0.52	1.16	1.17	1.10	1.28	0.06	0.02	0.04
2	2.52	0.95	2.13	2.15	2.01	2.35	0.11	0.03	0.07
3	3.67	1.39	3.10	3.12	2.93	3.41	0.16	0.05	0.10
4	4.82	1.82	4.07	4.10	3.84	4.48	0.21	0.06	0.14
5	5.96	2.25	5.04	5.08	4.76	5.54	0.25	0.07	0.17
6	7.11	2.69	6.01	6.06	5.67	6.61	0.30	0.09	0.20
7	8.25	3.12	6.97	7.03	6.59	7.67	0.35	0.10	0.2
8	9.39	3.55	7.94	8.00	7.50	8.73	0.40	0.12	0.26
9	10.78	4.07	9.11	9.18	8.60	10.01	0.46	0.13	0.30
10	11.93	4.51	10.08	10.16	9.52	11.08	0.51	0.15	0.33

The results of errors covered by types of errors which may be committed by each fielder is covered in Table 6. They are listed both by card type, and then broken down by position. In general, from the Out chart, Error #2 is worst for infielders, followed by Error #1 and Error #3. For outfielders, Error #4 is worse than Error #5.

Table 6: Error Type Percentages by Position

Error #	P	C	1B	2B	3B	SS	OF
1	50.13	50.13	87.66	37.53	37.53	37.53	
2				49.62	49.62	49.62	
3	49.87	49.87	12.34	12.85	12.85	12.85	
4							87.66
5							12.34

We can now proceed to the tables derived from charts printed on the game board. The numbers here have been obtained from Table 1 (see last issue) and three of the charts which can be read directly using this table: "Runners Advancing on Base Hits", "Advancing on Fly Ball", and "Defense Option Play". These will not be summarized here to relieve the reader of yet another sea of numbers.

The different Bunting situations are covered by Tables 7-9. The results for bunting for a hit (Table 7) are very favorable to the batter. Even though he must be a "Speed A" or "B" and may only attempt this option once per game, a .535 batting average is hard to pass up. It will, in fact, pay to have such an individual on the bench for pinch hit duties if you need to start or continue a rally. This option is so powerful that you may consider allowing the defense to declare that the corners are "in", which would force the batter to hit away. For purposes of this variation, add an imaginary runner to third base and consider any plays made on this lead "runner" to be safe hits for the batter. All others are "Outs".

Table 7: Chances when Bunting for a Hit.

Result	Percentage
Hit, Error	53.49
Sacrifice	22.93
Foul	24.68

Table 8 covers sacrifice bunting by the skill of the bunter versus the chances for all runners safe (hit or error), a successful sacrifice, a loss of the lead runner, or a double-play. While batter effectiveness ranges from about 80% for "AA" to 45% for "DD", at least double-plays are only a slight chance for all. There is no difference between runner position on the first two bases.

Table 8: Results of a Sacrifice Bunt Attempt versus Batter Rating.

Result	AA	BB	CC	DD
Sacrifice	69.15	56.81	49.10	38.30
Both Safe	9.26	7.71	6.17	6.17
Man on First	18.76	29.05	39.34	48.34
Double-Play	2.83	6.43	5.39	7.19

If you are more daring and wish to try to get the run in from third, check Table 9. Again, the type of bunter is cross-referenced with his chances for sacrificing the runner, both safe, lead runner out, lead runner hold, etc. The bottom line is that an "AA" bunter is successful one-third of the time, whereas a "DD" gets it only one-fifth of the time. Again, players may wish to forbid the squeeze-play if the infield (or corners) are in. This observation is made both for the bunt for hit and squeeze-play since both of them are normally called on an unaware defense. The chance of getting a hit through a pulled-in infield should be enough to offset the loss of these options, and should give both the offense and defense a chance to make strategic moves during critical portions of a game.

Table 9: Results of Attempted Squeeze-Play versus Batter Rating.

Result	AA	BB	CC	DD
Sacrifice	24.68	21.59	13.88	9.35
Both Safe	9.00	9.26	12.34	12.34
Lead Runner Out	18.51	21.34	25.97	30.60
Hold, Batter Out	44.73	40.10	33.93	24.68
Runner Out	3.08	7.71	13.88	23.13

Base-stealing is covered by Table 10. This is broken down into chances for each runner, by speed, toward a particular base. The rows for "Safe" include plays where errors are made. Two additional columns are given based on the catcher's throwing prowess; the numbers in these columns are to be added or subtracted from the runner results if a catcher has a "TA" or "TB" arm. Since a "A" class runner has over a seven-to-one chance of being safe when stealing second against a poor catcher, he should be sent almost at once. With a "TA" catcher, this drops to three-to-one—a much riskier proposition. A recommendation here is to consider a "Hold" result to deprive a runner of another attempt to steal until a new batter is up. The reasoning is that a steal of home by an "A" runner against even a "TB" catcher is a 3-1 shot if allowed repeated attempts. These odds are just too good and are too open to abuse. Also, if a runner can ignore the hold cards, the "A" runner has a computed 42% chance to steal all three bases in succession once he gets on first. This would slow the game considerably, as a player would be tempted to keep drawing to gamble on an easy run, especially in a two-out situation with a poor batter up.

Table 10: Chances for different Runners making Attempts at different Bases. TA and TB are Additions or Subtractions from the Odds based on Catcher Ratings.

	A	B	C	D-E	TA	TB
2nd Base:						
Safe	67.60	47.55	37.01	27.75	−10.70	−6.08
Out	9.26	29.31	39.85	49.11	+10.70	+6.08
Hold	23.14	23.14	23.14	23.14		
3rd Base:						
Safe	58.34	44.72	30.84	26.74	−10.70	−6.08
Out	18.62	32.14	46.02	50.12	+10.70	+6.08
Hold	23.14	23.14	23.14	23.14		
Home Base:						
Safe	29.30	20.05	15.42	12.34		
Out	9.16	18.41	23.04	26.02	+1.54	
Hold	61.54	61.54	61.54	61.54	−1.54	

If you like more action while you're moving runners, Table 11 gives the chances on a hit-and-run play based on the batter's rating. The percentages are broken down into hits, stolen bases, outs, holds and double-plays. Included in this table are modifications as above for runner ratings and pitcher's moves. A batter with a hit-and-run or "1" or "2" should always use this table with an opportunity against a "6" or worse pitcher. Batting averages of .321 and .398 are just too hard to come by. A "0" rating comes out ahead only with a fast runner on base, but in this case a steal or sacrifice should be the better option.

WINGS OVER KOREA
Additional Scenarios for FLIGHT LEADER
By Roger K. Horky

The Korean War (1950-53) was the first major conflict to follow the Second World War, and must be considered a direct legacy of that holocaust. During World War II, Korea was occupied by the Japanese; and after that war, Korea was divided into two regions, north and south, divided by the 38th Parallel—and by differing political views. The northern area was administered by the Soviet Union, while the southern zone was placed under American jurisdiction. Neither world power seemed satisfied by this state of affairs, and in June 1950, the north invaded the south. This article does not presume to be a history of the Korean conflict as a whole. Rather, its purpose is simply to provide some insight into the aerial aspects of that war, particularly in the arena of jet combat, within the context of the game *FLIGHT LEADER*.

Another legacy of World War II was the incredible advances in fighting aircraft technology, particularly in the field of the jet propulsion. During 1945, only the Germans had been able to put combat jet aircraft into combat (both fighters and bombers), but had the war lasted a few months longer both the US and the UK would have had operational jet fighters. The USSR entered the field only after the war was over, but by 1948 had jet aircraft in service.

The Korean War, as a result, was to be the first ''jet'' war. This is not to imply that only jet aircraft participated; but for the first time jet aircraft were called upon to play a major role in the outcome of a conflict and were able to fulfill the promise only hinted at in 1945.

The first types of aircraft to benefit from the developments in jet propulsion were, unsurprisingly, the fighters—since they would profit most obviously from the superior speeds and altitudes attainable by jet engines. Fighter combat in jet aircraft did not differ much from combat in prop-driven planes, with a few notable exceptions. Foremost was the fact that jet aircraft, whose top speeds approached 700 miles-per-hour even in 1950, could close with one another much more quickly than prop-driven planes. In a head-on pass, closing speed could exceed 1300 mph! This meant that fighter pilots would have to keep an especially close watch for *any* other aircraft, for an enemy that had moments before been a speck in the distance could turn and suddenly close to firing range in a few seconds. Remember that in 80% of all air-to-air kills—from World War I to the Falklands—the target never saw the aircraft that shot them down. Thus, in Korea was the requirement to spot the enemy before he spotted you made even more imperative.

Another result of the greater speeds of these early jet fighters was the increased frequency of missed combats. Many times during the Korean War pilots would report spotting enemy aircraft passing in the opposite direction; but by the time they had turned to face the ''bogey'', their opponents would be long out of range. A stern chase between aircraft of similar speed was a very frustrating experience. Remember, this was before the days of air-to-air missiles; the fighter pilot still relied on his guns.

A very important factor in jet combat proved to be endurance or, rather, the lack of it. Early jet engines consumed fuel at phenomenal rates, and combat time for jet aircraft in the 1950s was strictly limited. In the first days of the Korean War, US aircraft based in Japan would have less than 20 minutes of combat time to spend in the forward areas.

The Korean conflict is not notable just for being the first war in which jet aircraft played a major role; it was also the first war in which the US Air Force took part. Scarcely two years old when the fighting broke out, the USAF ran the show as far as air combat was concerned. Of the 40 pilots who attained ''ace'' status (five or more confirmed ''kills'') during the Korean War, 38 of them were USAF personnel flying Sabre jets. The Marine Corps' only ace, Major John Bolt, was attached to a USAF squadron and flew the Sabre as well. The only other American ace of the war was Lt. Guy Bordelon, US Navy; he scored his five kills in an F4U Corsair—a prop-driven fighter from WW2!

Indeed, the US Navy almost didn't enter the jet age. While most of the world's land-based air arms were having no trouble making the transition from propellers to jets, the Navy was discovering that jets and carriers didn't mix. In the first place, jets—being generally heavier than piston-engine aircraft—needed more room to take off. Secondly, jet aircraft had higher landing speeds than prop-driven planes, which meant they needed more room to land as well. (The obvious solution would have been to design bigger carriers, but the political climate of the times made this out of the question; the Navy was forced to make do with its carrier fleet from WW2.) Yet the greatest obstacle to carrier jet operations at the time was the combination of the ''straight'' flight deck of the WW2-era carriers then in service and the slow throttle response and poor acceleration typical of jet engines of the period. In World War 2, if a pilot failed in his attempt to land on a carrier, he could simply open up the throttle to regain lost speed and come around again for another try—a technique that wouldn't work with a jet. A jet pilot in this situation would soon find himself in the water, or careening into aircraft parked at the forward end of the flight deck. This problem was eventually solved by the adoption of the ''angled'' flight deck (a British development) and, of course, advances in jet engine technology.

The Korean air war was, then, a jet air war—the first. During that conflict, many notable firsts were recorded, including the first all-jet dogfight, the first jet-to-jet ace, the first jet-to-jet night kill, and the first swept-wing battle. *FLIGHT LEADER* includes many excellent scenarios representing typical aspects of the Korean War in the air. However, just as many good scenarios were omitted. Here then, for those paper pilots who just can't get enough, are my additional, historical scenarios simulating the Korean War:

24.20 MIGS & METEORS: Korea; December 1, 1951. The Korean War was a very international affair, and this held true in the Allied air effort as well. The Australians had already earned something of a reckless reputation when early in the morning of 1 December, a force of some 40 MiG-15s ambushed 14 Meteor F8s of No. 77 Squadron of the Royal Australian Air Force. In the resulting melee, the outclassed Aussies brought down two MiGs at the cost of three Meteors.

24.20.1 MISSION PROFILES: Sweep vs. Sweep. No controllers.

24.20.2 OPPOSING FORCES:
North Korea: All Enter/Exit NW. (48SP)
1st (1A-4A): 4 MG15 (801-804)—MS:9; MA:15. 0/2/2.
2nd (1B-4B): 4 MG15 (B811-B814)—MS:9; MA:15. 1/0/3.
Australia: All Enter/Exit SE. (32SP)
1st (1A-4A): 4 Meteor (461-464)—MS:8; MA:13. 1/3/0.

24.20.3 TERRAIN ALTITUDE: LG=0, DG=1, T=1, B=1.

24.20.4 BOUNDARIES: North Korean territory.

24.20.5 RULES OF ENGAGEMENT: The Australians and North Koreans may use any formation except line-abreast (tactical).

24.20.6 OPTIONS: Environment: Sun in RR34, SS35, TT34. No clouds.

24.20.7 VICTORY POINTS:
North Korea: 4 per eliminated, 1 per damaged, and 2 per penalty-exited Meteor.
Australia: 12 per eliminated, 3 per damaged, and 6 per penalty-exited MiG-15.

24.21 THE ROAR OF THUNDER: Korea; January 23, 1951. In what would become one of the most impressive aerial victories in the conflict, 33 US F-84 Thunderjets returning from a ground attack mission were intercepted by 30-odd MiG-15s. Four MiGs were brought down (two by a Lt. Kratt) and four damaged without loss to the US planes.

24.21.1 MISSION PROFILES: Sweep vs. Sweep. No controllers.

24.21.2 OPPOSING FORCES:
United States: Enter SW/Exit SE. (88SP)
1st (1A-4A): 4 F-84G (221-224)—MS:8; MA:12. 2/2/0.
2nd (1B-4B): 4 F-84G (B461-B464)—MS:8; MA:12. 1/3/0.
North Korea: Enter NW/Exit N. (48SP)
1st (1A-4A): 4 MG15 (801-804)—MS:9; MA:15. 0/2/2.
2nd (1B-4B): 4 MG15 (B811-B814)—MS:9; MA:15. 0/2/2.

24.21.3 TERRAIN ALTITUDE: LG=0, DG=0, T=1, B=1.

24.21.4 BOUNDARIES: North Korean territory.

24.21.5 RULES OF ENGAGEMENT: The F-84s start with 20 fuel remaining, and must enter at Altitude 1. The Americans may use any formation and the North Koreans may use any formation except line-abreast (tactical).

24.21.6 OPTIONS: Environment: Sun in V34, W35, X34. No clouds.

24.21.7 VICTORY POINTS:
United States: 4 per eliminated, 1 per damaged, and 2 per penalty-exited MiG-15.
North Korea: 8 per eliminated, 2 per damaged, and 4 per penalty-exited F-84.

24.22 PANTHER MEETS BEAR: Korea; November 18, 1952. A formation of Russian MiG-15s from Vladivostok was intercepted by F9F-2 Panthers from the US carrier *Oriskany*. One of the MiGs was destroyed without loss by the Americans, and the other Russians withdrew. But no mention of this incident was made to the US public at the time.

24.22.1 MISSION PROFILES: Sweep vs. Sweep. United States controllers (SE).

24.22.2 OPPOSING FORCES:
Soviet Union: All Enter/Exit N. (36SP)
1st (1A-4A): 4 MG15 (801-804)—MS:9; MA:15. 1/0/3.
2nd (1B-2B): 2 MG15 (B811-B812)—MS:9; MA:15. 0/1/1.
United States: Enter S/Exit SW. (32SP)
1st (1A-3A): 3 F9F2 (171-173)—MS:7; MA:13. 1/2/0.

24.22.3 TERRAIN ALTITUDE: "0" altitude level in all hexes.

24.22.4 BOUNDARIES: United States territory.

24.22.5 RULES OF ENGAGEMENT: The US aircraft are in one three-plane element and may use any formation. The Soviet aircraft may use any formation except line-abreast (tactical).

24.22.6 OPTIONS: Environment: Sun in RR34, SS35, TT34. No clouds.

24.22.7 VICTORY POINTS:
Soviet Union: 4 per eliminated, 1 per damaged, and 2 per penalty-exited F-9F.
United States: 8 per eliminated, 2 per damaged, and 4 per penalty-exited MiG-15.

24.23 THE "BOX-IN": Korea; 1953. During the last winter of the war, the North Koreans—aided by the Soviets—developed a strategy for dealing with the constant US Sabre patrols that effectively kept their MiGs north of the Yalu River. Called the "box-in", this strategy required careful monitoring of Sabre positions and time-on-station. Just before the Sabres would have to return to base due to fuel constraints, the Koreans would send some aircraft over the Yalu to take up positions over the Chongchun River. When the US jets headed home, they were pursued by MiGs from over the Yalu. Low on fuel and preoccupied with the MiGs behind them, many US aircraft were lost—most becoming

fuel "kills", unable to reach the safety of UN-held airspace. The war ended before the Allies developed a successful counter to this tactic.

24.23.1 MISSION PROFILES: North Korean Sweep vs. United States CAP en route home (play as Sweep). North Korean controllers (NW).

24.23.2 OPPOSING FORCES:
North Korea: 1st flight Enter SE/Exit NW. 2nd flight Enter/Exit NW (62SP).
1st (1A-4A): 4 MG15 (801-804)—MS:9; MA:15. 1/1/2.
2nd (1B-4B): 4 MG15 (B811-B814)—MS:9; MA:15. 0/2/2.
United States: All Enter W/Exit SE. (36SP)
1st (1A-4A): 4 F86A (251-254)—MS:9; MA:14. 1/3/0.

24.23.3 TERRAIN ALTITUDE: LG=0, DG=1, T=1, B=2.

24.23.4 BOUNDARIES: North Korean territory.

24.23.5 RULES OF ENGAGEMENT: The F-86s start play with 12 fuel remaining. The North Korean 1st flight starts with 22 fuel remaining; the 2nd flight with 20 fuel remaining. The North Koreans 2nd flight may enter no sooner than Turn 3, but must enter before Turn 7. The Americans may use any formation and the North Koreans may use any formation except line-abreast (tactical).

24.23.6 OPTIONS: Any.

24.23.7 VICTORY POINTS:
North Korea: 4 per eliminated, 1 per damaged, and 2 per penalty-exited F-86.
United States: 12 per eliminated, 3 per damaged, and 6 per penalty-exited MiG-15.

24.24 NIGHT FIGHTERS OVER KOREA: Korea, 1952-53. During the winter of 1952-53, the USAF mounted a series of nightly B-29 raids on targets in NW Korea. Although the Koreans had no dedicated night-fighting aircraft, American losses were heavy as the Communists pressed day interceptors into the role of night fighters. Having no radar of their own, the MiGs and Yaks used at night depended on ground-based radar to bring them within visual range of the large B-29s. The USAF, on the other hand, had a suitable defense with the F-94A Starfire—but security considerations prevented their use over hostile territory. Arrangements were made for US Marine F-3D Skyknights to patrol the areas through which enemy interceptors would pass on their way to the bombers. Using the techniques of ground-controlled interception pioneered by the Luftwaffe in WW2, the Marines scored several kills over various types of enemy fighters. Eventually, however, the US Air Force was granted permission to fly F-94s over enemy territory. Communist losses mounted, and ultimately forced Soviet and Korean commanders to cease operations against the night bombers.

24.24.A SCORE ONE FOR THE BLUE WHALE: Korea, November 3, 1952. On the wintery night of 3rd November, an F-3D Skyknight manned by Major Stratton and M/Sgt. Hoglind

scored the first jet-to-jet night kill by downing a Yak-15 over enemy territory.

24.24.A1 MISSION PROFILES: United States CAP vs. North Korean Sweep. United States controllers (SE).

24.24.A2 OPPOSING FORCES:
United States: Start hex WW22. Enter/Exit SE. (12SP)
1st (1A): 1 F-3D (131)—MS:8; MA:12. 0/2/0.
North Korea: Enter NW/Exit SE. (6SP)
1st (1A): 1 YK-15 (see note)—MS:7; MA:13. 0/1/0.

24.24.A3 TERRAIN ALTITUDE: LG=0, DG=1, T=1, B=2.

24.24.A4 BOUNDARIES: North Korean territory.

24.24.A5 RULES OF ENGAGEMENT: The United States aircraft must start play at altitude 7.

24.24.A6 OPTIONS: The scenario occurs at Night (or 15.5.2).

24.24.A7 VICTORY POINTS:
United States: 4 per eliminated, 1 per damaged, and 2 per penalty-exited Yak.
North Korea: 8 per eliminated, 2 per damaged, and 4 per penalty-exited F-3D.

NOTE: The Yak-15's statistics can be found in the article "The Trouble with Angels" (Vol. 23, No. 1 of The *GENERAL*) and reprinted on the insert enclosed. The counter for this aircraft is available, along with the other variant *FLIGHT LEADER* counters, on the bonus counter sheet included with this issue for subscribers. *(Non-subscribers who may wish to purchase this sheet of 130, mounted and die-cut variant counters can order it directly from The Avalon Hill Game Company for $3.00, plus usual shipping and handling charges.)*

24.24.B FIRST MIG DOWN: Korea, November 8, 1952. On this date, pilots flying a F3D scored the first kill against a MiG-15 using it during a night intercept.

24.24.B1 MISSION PROFILES: United States CAP vs. North Korean Sweep. United States controllers (SE).

24.24.B2 OPPOSING FORCES:
United States: Start hex RR18. Enter E/Exit SE. (16SP)
1st (1A): 1 F-3D (131)—MS:8; MA:12. 1/1/0.
North Korea: Enter N/Exit S. (9SP)
1st (1A): 1 MG15 (801)—MS:9; MA:15. 0/1/0.

24.24.B3 TERRAIN ALTITUDE: LG=1, DG=1, T=1, B=2.

24.24.B4 BOUNDARIES: North Korean territory.

24.24.B5 RULES OF ENGAGEMENT: The American aircraft must start play at altitude 5.

24.24.B6 OPTIONS: The scenario occurs at Night (or 15.2.2).

24.24.B7 VICTORY POINTS:
United States: 4 per eliminated, 1 per damaged, and 2 per penalty-exited MiG-15.
North Korea: 8 per eliminated, 2 per damaged, and 4 per penalty-exited F-3D.

24.24.C THE USAF TAKES CONTROL: Korea, May 10, 1953. In May 1953, U.S. Air Force pilots, only recently granted permission to fly the F-94A over hostile territory (its radar was top-secret),

scored their first air-to-air night jet kills—the first victim being the ubiquitous MiG-15.

24.24.C1 MISSION PROFILES: United States CAP vs. North Korean Sweep. United States controllers (SE).

24.24.C2 OPPOSING FORCES:
United States: Start hex UU22. Enter/Exit SE. (16SP)
1st (1A): 1 F94C* (241)—MS:7; MA:15. M:0; R:2/0; IG(MG). 1/1/0.
North Korea: Enter NW/Exit S. (9SP)
1st (1A): 1 MG15 (801)—MS:9; MA:15. 0/1/0.

24.24.C3 TERRAIN ALTITUDE: LG=0, DG=0, T=1, B=1.

24.24.C4 BOUNDARIES: North Korean territory.

24.24.C5 RULES OF ENGAGEMENT: The American aircraft must start play at altitude 5.

24.24.C6 OPTIONS: The scenario occurs at Night (or 15.5.2).

24.24.C7 VICTORY POINTS:
United States: 4 per eliminated, 1 per damaged, and 2 per penalty-exited MiG-15.
North Korea: 8 per eliminated, 2 per damaged, and 4 per penalty-exited F-94.

24.25 AUSSIES AND YANKEES: Korea, March 27, 1953. A pair of USAF RF-80Cs on a reconnaissance mission, escorted by two Meteor F8s of the RAAF, were jumped by a large force of MiG-15s between Sariwan and Sinmak. After Several minutes of skirmishing, both sides retired—without a loss.

24.25.1 MISSION PROFILES: United Nations Penetration (recon) vs. North Korean Sweep. No controllers.

24.25.2 OPPOSING FORCES:
United Nations: All Enter SE/Exit W. (32SP)
1st (1A-2A): 2 F80C* (241-242)—MS:7; MA:13; EG. 1/1/0.
2nd (1B-2B): 2 Meteor (461-462)—MS:8; MA:13. 0/2/0.
North Korea: Enter NW/Exit N. (36SP)
1st (1A-4A): 4 MG15 (801-804)—MS:9; MA:15. 0/2/2.
2nd (1B-2B): 2 MG15 (B811-B812)—MS:9; MA:15. 0/1/1.

24.25.3 TERRAIN ALTITUDE: LG=0, DG=1, T=1, B=2.

24.25.4 BOUNDARIES: North Korean territory.

24.25.5 RULES OF ENGAGEMENT: The United Nations aircraft may use any formation and the North Koreans may use any formation except line-abreast (tactical).

24.25.6 OPTIONS: Environment: Sun in A34, A35, A36. One low cloud deck at altitude levels 2-4.

24.25.7 VICTORY POINTS:
United Nations: 12 per eliminated, 3 per damaged, and 6 per penalty-exited MiG-15.
North Korea: 8 per eliminated, 2 per damaged, and 4 per penalty-exited UN aircraft.

24.26 THE "FENCE": Korea, 1952. In an effort to "contain" the Korean conflict and to prevent Communist China from becoming even more heavily involved in the fighting, the United Nations command adopted a policy of not allowing Allied aircraft to cross the Yalu River into China. Taking advantage of this policy, Communist pilots would often make "hit-and-run" raids on the F-86 patrols that the Americans main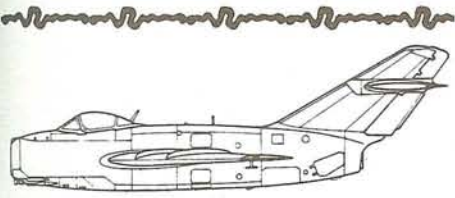tained just south of the border. If the battle turned against them, the MiGs would dash across the Yalu to safety. This scenario, although not simulating any particular aerial battle, allows players a feel for such politically-limited combat—especially the frustration by Sabre pilots as their opponents escaped over the Yalu, just out of reach.

24.26.1 MISSION PROFILES: United States CAP vs. North Korean Sweep. Both sides have controllers (North Korean NW, United States SE).

24.26.2 OPPOSING FORCES:
North Korea: Enter/Exit SE. (58SP)
1st (1A-4A): 4 MG15 (801-804)—MS:9; MA:15. 0/1/3.
2nd (1B-4B): 4 MG15 (B811-B814)—MS:9; MA:15. 1/1/2.
United States: Start hex HH22. Enter/Exit SE. (48SP)
1st (1A-4A): 4 F86A (251-254)—MS:9; MA:14. 2/2/0.

24.26.3 TERRAIN ALTITUDE: LG=0, DG=0, T=1, B=2.

24.26.4 BOUNDARIES: North Korean territory, except for the area west of the Yalu River (defined as hexes T1, S2-3, T3, U4-5, T5-10, S11, R11, Q11, P12-13, O14, N14, M15, L15, K16-28, L28-29, K30-33, J33 and I33-34), which is Chinese.

24.26.5 RULES OF ENGAGEMENT: The American aircraft may use any formation and the North Koreans may use any formation except line-abreast (tactical).

24.26.6 OPTIONS: Any.

24.26.7 VICTORY POINTS:
North Korea: 4 per eliminated, 1 per damaged, and 2 per penalty-exited F-86. Further, 8 points are awarded for the area any time any American aircraft enters Chinese territory (west of the Yalu).
United States: 8 per eliminated, 2 per damaged, and 4 per penalty-exited MiG-15. Further, 2 points are awarded each time any North Korean aircraft crosses the Yalu from the east.

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Sports Special . . . *Cont'd from Page 45*

Table 11: Results of a Hit-and-Run versus Batter Rating. Modifications are also given for Runner Speed and Pitcher Ratings.

	%	A-B	D-E	7+ Pitcher
HR=0				
Hit	20.05			−6.17
Stolen Base	1.54	+10.55	−1.54	
Out	30.68	−10.55		+6.17
Hold	27.76		+1.54	
Double-Play	19.97			
HR=1				
Hit	32.13			−7.55
Stolen Base	3.63	+1.55	−3.63	
Out	17.98	−1.55		+7.55
Hold	35.48		+3.63	
Double-Play	10.78			
HR=2				
Hit	39.85			−9.25
Stolen Base	3.63	+5.17	−3.63	
Out	24.14	−5.17		+9.25
Hold	24.68		+3.63	
Double-Play	7.70			

The left versus right options are easily highlighted. A left-handed batter will show −7.71 against a left-handed pitcher and +3.86 against a right-handed one. A right-handed batter shows +3.86 against a pitcher-left and −3.34 against a pitcher-right. What this actually says is the rather large surprise that you would really like to pit left-handed pitchers against right-handed batters.

We've generated a lot of numbers in these two columns. In order to be of benefit to players of *STATIS-PRO BASEBALL*, they must apply to game situations. For purposes of an illustration in the use of these tables (especially where they must be combined and cross-referenced), let's take up a common instance in baseball where the manager's decision is critical. We have an average runner on first base, with none out, in the mid innings of a tie game. The assumptions are: a "B" runner, a .270 batter (HR=0, SAC=BB), a seven-rated pitcher and a "TB" catcher. Do you a) sacrifice bunt, b) hit-and-run, c) steal, or d) hit away?

To reach a decision, we will combine the necessary tables to get the probabilities for 1) both men safe, 2) runner to 2nd, 3) runner to 2nd with one out, 4) runner on 1st and one out, 5) runner out and batter still up, 6) no result, and lastly for 7) a double-play.

Table 12: Percentages for Hypothetical Situation

	Result:						
Choice:	1	2	3	4	5	6	7
A	7.71	0.00	56.81	29.05	0.00	0.00	6.43
B	13.88	12.09	26.30	27.76	0.00	0.00	19.97
C	0.00	41.47	0.00	0.00	35.39	23.14	0.00
D	31.00	3.00	9.00	35.00	0.00	0.00	22.00

The results for Option D (hit away) are estimates from Table 3a and other approximations which should be close enough for illustration. Now we arbitrarily assign "weight" values to each result 1-7 in order of desirability as 10, 8, 6, 3, 1, X and 0 (where "X" is the hold result). This would cause the play to be run again using option D as suggested above. We will then re-factor the results from D back into the table and obtain the following totals by multiplying the percentages by the weight values and summing:

A=505.1   B=476.6   C=481.3   D=493.0

These are amazingly even results. Even though a bunt is apparently called for, it is only by the slightest of margins. This is why managers get grey hair. One may, of course, quibble with the weight values, and may also note that different results may be desired at different stages of the game. There are, too, the next two batters in the order to consider. All of these things merely sum to make baseball the game that it is, and to give the interest to each decision point. And, this is just *one* illustration of the use of numbers at your disposal.

UNDER THE UMBRELLA
The Ground Units of TAC AIR

By Carl Schwamberger

TAC AIR is ostensibly a game simulating tactical air support in hypothetical battles between Soviet and NATO forces in West Germany. Actually, it is much more than that. The rules are a system for simulating modern combined arms warfare as the division or corps commanders will see it. As such, *TAC AIR* is quite successful. Detailed enough to be interesting, it is also simple enough that the rules can be learned in an hour or two. But, unlike Chess, using these simple rules to play a winning game can prove quite demanding. This reflects *TAC AIR* being a game of combined arms warfare rather than just of air warfare.

Unlike most games which abstract tactical air support, this one depicts tactical bombing, air defense weapons, and air-to-air combat in as great a detail as the ground combat. It also simulates the other supporting arms—artillery, and electronic warfare, and such. The critical headquarter units are included, as are the motorized supply units, and their importance shown through penalties for misuse. All this is integrated with a simulation of the ground combat battalion-sized mechanized units. This means that the successful player must master the "big picture" of modern combat, not just one narrow aspect.

But how accurate is the game? As a reflection of the problems faced by divisional and corps commanders and their staffs on the modern battlefield, it is quite accurate. Certainly 17 pages of rules are not going to cover every little detail; but the essentials are all there in a very playable package. Let's examine three aspects of this fascinating game: the ground units, their organization, and how they are expected to fight.

THE UNITS OF TAC AIR

Tables of Organization and Equipment (TO&E) change as often as the calendar. Too, details vary as the standardized organizations are never entirely applied. The commanders of the 7th Corps and the Soviet Central Group of Forces may create local variations for specialized missions as desired. The Soviets, in particular, are rather secretive about what they have. Russian Army officers who have defected describe shadow formations, whose equipment and personnel are dispersed among known units, to be brought together upon mobilization (a technique the Germans first observed during 1941).

There is also the matter of differences in interpretation between the game designer and others. Quite often, what seems to be a logical representation to one person does not fit the prejudices of another. If the representations of units in *TAC AIR* are contradicted by my following analysis, this does not necessarily mean that one of the interpretations is "wrong". My intent is to provide players with some background information to further their enjoyment of the game. I'd not recommend wholesale changes in the rules or combat values simply because one source seems to indicate this is justified. Such ad-hoc activity usually only creates a less interesting situation. Experimentation should be accompanied by careful research and an understanding of what the designer had in mind. Hopefully, some day Major Morgan will provide some documentation on why *TAC AIR* is the way it is.

My own brief descriptions below follow the grouping found on page 28 of the *TAC AIR* rulebook.

Air Defense (Gun): Giving these platoons a ZOC seems a little generous considering the small number

of weapons these units represent. A ZSU-23 platoon has only four armed vehicles. Conversely, the M163 counter represents twelve cannon, so it seems a bit weak in firepower. Even representing updated 1960s' designs, the guns are still dangerous. All are equipped with radar for determining range but otherwise depend on the men's eyeballs for aiming. The ZSU vehicle is usually equipped with four 23mm cannon, although some use twin 57mm. The M163 is a Gatling-type design, the barrels being 20mm caliber. In the real world, these weapons are dispersed among the battalions they protect or are occasionally massed at a point where the enemy air is expected to strike. Lacking much range, they should be kept close to the vulnerable points and on the most likely routes of approach.

Air Defense (Missile): These battery/platoon-size units give air defense its real bite. The Hawk is the mainstay of NATO air defense. Frequently improved since appearing in the early 60s, a battery is an amalgamation of several different types of radar transmitters/receivers and a half-dozen multi-rail launchers. The SA6 proved very effective for the Egyptians in the early 1970 battles. The SA11 is a newer model which is replacing the SA6. There are usually six launch vehicles per SA6 or SA11 battery. If the evidence is to be believed, the SA8 proves the Soviets have their procurement problems too. Many military writers praise the Soviet habit of producing such a wide variety of similar weapons. But the problems this creates for their supply, maintainence, training and planning units would seem to outweigh any advantages. When deploying the missile batteries, interlocking zones of fire are in order, and coverage should overlap where the HQs and other critical units park.

ATGM: The M901 unit is a mystery. NATO mechnaized, armored and cavalry battalions have ATGM platoons or companies, but I have never seen any evidence for an independent company- or battalion-sized formation of this weapon in the U.S. Army. Perhaps the designer included it in the countermix to represent the tactic of massing ATGM fire from several battalions in a single "kill zone". Or perhaps it is a very new, or experimental, unit. Conversely, the Red Army does deploy anti-tank battalions as part of their motorized rifle divisions (MRD). These are mixed formations of two batteries of six 100mm or 125mm anti-tank guns each, and nine BRDM-2 vehicles with AT5 (Spandrel) missiles. Used as a unit, the AT battalion is intended to break up large groups of enemy armored vehicles. It can operate independently, or quickly reinforce a motorized rifle unit.

Tanks: The U.S. Army and *Bundeswehr* units each represent 40-50 tanks. Both armies make a habit of swapping companies between battalions to create tank/mechanized teams; so the tank battalions might contain a third fewer AFVs and 20 or more infantry and ATGM carriers. Soviet battalions contain about 30 tanks if part of a tank regiment, or 40 if an independent tank battalion (the 8-6 counter of the 18th Guards Motorized Rifle Division is an example of the latter). The independent tank battalions are found in the MDRs only. Tanks are meant for attacking, preferably across open terrain. They can also be useful in stopping armored attacks if nothing else is available, but it is much better to keep them free to maneuver. Avoid defended urban areas with them.

Artillery: This game is better than most in simulating artillery on the modern field, but the rules do

inflict a few artificialities in its use. Artillery can be massed, supporting defending or attacking units, and even attack enemy artillery concentrations. Unlike aircraft, it can be employed regardless of weather. It cannot be used to attack enemy units which are not involved in a maneuver combat. Thus, attacking enemy HQs, supply units, air defenses or interdicting maneuver elements cannot be simulated in *TAC AIR*. The artillery units depicted are another matter. The ranges of most are short (the values I give in Figure 1 as effective ranges are taken from *FM 100-2-3* for the Soviet weapons and various firing tables for the NATO weapons).

Figure 1: Artillery Ranges

Weapon	Range in meters	Range in hexes
M109 A2	17500	9
M110 A2	21000	10
MLRS	70000	35
D30 (towed 122mm)	15300	8
M46 (towed 130mm)	27500	14
2S1 (SAU 122)	15300	8
2S3 (SAU 152)	17200	9
ASU 85	15000	8
BM 21	20300	10
BM 27	35000+	18

The Soviet SAU 122 (2S1) and SAU 152 (2S3) appeared in the 1970s. The SAU 122 howitzer is designed to operate as an assault weapon direct firing alongside the tank and rifle companies, as well as in the traditional indirect fire role; hence its placement as part of the tank or rifle regiment. The SAU 152 is a conventional self-propelled howitzer. The ASU 85 is the last of the Soviet 1940s-type assault-gun designs. Appearing about 1962, it equipped the various airborne formations of the Warsaw Pact armies. It can provide indirect fire. Soviet artillery usually comes 18 cannon to the battalion; however, some battalions have followed the American example of converting to 8-cannon batteries. This seems to have begun with the heavy artillery belonging to Front and Army commands, but how far down this has progressed is unknown. For NATO, the M109 and M110 originated during the 1950s and have been upgraded many times since. The significant change in U.S. artillery during the 1980s was the conversion of batteries from six to eight cannon, giving a total of 24 per battalion. The FRG maintain 12-18 cannon in a battalion, depending on whose information you believe.

Considering the number of weapons per unit, the attack factors of the artillery seem a little too uniform. If the attack factors of the FROG and Lance seem a bit small, remember that this represents conventional explosives only (these were designed to carry nuclear or chemical warheads). Restricting the MLRS and BM 21 to attacking once per day is also questionable. Can their ammunition supply be that restrictive? The forte of all artillery is, of course, its range. This allows several batteries to be massed together almost instantly, without the trouble of physically moving them.

Cavalry/Recon: The M3 counter is a mixed battalion/squadron of 36-53 tanks, TOW carriers and heavy mortar carriers; it represents a total of 110-140 armored and 75 other vehicles. The difference in number of AFVs is that between a division's armored cavalry squadron and one of the 2nd Cavalry. The Soviet recon battalion totals 30 BMP, BTR, BRDM and a half-dozen tanks scrambled together with 45 trucks. The airborne recon unit is a company equipped with eight or nine BRDMs and a few

motorcycles. The Soviets consider their recon units to fill a role as raiders as much as to serve a reconnaissance function—particularly in the case of the airborne. These are to locate, and then destroy NATO nuclear weaponry, HQs and supply formations. Getting a Cav/Recon unit into your opponent's rear can certainly create all sorts of havoc in *TAC AIR*, as many more of his units are available for air and artillery attacks. Screening flanks are also another standard mission for these light units.

Engineers: These units in the game represent a wide variety of specialized function troops. Generally, engineers are scattered about the division in small platoon and company packets rather than gathered into one mob. They might have been better depicted in the game as two or more units representing the divisional bridge-building company, the assault companies, etc. They are certainly great for urban combat, but don't let them get trapped and destroyed there. You might need them for their real role of assisting river crossings.

Headquarters: Moving a unit out of its HQ command span in *TAC AIR* is asking for trouble. First, any unit out of command is changed to its non-moving side during the ground/helicopter check step (5.4 and 10.4). Thus, removing an HQ from action, even temporarily, can paralyze a large part of your combat force. Second, air defense units which do not have integral supply and who are not in command of their own HQ are suppressed for that turn. On the positive side of the ledger, placing a HQ adjacent to a disrupted unit allows it to recover a step without a die roll. These few rules may seem simplistic, but ignoring them guarantees defeat. Keep your HQ well protected from air attack and marauding maneuver units. Keep one divisional HQ close to any critical battle so as to return disrupted units to combat quickly. Also, players must understand thoroughly the rules on "assets" and attaching units. For comparison, in the field a U.S. brigade HQ has 25 or more vehicles; a Soviet regiment, a dozen.

Helicopters: The Apache counter represents a troop of air cavalry equipped with up to 26 aircraft, divided more or less evenly between attack, observation and light transport craft. To each formation are attached about 15 trucks. Armament of the unit is primarily machineguns, grenade launchers and light rockets, rounded out with two Dragon ATGM launchers. There is also a scout platoon of 45 infantry. The sole exception to this organization in *TAC AIR* is the 2nd Cavalry Air squadron. It numbers some 80 aircraft whose armament also includes TOW ATGMs and a company of infantry; 95 vehicles trail around behind this flying circus. Considering the obvious difference in numbers, the gamer must wonder why this unit has the same combat values as the others.

Officially, there are 18 aircraft in a Soviet division aviation battalion, divided equally between Mi4 Hoplight light utility, Mi8 Hip transport/attack, and Mi24 Hind attack models. The Mi8 carries machineguns and may have light rockets or ATGM (depending on mission and availability); it could also carry infantry into an assault or act as supply transport. There are even fuel bladders designed to be placed in them to allow fuel resupply beyond the reach of usual ground transport. Infantry are not an indigenous asset of the Soviet aviation battalion; instead, one of the rifle battalions routinely trains with it. The Hind and PAH-2 units are designed to be tactical air support assets rather than maneuver elements like in the U.S. air-cav formations.

The speed of the helicopter unit makes it great serving as a reserve, but don't let it become engaged in any sustained battle. There is the temptation to send it swinging wide around the enemy flank to spot HQs for air attack, or raid supply lines and rear-area units. But, air defenses, command control and enemy reserves make this a dangerous maneuver; plan any such carefully.

Infantry: The mechanized infantry battalions are a mixed bag of the vehicles illustrated on the unit counters. The three combatants—Soviet, American and German—all usually have a tank company attached. The BTR is a badly-designed truck with thin armor; an improved model appeared in the late '70s, but distribution seems to be slow. The BMP with its cannon, ATGM and MGs is respected by many Nato troops. Significantly, however, the thrifty Israelis disposed of those they captured, apparently feeling their soldiers were better off with the "inferior M113" and venerable M3 halftrack. The Marder is an upgraded 1960 design. Like the M2 Bradley, it carries a light cannon and ATGM. The Red Army and *Bundeswehr* also have taken to mounting 120mm mortars (the Soviets are also fielding a rapid-fire 82mm mortar); the U.S. uses 81mm and 107mm mortars. Now as mobile as tanks, the mechanized units still lack their enormous offensive punch. Using them on an exposed flank, or to up-factor a tank attack works best. When on the defense, consider flipping them over for the extra factor. A U.S. mechanized battalion has about 90 vehicles and 60 trucks of various sorts; a BMP/BTR-equipped Soviet battalion 40 armored and 25 trucks; a West German unit about 50 AFVs.

Paratroopers: These are the closest to traditional infantry in the game. They demostrate why everyone in Europe wants vehicles in their armies. Keep them in the woods or buildings and they do best. Giving the paras a ZOC while in their mobile mode is questionable. However, infantry are enhanced when fighting against mechanized or tank units in densely cluttered terrain. The Soviets like to publish photos of BMDs landing by parachute; more likely they would arrive by transport on captured airstrips.

Signals: These are as effective against HQs as any kind of direct attack can be. Their other prime function is not represented in the game: reconnaissance. Mobile signal detecting stations spend their time identifying enemy locations from radio transmissions. HQ, artillery and air defense units are particularly susceptible to this sort of detection.

Supply: The functioning of these in *TAC AIR* is definitely an improvement over the usual abstractions that pass for supply rules in most games these days. These are not yet the massive logistical tails that one sees encumbering real armored divisions; but they do give the player an indication of the headaches involved. A few examples of the number of vehicles in some supply units suffices: 2nd Armored cavalry regiment, over 200; Soviet tank regiment, approximately 120; a Soviet or U.S. artillery battery, 20.

FITTING THEM ALL TOGETHER

The dominance of tanks and artillery is the salient feature of Soviet organization. A MRD contains seven battalions of tanks; a tank division has ten. True, these battalions are smaller than American or German battalions, but the total number of tanks in a MRD approaches that in a U.S. armored division. The artillery battalions in each Russian rifle or tank regiment doubles the quantity of artillery available to a NATO division.

Note that the TO&E in Figure 2 shows the SAU 122 only as a regimental asset, unlike the *TAC AIR* organizational card. Instead, the divisional artillery regiments are now equipped with towed D30 122mm howitzers and the SAU 152. It may be these forward deployed divisions have been completely equipped with the SAU 122, but the question remains of what happened to the regimental artillery battalions. There are also tank battalions organic to the motorized rifle regiment, and rifle battalions attached to tank regiments, which are not reflected on the game's Organization Card. The designer may have overlooked these and so deleted them by accident; more likely, he may have simply distributed their firepower among the primary maneuver battalions of the regiment. Notice, like tank and artillery formations, Soviet infantry battalions are more numerous than in NATO divisions. And AT units are also more numerous (all the ATGMs are a part of maneuver battalions in the U.S. Army); at each successive echelon, the Soviets have a proportionally larger formation of dedicated AT weapons. The divisional SAM battalions reflect the same practice of layering on ever more weapons at each echelon.

As I've pointed out, the TO&Es are never entirely standard. Such features as the indepedent tank battalion of the MRD, the regimental artillery battalion, and the infantry battalion in the tank regiments are commonly part of the forward deployed divisions of the Warsaw Pact. In the reserve divisions stationed in the USSR, these seem to be of company or battery size; and in the lowest class of reserves, they may not exist at all.

The U.S. division is designed to present its commander with a menu of battalions from which he can compose customized task-oriented brigades. Likewise, the brigade commanders may swap companies between battalion-sized task forces. In practice, the brigades are much more stable than the battalions, and changes to them are made only when necessity presses. The artillery battalions habitually support specific brigades, but are firmly under the control of the division artillery commander. This allows the rapid massing of artillery fire within the entire division. The American artillery could more accurately be depicted as division assets. The division air defense battalion is intended to conduct itself like the artillery, dispersing to support maneuver elements while still under centralized control (including the Stinger teams). U.S. doctrine calls for these weapons to be deployed in platoons and throughout the division's area, but the player will quickly see that they are insufficient for the task.

The West German panzer and panzergrenadier brigades are tactically self-contained units. The member battalions are not meant to be shuffled about from brigade to brigade. Unlike the Americans, the artillery battalions are part of a specific brigade. This is meant to increase the responsiveness of the artillery support, although it may make it more difficult to mass fire as the American and Soviet armies hope to do. Swapping companies to task-organize battalions is common, however.

Turning specifically to *TAC AIR*, the pool of units at corps/army level shows some decided differences between the Soviets and Americans. The 3rd SAM brigade is similar to the 69th ADA Group. There is no equivalent organization to the 2nd Armored Cavalry for the Russians, however. The artillery and FROG units labelled CGF are the proper ones to form an Army Artillery Brigade; and the three helicopter units could be an army aviation asset. Since there is no truly standard Red Army organization, these might not necessarily be available; but their inclusion is no more spurious than the 10th Artillery or 103th Guards Airborne divisions (these two divisions are Front or Theater assets which may be used to reinforce the main effort of any army group).

The U.S. units are a reasonable aggregate of what the 7th Corps possesses. The 2/28 MLRS might be more accurately shown as part of the 72nd or 210th artillery groups. The engineer units belonging to the American (and the Soviet, for that matter) corps/army organizations are actually construction units; unlike those which are division assets, they have little ability to enhance the assault capability of a maneuver unit. However, they could still be very useful in defense.

Fixed-wing aircraft are not part of any corps/army level organization. At each command level, a liaison unit of Air Force personnel are provided. These are divided into Forward Air Control (FAC) teams and

HQ liaison staffs. The FACs are concerned with directing the air support onto targets they can see directly. The HQ staffs operate as part of the higher organization they are attached to; these plan the air support for the ground commander and coordinate it during operations. Like the artillery, the liaison teams possess their own communication channels which parallel those of the ground units they support. In the U.S. Army, the FAC works directly with the local ground commander down to company level. Conversely, the Soviets provide a liaison/FAC team only to the regimental HQs, and then only when air support is planned for that unit. Liaison teams are a permanent part of the personnel of a U.S. battalion.

For tactical air support of U.S. maneuver units, requests specifying expected target type, types of ordnance desired, and time period to be available are initiated at the lower command levels and then passed along to be approved, denied or modified. Once the aircraft arrive in the battle area, they will orbit a waiting point until directed by the controlling liaison team to contact a specific FAC, who will then direct them to the target. The aircraft may also wait on the ground if the airfield is sufficiently close to the expected target area. Attacks on targets deeper into enemy-controlled territory are usually initiated by the division commander (or higher). Control in this case would be passed to an airborne FAC, a deep-penetration ground recon team, or even the flight leader.

MAKING THEM WORK TOGETHER

Military units are organized so as to be able to carry out operations according to a set of ideas or a doctrine on how best to fight an enemy. There are many differences in detail between NATO and Soviet tactical and operational doctrines. There are many similarities too; indeed, the principles each side expounds as the basis for its tactics should be all but identical—the principles of surprise, mobility, concentration of force, constant activity, focus on enemy weaknesses. Briefly here I'd like to sketch some points on how the experts on each side expect to fight a war in the 5th Corps area.

There is an idea prevalent in the West that Soviet military operations are dominated by simplistic, inflexible doctrine. This misconception originated in the German experience during WW2 while fighting an army that had had its senior leadership purged not long before and was still suffering from the effects of the disasterous Winter War against Finland. The generally poor showing of Soviet-trained Third World armies since then hasn't helped their image. Indeed, the bulk of the Soviet ground forces are reservists whose training, while strenuous, does not create as useful a soldier as the NATO counterpart. Consequently, at the lower levels there is a dependency still on standard drills and orders from above.

But, the warrant and commissioned officers of the Red Army are well-trained and prepared for modern war. Above company level, qualitative differences in skill between the Soviets and NATO are not significant. Those denigrating Soviet military ability may be also giving others too much credit. Certainly many examples of inflexible and unimaginative practices on the part of U.S. forces can be dredged up. Too, the idea that simplicity in itself is bad and should be avoided must be challenged. Even our recruits in their early training are exposed to the "KISS" principle ("Keep It Simple, Stupid"). That lesson is repeated at every level of leadership training right up until retirement. Certainly, dazzlingly complex plans can be successful, if there is sufficient ability on all levels present to implement these. But, simple battle plans are much less likely to reduce your forces to a conglomeration of confused individuals (especially as communications break down on the modern battlefield).

Modern Soviet operational doctrine has its roots in the 1940s, specifically in the attack on Japanese forces in Manchuria in 1945. There the Russians put together all they had learned in the previous five years of war against the acknowledged best military in the world. Sabotage teams inserted before the offensive opened attacked key communications centers and installations, and native communist forces spread confusion with guerrilla attacks. Air operations ran the entire spectrum from fighter sweeps to airborne landings. Company- to division-sized amphibious landings were made. Heavy artillery bombardments were applied in support of the ground formations, and were able to rapidly switch targets when called for. Armored formations successfully made rapid breakthroughs, and bypassed enemy units were reduced by following mechanized infantry. All this must be tempted by the fact that the defenders were mainly native Manchurian troops or Japanese reservists, stiffened by a few Japanese regulars. Trained and equipped to the standards of the 1930s, their collapse was quick and decisive.

Many changes in detail have occurred, but all the tactics mentioned above still form the basis for Soviet military operations. A look at a standard Motorized Rifle Regiment (MRR) is instructive (see Figure 2). The basic tactical formation of the Soviet army, it is a balanced combined-arms organization. The infantry battalions are the primary maneuver element of the regiment. And ordinarily the tanks would be distributed among the infantry; the exceptions would be only to counterattack enemy armor, or in the event of a breakthrough when the tanks would be ordered to move deep behind the enemy battalions to disrupt their support elements. Generous proportions of artillery and anti-tank weapons are included. Comparison with the usual NATO brigade organization shows the MRR to be every bit as sophisticated. With the addition of artillery and infantry battalions to Soviet tank regiments, they become AFV-heavy combined-arms regiments. This combined-arms concept is reflected throughout the division, army and front echelons, with the addition of aviation and other support units.

Figure 2: Soviet Motorized Rifle Regiment (for a tank regiment, simply substitute three tank battalions and one rifle battalion, and delete the ATGM company shown here).

3 Rifle Battalions
1 Tank Battalion
SP Howitzer Battalion (18 SAU 122mm)
ATGM Company (9 Sagger or AT5 Spandrel on BRDM)
AA Battery (4 ZSU 23-4 and four SA9/13)
Recon Company (8 BRDM and BMP)
Engineer Company (5 bridges, 8 excavators, 12 mineclearing
    plows, 3 minelayers)
Chemical Defense Company
Motor Transport Company
Medical Company
Signals Company
Supply Platoon
Maintainence Company

A number of other Soviet practices support this combined-arms doctrine, and are reflected strongly in the context of *TAC AIR*. The Attack-in-Depth, the Echeloned Attack, and the Operational Maneuver Group all bear some comment, along with Soviet planning for airborne and artillery operations.

The first, the Attack-in-Depth, consists of concurrent attacks on the enemy from his most forward outposts to the most distant support or reserve units that can be reached. These attacks are intended to paralyze or destroy the enemy in the path of advancing maneuver masses. Artillery, aircraft, airborne, recon and raiding forces all play the prime role in this effort.

Attacking in Echelon is, of course, a very old idea. In Soviet practice for the 80s, the first group of attacking battalions/regiments destroys the enemy's forward line of troops (FLOT). The second

echelon passes through the gaps so created and wreaks havoc in the enemy rear. If there are no gaps opened by the attack of the first, the second echelon itself becomes an assault force attacking where success seems most likely. A new second, or exploiting echelon is formed immediately using reserve and/or parts of the first echelon that have withdrawn.

The Operational Maneuver Group (OMG) is a recent innovation. It is intended to be the exploiting element of a breakthrough, but unlike earlier Soviet practice, its commander is not saddled with a detailed plan. Recognizing the difficulty of maintaining communications with mobile forces far behind the forward enemy units and the fluid nature of modern battle, the OMG commander is expected to use his own judgement on how best to achieve his general objectives. He might even alter these if circumstances should change. The OMG is not expected to cling to an established supply line. Operating for only a few hours or days, it is to accomplish its task before running out of fuel and ammunition. It will, of course, be equipped with all logistics support needed to operate in this manner until its mission is achieved. While Soviet doctrine calls for the eventual re-establishment of contact with the OMG, its total loss is considered acceptable if it achieves the disruption of an enemy force several times its own size. Theoretically, the OMG can be of any size, from company to army. But, division and army-size units are the most likely to be designated.

Artillery is available in quantity to the Soviet commander, and its modernization makes it the most potent of the ground combat arms. The basic tenet of use is to concentrate it in support of attacking formations, then swamp the enemy in that sector from front to rear with cannon and rocket bombardments. Enemy artillery, HQ, supply and air defense units are all to be hit more or less simultaneously. Next, the artillery is to concentrate on the forward enemy defenses. As the maneuver unit's assault begins, the Soviet artillery fire is to shift back to enemy reserves, artillery and other supporting units. The priority here is on planned attacks; targets of opportunity will not usually be requested or attacked. (Figure 3 shows how the artillery battalions of front, army and division are handed down to the assaulting formations; the quantities shown would vary according to the expected resistance.) The emphasis on planned artillery fire means that Soviet artillery battalions are not re-allocated during the course of a battle for any but the most pressing reasons. Motorization has allowed closer liaison between the artillery and maneuver commanders. But, it is still uncommon in the Red Army for liaison teams and theirs FOs to coordinate below the battalion level.

Soviet airborne operations date from the 1930s, when it appears that they were already organizing division-size exercises. Current capabilities start at the division level where there are sufficient helicopters to lift an infantry battalion. Ordinary infantry from a MRR might be used, or members of the recon battalion and/or intelligence unit. Each army's Air Assault Battalion's primary mission is the destruction of key enemy targets (HQs, nuclear weapons, etc.). There are also sufficient helicopters to carry mixed infantry drawn from a MRR, should any commander desire such a force. The Soviet front commanders' Air Mobile (or Air Assault) brigade would be used to disrupt the enemy FLOT and rear by seizing objectives and raiding in advance of ground units. At each level, the airborne operations will move progressively deeper into the enemy rear. Thus, the force from a division would reach roughly 25 km, while the airborne force from a front might penetrate 300 km. There are, at present, seven airborne/airmobile divisions in the Red Army. These are part of the central strategic reserve and would only be used in operations of major significance,

and in considerable depth. In this respect, they are beyond the scope of *TAC AIR*.

American operational doctrine has been touched by a variety of concepts since 1945 (such as the bizarre "Pentomic" division of the late 1950s), and as with the Soviet army, nuclear weapons demand dispersal. But, two eras of thought can be described: pre-1973 and post-1973. From 1945 to 1973, the firepower/attrition concept dominated American military thinking. In essence, it was believed that, as in WW2 and Korea, superior equipment could kill off enemy units faster than they could respond. Ideas such as maneuver for interdiction were considered only insofar as they contributed to the favorable attrition of the enemy. The Arab-Israeli War of 1973 proved to be a catalyst for change. In the aftermath of Vietnam, the U.S. Army and Air Force examined the Yom Kippur War and came to the conclusion that the multi-echeloned Soviet assault would pile attackers on faster than they could be destroyed at the forward edge of the battle area. A variety of new concepts emerged, which can be summed up as "fighting smart". More specifically, two ideas which have survived to the present and are applicable to the 5th Corps area are: the air-land battle and the "deep" battle.

The air-land battle is an effort to improve the functioning of the American army and air force together as a combined-arms weapon. Tactical doctrine, liaison, communications, training and equipment have all been changed to eliminate perceived defects. The doctrine of the "deep" battle is the recognition that attacking enemy ground units before they contact ours is not only possible, but preferable. While some units block key areas in defensive positions, others maneuver to disrupt the following second enemy echelon. Air and artillery assets that are controlled by the corps and division also attack the second echelon along with enemy HQ, artillery and other support units. There is of course nothing new in thinking about attacking the enemy rear; the difference lies in the emphasis the concept of the "deep" battle places on it. Neither is it so different in intended results from Soviet techniques;

the difference lies in method. The U.S. Army, with its coordination of fire support (down to company, or even platoon, level) has created a system with great potential for flexibility. The Soviets believe that such will collapse in chaos under the stress of combat, and that their own more "rigid" system will serve better. And that is where the basic difference in operational planning will be highlighted, and might well determine who is the victor on a battlefield.

Bundeswehr practice focuses on speed and flexibility in operations. Referred to as *beweglichkeit*, this doctrine requires the commander and his subordinates to be ready to change from offense to defense and vice-versa, change direction of movement or attack, change location, at any time. These changes are to be performed with the utmost speed and with minimal instructions from senior commanders. The eschewing of detailed orders gives the battalion, company and platoon leaders a great degree of freedom in achieving their objectives. It also demands an unusual amount of initiative on the part of the unit commander, and the willingness to stand back and let his subordinates exercise their initiative. Geographic objectives have no role here, the object of *beweglichkeit* is to keep the enemy offbalance and confused—that is, to keep the initiative. Like the Americans and the Soviets, the bulk of the fire support is controlled at the corps/army level. Unlike them, supporting the German maneuver units is given a greater priority than attacking the enemy's rear. The defense-in-depth, used before with some success by the Germans, has no place in their present planning. With the speed of modern combat operations, West Germany has no "depth" to fight in. So, the strategic objective of *beweglichkeit* is to keep the battle as close to the eastern borders as possible.

Unlike the Soviet or German divisions, all U.S. artillery battalions belong to the divisional commander, not the brigade commanders. Neither is total control given even when corps and division artillery support an attack. Instead, artillery units are assigned for priority fire to specific HQs, to which they send liaison teams. But, these maintain

communications with their own artillery HQ as well. This is intended to allow the rapid shifting and massing of fire in response to the changing battle. Detailed planning of artillery fire is done before the battle, but NATO leaders have less faith that things will go according to schedule than Soviet commanders do. Both *Bundeswehr* and U.S. Army commanders down to company level may request artillery attacks on targets of opportunity during the course of a fight. For that reason, FO teams are considered an essential attachment to the maneuver company.

As with artillery, American FAC works directly with the ground commander—even down to the company level—although there are not as many FAC teams as artillery FOs. Air liaison teams are more regularly part of the staff of a U.S. battalion, which should result in better teamwork and communication. Conversely, the Soviets provide a liaison team only to the regimental HQ, and then only when air support has been planned for. There also has been recently a greater emphasis placed on pre-planned missions in Soviet practice; that is, Soviet pilots usually know the specific target before they are airborne. In contrast, a large proportion of NATO CAS mission sorties will be kept at an orbiting station until a specific target is identified by the maneuver element they are assigned to support. Not only does this give the FAC greater flexibility in choosing targets, but it reduces the time between target identification and attack. There is an added bonus that the aircraft, while waiting on station, can be redirected to a different liaison/FAC team than the one they were originally assigned to for that sortie.

CONCLUSION

It was intended that this article serve as a brief introduction to the ground units of *TAC AIR*, their organization and operational planning. Too, as all must who consider modern warfare, some mention has been made of air support. Hopefully, the above will help new players appreciate some of the design sophistication and decisions that went into this game. And that the above might serve as the basis for further articles on specific strategies and tactics for the scenarios of *TAC AIR*.

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Figure 3: Soviet Artillery Allocations

Artillery divisions & heavy artillery brigades from the strategic reserve

Front: 12 + battalions — 4 + battalions to other armies

8 battalions to Army and 6 battalions from army artillery brigade & rocket regiment forms *Army Pool* of assets — 4 battalions to other divisions — 4 battalions to form AAG (Army Artillery Group)

4 battalions to Division and 4 battalions from division artillery regiment forms *Division Pool* of assets — 3 battalions to form DAG (Division Artillery Group)

Remaining battalions combine with artillery battalion to form RAG (Regimental Artillery Groups)

THE CROWDED OCEAN
FLEET Units

By Seth Owen

Back in Vol. 11, No. 4 of The *GENERAL* Larry McAneny wrote one of the best articles ever to appear in these pages. He called it "The Pieces of PANZERBLITZ". He wrote then, "Each *PANZERBLITZ* unit has a psychological shading which affects the way you and your opponent think about it." This subtle effect is even more noticeable in naval games. Most players have a hard time getting attached to your average 4-4-4 division in *D-DAY* or a particular 4-6-7 squad in *ADVANCED SQUAD LEADER* (although even a 7-0 leader in that game can rapidly acquire a personality of his own due to Avalon Hill's habit of giving them individual names). In a naval game, each ship usually also has its own name and a distinct set of characteristics, making identification with it come naturally. An opponent may be merely disheartened by the loss of his *AFRIKA KORPS* 7-7-10, but his heart is likely to break when you sink his *Yamato* in *MIDWAY*. There is an unexplicable attraction to the great warships of history—or near history.

Victory Games' modern naval series (*6th FLEET*, *7th FLEET*, *2nd FLEET*, *5th FLEET*) shares with *PANZERBLITZ* the "chess-like nature of play" cited by Mr. McAneny as one facet of that game's long-term popularity. Like the *PB* pieces, each *FLEET* piece has several factors "and one of them always implies some weakness, some vulnerability." To protect this vulnerability, the units must work together. As in chess, the essential concept of play is the combination of units, functioning smoothly together to defeat the opponent's combination of units. No unit is so strong it can perform all the necessary options available unaided. So, I'm going to borrow Mr. McAneny's format and apply it to survey for novice players the many types of *FLEET* units.

The four games (to date) of the *FLEET* series provide more than a fascinating look at modern naval warfare. They prove a challenge to play well too. Finding the right combination to overcome the weaknesses of your units and exploit those of the enemy is what it's all about. Even a powerful ship like the *Kirov* or the *Nimitz* can be easily dealt with if unsupported. While I have no intention of suggesting combinations to insure victory, readers should be able to draw some conclusions by a study of, and some experience with, the units of their *FLEET*.

Surface Combat Ships

The games revolve around the activities of the surface units of both sides. While the air units are the most powerful, and the submarines most survivable, the surface units are the focus of most of the victory points garnered. Killing them racks up the most points, and the combat ships escort the non-combat ships on their way to VP destinations. As might be expected, they display the most variety in worth, factors and roles.

1. Patrol Combatant (PC)
Forte: Movement allowance, SSM attack values.
Foible: ASW value, anti-air values and, in the Advanced Game, poor endurance.
Deployment: Use them to keep waters near friendly bases clear of enemy surface units. The PCs might

get a chance to ambush an unwary surface action group (SAG). Low endurance rules out long-range forays; which is just as well, since they're helpless against submarines and nearly so against aircraft.
Frequency: Common in all the games except *2nd FLEET*, where they are rare.
Loss: Shruggable.
Fate: Dead, if committed to battle. Good otherwise, as their low value puts them at the bottom of the hit list when the other guy is looking to score some points.
Comments: These counters represent four or five small, but fast, attack craft. Often these squadrons are all the navy a minor power might have. In earlier eras, small gunboats like these would never appear in a game system at this scale. The advent of the powerful SSM, however, that can be carried on small boats has given even tiny navies an unprecedented punch.

2. Corvettes (CO)
Forte: ASW value for some; expendability for all.
Foible: Movement allowance for some; anti-air value for most.
Deployment: The ones with good ASW values can be useful searching for enemy submarines. Mostly, though, they are best used escorting convoys. They are a boon for the Western player in *7th FLEET*, who is not burdened with the mass of nearly useless ships in the earlier games which merely gave the Soviet player cheap VP targets.
Frequency: Common in *7th FLEET*; few in *5th FLEET*.
Loss: Shruggable.
Fate: Some will die as they sail in harm's way, but your opponent won't seek them out.
Comments: These are another type of multi-ship counter. They usually represent about four small gunboat or frigate-type craft or World War II vintage destroyers. All have minimal effectiveness individually, as most NATO players of *6th FLEET* already know.

3. Minesweepers (MS)
Forte: Rather obviously, they can remove mines.
Foible: Useless for anything else.
Deployment: Put them near chokepoints.
Frequency: These only appear in *6th FLEET* and *5th FLEET*.
Loss: Annoying, because you may need them to keep mines out of your path.
Fate: If your opponent likes to engage in aggressive mine warfare, he will target them. Otherwise, their low VP value will keep them alive.
Comments: In *6th FLEET* they are defined as "combat vessels", giving them a small added usefulness in beefing up groups to "Task Force" status. In *5th FLEET* they don't count.

4. Frigates (FF)
Forte: ASW value for most.
Foible: Easy to kill; many have low anti-air values. In *6th FLEET*, many are too slow to keep up with other surface units.
Deployment: Primarily these units serve as escorts. They should accompany other units on their voyages towards victory point destinations. Most can defend only themselves and one other unit from air attack. The British have quite a few with very high close-AA values, which should be stacked right below high-value units. The USN has a large number of frigates with area AA values, giving US-escorted convoys an edge.

Frequency: Very common in every game of the series.
Loss: Annoying to damaging, depending upon the value of the ship.
Fate: Many will be lost in the course of defending their charges.
Comments: There is little agreement in modern naval circles as to how to define different ship types. A 5000-ton surface combatant, armed with guns and missiles, can be anything from a "frigate" to a "cruiser", depending on the nationality. The Soviets might even call it a "large anti-submarine ship". In game terms, what this means is that careful study of each individual ship's values are in order. The *FLEET* games aren't like *JUTLAND* or *FLAT TOP* where the ship classification gives one a reliable shorthand method of knowing what to do with a particular ship.

5. Destroyers (DD)
Forte: Usually, the anti-air values.
Foible: Easy to damage, almost as easy to kill as frigates. Many have low ASW values.
Deployment: Deploy the weaker ones just as you would frigates. The better ones make good escorts for VITs ("Very Important Targets", like carriers). The Soviets have a small number of very fast DD that can make a hair-raising dash at NATO surface forces.
Frequency: Common throughout the series.
Loss: Damaging. Even in *6th FLEET*, where many Greek and Turkish DDs are useless, they are worth quite a few VP.
Fate: Like the frigates, many destroyers perish while in the line of escort duty.

6. Cruisers (CG)
Forte: Area AA value. These ships are usually very capable in more than one type of combat.
Foible: Nearly all have low ASW values, while many are just as vulnerable as destroyers to damage and destruction. Except for the Soviet *Kirov*-class battlecruisers, which are excellent ships in every way.
Deployment: As carrier escorts, or heading up their own SAG where the enemy air threat is low.
Frequency: Pretty much an American and Soviet monopoly. Both navies field between a half-dozen and a baker's dozen in each game. There are also two Italian cruisers in *6th FLEET*.
Loss: Damaging. Each one represents considerable combat power. Loss of a *Kirov* may easily demoralize a Soviet player.
Fate: Variable. Usually will share the fate of whatever it is escorting. These ships will not last long if sailing into enemy waters without air cover.
Comments: These are powerful and expensive ships. Even some navies that manage to have aircraft carriers don't have any of these cruisers. The *Kirov* and her sisters are particularly impressive vessels. They will attract a lot of enemy attention.

7. Light Cruisers (CL)
Forte: Harder to kill than most other surface units.
Foible: Basically just a big frigate, in game terms, and not a particularly good one at that.
Deployment: Doesn't matter much. Like a frigate.
Frequency: The Soviets have one or two in every game except *6th FLEET*.
Loss: Shruggable, except for those VP.
Fate: If they get in the way, they'll die.
Comments: These ships have no excuse for

existence. Only a couple of South American navies still bother with these, mostly for reasons of prestige. It's hard to envision that the possible use of these ships in gunfire support can possibly justify the expense of maintaining them in service.

8. Battleships (BB)
Forte: Very, very hard to kill; excellent SSM values.
Foible: ASW and AA values.
Deployment: Killing enemy SAGs and knocking out enemy bases.
Frequency: The Americans have a single one in each game.
Loss: Demoralizing. These are "romantic" ships, and they are worth a lot of VPs.
Fate: If the USN player is smart, the BB will survive any battle. Just watch out for Soviet bomber raids.
Comments: The most visible symbol of the Reagan-Lehman naval build-up, reactivating these ships was a bargain. Running them has been less so. These ships have crews of about 1500 (compared to the 800 on a *Kirov* or 400 on a *Ticonderoga*—both more valuable ships). But, in the game where cost factors don't enter consideration, they're still beautiful, and deadly.

9. Small Carriers (CV)
Forte: Ability to form a combat air patrol (CAP), and high ASW.
Foible: They ain't *real* carriers (see below); they're just glorified CGs.
Deployment: Use them like the cruisers they are, and you'll be OK. Having a CAP helps keep them out of trouble with BMB and missile-armed RCN air units. Under no circumstances should you let them get within range of land-based fighters or tangle with a *real* fleet carrier.
Frequency: The British have one in each game except *7th FLEET*. The Soviets have one or two in every game. And the Indian navy has two in *5th FLEET*.
Loss: Demoralizing. Often these are the biggest and best ships in the scenario (or in the operational area in a Campaign Game); they're worth a lot of points.
Fate: They will attract as much attention as a bigger carrier, yet don't have anywhere near the ability to fend off blows. The RN ships are in greatest danger. The Soviet ones are simply doomed.
Comments: While bearing the same "CV" label as the bigger ships, these have to be used in a completely different manner. Don't be led astray.

10. Light Carriers (CV)
Forte: Enough planes to launch a strike or put up a decent CAP. High ASW values. The *Kremlin* in *2nd FLEET* is also a powerful surface element in its own right.
Foible: Not quite enough planes to defend itself when launching a strike; a shortage of special plane types.
Deployment: Use as a mobile airfield to place CAP over important convoys or launch strikes against lightly defended targets. The major combat element in any force they may be in.
Frequency: The Soviets have the *Kremlin* as an option in *2nd FLEET*, and the French have one each in *6th FLEET* and *5th FLEET*.
Loss: Demoralizing. The Soviet carrier is their most powerful piece in *2nd FLEET*. The French units are *the* capital ships of their navy.
Fate: NATO should spare no expense to send the *Kremlin* to the bottom. The French carriers will get a lot of attention from the Soviets. The *Foch* will probably be sunk in *6th FLEET* (because of the rules favoring Soviet bombers); the *Clemenceau* will do better in *5th FLEET*.
Comments: The *Kremlin* is the same ship as the *Tbilisi* in *5th FLEET*. Owners of both games should use the counter from the latter with its more accurate

values. The French ships are much more like the big American carriers than the other "CV" in service with the British, Indians, Argentines, Brazilians, Spanish and Soviets.

11. Fleet Carriers (CV)
Forte: Carries a full complement of the most powerful unit-type aircraft in the game, including many with special functions.
Foible: If only one ship, they attract a *lot* of attention and have limited inherent AA and no anti-surface capability.
Deployment: Chances for Allied victory will depend on these ships in any scenario that includes them. In the Campaign Game, they will protect the convoys, sweep the seas of enemy surface units and challenge the enemy for control of the air. To have a chance of victory, they will inevitably have to sail in harm's way. To win, they will have to avoid being harmed.
Frequency: The Americans get three in each game. The Soviets get one in *5th FLEET* (the *Tbilisi*). In only one scenario between the four games do the Americans get more than one fleet carrier in play.
Loss: Are you kidding? Sure, *late* in a Campaign Game it might be OK for the Americans to lose one, if they have already gotten way ahead on points. Otherwise, loss of one makes a game "resignable" for the Allies. They are worth so many VP, represent so much combat power, and symbolize so much of the prestige, that losing one will often mean the end of the game on the spot. The Soviet carrier represents a smaller percentage of their total combat hopes so they may recover from its loss; but even for them it's demoralizing.
Fate: Probable survival for the American ships. They are hard to kill, and the USN will certainly do its best to make it even harder. The *Tbilisi* has a good shot at survival in Scenarios #4 and #10 of *5th FLEET*. In the other two scenarios, the Soviet CV is outnumbered.
Comments: The Soviet carrier does not have catapults, as stated in the game notes, but uses a ski-jump ramp on the bow, with the fighters taking off using their afterburners. In game terms, this would probably cause the range of the planes to be reduced (much like the US AV8 air unit). Say "14" for the M29B, "18" for the S27B, and "24" for the S27E.

Surface Non-Combat Ships
These fall into two broad categories. One batch of the non-combat ships are used to support the combat forces when using the optional rules on Logistics. The other batch score points by getting somewhere.

12. Logistic Ships (ST, AM, CS, TK, OL)
Forte: Supplies for hungry ships.
Foible: Generally small self-defense capability; and, except for a notable few, low movement allowances.
Deployment: Vital for the Americans and some of their allies. These should be kept at the edges of the battle zones, with escorts to protect them from wholesale slaughter. The Soviet player will find they have more than they can profitably use. Any attempt to move the Logistic ships into disputed waters will end in a quick and painful manner.
Frequency: Common in the Advanced Game versions of all four titles.
Loss: Usually just annoying; but losing one hungry task force was counting on can turn into a major disaster.
Fate: Probably survival for most.
Comments: The sub tenders can't be kept too close

to the operational areas for the submarines, and eventually disappear in the later games. In actual fact, any sub that lives long enough to need resupply will have to return to a port in all the games. The oilers were renamed in *7th FLEET* when the Japanese super-tankers came into the system.

13. Merchant Vessels (CR, MP, SC, FC, TK, ET, FT)
Forte: Victory Points.
Foible: It's hunting season. They inevitably have a contract out on them.
Deployment: Stolidly steaming towards their destination, trusting their escorts to get them there. Whether it is a scenario, or a Campaign Game, there is little time available for fancy footwork if these ships are going to reach their objectives.
Frequency: Very common in all the games.
Loss: Damaging. Many are worth the value of several combat units in potential VP.
Fate: Depends entirely upon the larger battle. If you lose more than a few, you know you're in trouble in the scenario/Campaign.
Comments: In the first two games (*6th* and *7th*), each counter represents a single merchant ship. In later games, each counter represents two. Despite the variety in ship types and cargos, for game purposes the only significant variation is speed. The faster ships (or convoys) can dodge diesel submarines on occasion.

14. Amphibious Assault Ships (AA)
Forte: Victory points. Some self-defense against air attack.
Foible: Like the merchants, still a prime target.
Deployment: Heading towards their objectives. These have more flexibility in timing and destination than the merchants, but they can't dally too long if you expect to get VP from them.
Frequency: Common in all four titles.
Loss: Damaging. While not as individually valuable as the merchant ships, they still add up.
Fate: As above, depends on the large picture.
Comments: The Americans have a few that can be used in the role of light carriers, until the Marines hit the beach. However, *don't* use them as CVs at the expense of their main mission; you won't score as many points with that AV8 as you will by landing the troops.

Submarines
The Soviet player will find himself relying on his submarine arm to carry the battle to the enemy. In turn, the Western Allies will find their subs the most effective counter to the Soviet undersea boats. Submarines, unlike surface units, can operate outside friendly air cover. And, unlike surface ships, their biggest weakness as a class is an inability to cooperate together, or with friendly air units. The submarines will take heavy losses, but each may live long enough to accomplish its mission. And that, of course, will likely determine the winner and loser in a FLEET scenario.

15. Diesel Attack Submarines (SS)
Forte: Numbers.
Foible: Movement allowance. Too slow to get away; too slow to re-deploy; too slow to maneuver into favorable attack positions.
Deployment: Near likely destinations and chokepoints. In the open ocean, their prey can usually avoid them. The diesel subs will live longer if under friendly air cover, but this isn't often possible.
Frequency: They're everywhere.

Loss: Annoying. They are worth a fair number of VP, also (probably more than their combat effectiveness justifies).

Fate: If the enemy has the resources to mount a serious ASW campaign, your diesel submarines will go down in droves. I've seen eight North Korean subs killed in two Campaign Game turns.

16. Ballistic Missile Submarines (SB)

Forte: Victory Points if they survive.

Foible: Nominal combat values.

Deployment: Under friendly air cover if available. In any case, as far away from enemy attack subs as possible.

Frequency: The Soviets have some in *2nd FLEET*, and three American boats appear in the first scenario of *5th FLEET*.

Loss: In the *2nd FLEET* Campaign Game, annoying to damaging (depending on the Soviet player's strategy, they are worth 0-6 VP). In the scenarios, loss is damaging.

Fate: Probable survival.

Comments: These boats aren't really under naval command. They are part of the national strategic deterrent. These only show up in *2nd FLEET* because a large part of the importance of that area to the Soviet command is based on the launch positions of their submarines. The same type of area is treated by a VP bonus in *7th FLEET*. I suspect they make their brief appearance in *5th FLEET* only for the sake of completeness.

17. Nuclear Attack Submarines (SN)

Forte: Anti-submarine and anti-surface attack.

Foible: Like all subs, defenseless against air attack.

Deployment: Anywhere, except in shallow water in *7th FLEET* and *5th FLEET*. These are the "capital" ships of every nation that has a navy to speak of. They can battle each other and surface units with success. Many have SSM values that will let them attack surface units that are weak in area AA values. Some even have cruise missiles, valuable for driving down enemy CAP in preparation for a follow-up air strike.

Frequency: Fairly common in all the games, but you still won't have enough of them to suit you.

Loss: Damaging. Each one that is sunk represents a discernable loss of combat power.

Fate: The Soviet subs will take heavy losses; and all noisy subs are doomed. Most of the Western subs will survive.

Comments: Swift, silent and deadly, the American and British nuke boats will make mincemeat of whatever they meet up with. Most of the Soviet boats are outclassed, but the Soviet subs in *7th FLEET* with torpedo values of "22" will strike terror into American carrier battle groups (CVBG) if you use the optional "Type 65" attacks (for some reason, this rule disappears in *5th FLEET*). India has a pair of average Soviet boats in *5th FLEET*. The French boats that appear in *6th* and *5th FLEET* are equal to the Soviet boats, while the three Chinese boats in *7th FLEET* are noisy scows.

Aircraft

The air units are, according to some players, the most powerful class of unit. For each player, most of their offensive potential is contained therein. Surface units are, essentially, targets. Submarines, while of some threat, are just another set of targets so far as the "fly boys" are concerned. If you lose the air war, you can't win any of these games. There has been quite a bit of shift between the categories and changes in the rules between the four games for the aircraft.

18. Recon Aircraft (RCN, ASW)

Forte: The most flexible type of air unit. They can scout, lay mines, coordinate attacks; most can attack submarines, and some can attack surface units.

Foible: Never enough of them; helpless in aerial combat.

Deployment: Just about anywhere outside enemy CAP radius. Except for a few obsolete types, they have enough range themselves to get to the scene of the action. The ASW-capable planes will be the best sub-killers. The surface attack abilities of the P3 are nice, but you won't have the chance to use it very often.

Frequency: ASW is found in *6th FLEET* only; RCN in all the games. For the West, common (but more would be handy). For the Soviets, nowhere near enough.

Loss: Annoying, simply because they are so useful in so many ways.

Fate: Most will survive.

19. Bombers (BMB)

Forte: Killing ships; long range.

Foible: These are how modern-day fighter pilots become aces.

Deployment: Used to pick off any surface force without air cover. In *6th FLEET*, they can even take their chances in attacking units with air cover alone. This is altered in the later games, where they will need a fighter escort to penetrate. The bombers are also very useful for attacking enemy bases.

Frequency: The Soviets get a small, but very lethal, number. The US makes do with one.

Loss: Damaging because they are so powerful.

Fate: Survival. They won't be risked against anything that can harm them often.

Comments: These planes are part of the "ATK" type in the *2nd* and *7th FLEET* games, where they lose some of their usefulness against bases. Other than this, they are used in much the same manner as in *6th* and *5th FLEET*.

20. Attack Aircraft (ATK)

Forte: Attacking ships and bases. Some can carry out Recon missions.

Foible: Poor anti-air capability.

Deployment: Close to the action. Most are fairly short-ranged. Best used for bombing runs on enemy ships and bases, rather than any secondary roles.

Frequency: Common.

Loss: Annoying. They are worth some VP.

Fate: Most will survive, but there will be losses as they press home their attacks.

Comments: These planes were poorly differentiated in *6th FLEET*. Many of the "ATK" planes in that game became "INT" or "BMB" units in the later titles. For those, see the entries elsewhere in this article.

21. Interceptors (INT)

Forte: Anti-air values; many are multi-role craft with good anti-surface values as well. They can also be used to scout for enemy forces.

Foible: Can't hurt submarines; short range.

Deployment: In the thick of things. These are the guys who will win the air war. Most planes should be dedicated to air superiority at first. It is vital to win control of the air. If that happens, everything else will follow from that.

Frequency: Common.

Loss: Damaging; every one lost reduces the chances of winning control of the air.

Fate: Substantial losses during the battle for air supremacy. The Soviets and their clients should come off second-best.

Comments: A wide variation between planes in this category. Some are good for everything; some are good for nothing. Some are significantly better at either air combat or surface attack. Despite any variation, remember that fighter-bombers will not

get through CAP unless the fighters win the dogfight.

22. Airborne Early Warning Aircraft (AEW)

Forte: Saving carriers.

Foible: None really, for what they are meant to do.

Deployment: Over the carriers.

Frequency: Every American carrier gets one, as do the British and the optional Soviet carrier in *2nd FLEET*, and all the carriers in *5th FLEET*.

Loss: Would be damaging, but they won't normally go down before their carrier does.

Fate: Shared with their carrier.

23. Electronic Warfare Aircraft (EW)

Forte: Enhancing friendly attacks.

Foible: Never enough around; lack of inherent combat values.

Deployment: Assisting the most important air attacks. In *6th FLEET* they are very helpful. In *2nd FLEET*, their usefulness is less. But they come on like gang-busters in *7th* and *5th FLEET*; that die-roll modifier is worth far more than the small reduction in AA values found in *2nd FLEET*.

Frequency: Only a few in each game.

Loss: Damaging.

Fate: Despite their usefulness, several will die as they escort strike aircraft in against high-value targets. In air-to-air combat, take your losses from among the fighters.

Comments: Always worth having!

24. Aerial Minesweeper (MSW)

Forte: Reduces effectiveness of enemy mines.

Foible: Only one.

Deployment: Within two hexes of a crucial choke-point.

Frequency: One in *5th FLEET*.

Loss: Damaging.

Fate: Survival.

Land Units

The "land" units appeared in the first two games of the series only. Their usage is really outside the scope of a naval campaign. The way these are handled in 7th and 5th FLEET (with VP awards) is much more appropriate.

25. Commandos

Forte: Don't need air superiority to get to their destination.

Foible: Weakest ground unit.

Deployment: In *6th FLEET*, wherever they can grab a quick, cheap victory. In *2nd FLEET*, most useful taking islands with a small garrison.

Frequency: Common in *6th FLEET*. Rare, possibly non-existent, in scenarios of *2nd FLEET*.

Loss: Impossible.

Fate: Sitting on a VP hex, probably with lots of company.

Comments: The *6th FLEET* rules are very unsatisfactory and unrealistic. Submarines simply do not sail around with company-sized commando units onboard. *2nd FLEET* does a better job at realism. These units aren't missed in the later games. Historically, commandos conduct raids—not occupations.

26. Paratroops

Forte: Quick deployment.

Foible: Need local air superiority.

Deployment: The main Soviet occupation troop type. These are the units the Soviet player is counting on to take his objectives. The NATO paratroopers are best used in reaction to Soviet drops.

Frequency: Both sides have substantial forces in those games where they appear.
Loss: Impossible.
Fate: Sitting on an objective hex.
Comments: The use of paratroops is completely outside the scope of a naval campaign. I am at a loss as to why they were included in *2nd* and *6th FLEET*.

27. Marines

Forte: Grabbing VP hexes.
Foible: They've got to be carried there.
Deployment: On AA units heading for glory.
Frequency: The main striking arm of the NATO forces. Definitely a secondary element in the Soviet arsenal.
Loss: Damaging when they go down with the ship. Impossible once they have landed.
Fate: Shared with their AA unit; or sitting on the objective.

Units of the Fleets:

	5th	2nd	6th	7th
Combat Ships:	CV	CV	CV	CV
	CG	CG	CG	CG
	CL	CL		CL
	DD	DD	DD	DD
	FF	FF	FF	FF
	BB	BB	BB	BB
	PC	PC	PC	PC
			MS	
	CO			CO
Non-Combat:	AA	AA	AA	AA
		TK	TK	TK
	AM	AM	AM	AM
		ST	ST	
	CS	CS	CS	CS
		CR	CR	
	MP			MP
	OL			OL
	SC			SC
	FC			FC
	ET			
	FT			
	MS			
Submarines:	SN	SN	SN	SN
	SS	SS	SS	SS
	SB	SB		
Aircraft:	INT	INT	INT	INT
	ATK	ATK	ATK	ATK
	RCN	RCN	RCN	RCN
	AEW	AEW	AEW	AEW
	EW	EW	EW	EW
			ASW	
	BMB			BMB
	MSW			
Land Units:		Marine	Marine	
		Para	Para	
		Commando	Commando	☆

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Computer Corner . . . *Cont'd from Page 44*

until recently this type of SO was restricted to sophisticated chess programs.

Computer ACQUIRE uses this sort of SO player. It is difficult to design and (with the amount of recusion involved) very difficult to program. When you do it right, though, it gives a simulation of an opponent which forces the human player to both learn the rules and defeat the computer player through better strategy. It also allows a designer/ programmer to build an opponent that can play the game better than the designer! All of our new games rely heavily on this approach.

One of the side benefits of this idea is that the program can house a number of distinct computer players and so provide a variety of opponents. This is precisely what happens in *Computer ACQUIRE*. The next generation of SO will be one that evaluates the human player's strategy (if it is successful) and then builds a new SO template to challenge that strategy. It might be a few more years before such are on the market, however. ☆

BACK ISSUES

Only the following back issues of The *GENERAL* remain in stock; price is $4.00 per issue (plus the usual shipping and handling charges). Due to the low quantities of some back issues, if ordering, please specify alternative selections. Below is a listing of each in-stock back issue by subject matter; game abbreviations are italicized and standard (a partial listing may be found on the "Opponent's Wanted" form on the insert of this issue). Type of article is indicated by the following abbreviations: H—Historical, DN—Designer's Notes, V—Variant, SR—Series Replay, S—Strategy, Q—Questions, P—PBM (postal), Sc—Scenarios, A—Analytical. The featured game for each issue is always the first one listed. Those printed in red indicate one-color reprints of previously out-of-stock issues.

OPPONENTS WANTED

New to Mobile—looking for ftf opponents in DIP. Willing to learn new games. Interested in playing CAE. Paul McCarty, 1651 Knollwood Dr., Apt. 265, Mobile, AL 36609, (205) 661-4578

Looking for rated pbm games of TRC and BR. I'm rated 1600+ and also AHIKS member. Chris Burk, 4527 18th Ave. East, Apt. #1326, Tuscalossa, AL 35405, (205) 556-7893.

Wanted San Diego players for ftf UF and WSIM. Also want pbm for FT, UF. Tom Martin, 267 Orlando St., Apt. 21, ElCajon, CA 92021, (619) 588-2805.

Wanted: pbm/ftf AREA/non-AREA for SL/ASL series, CASS, TP: STAL, AF/DL, BL, GE'88, PB, PL, FL, KA, UF, FITG, FT, MD, WAS, SC, MOV, DIP, FE, DE, SST, SUB, FITG, TRC, TLD, LW, BB. Hurry moving to Tuscon, AZ July-Aug 90. Mike Smith, 406 Radden Rd. (Marshall Park), Ft. Ord, CA 93941, (408) 899-4607.

Ftf BRIT, CIV, KREM, 3R, DIP, MOV, RB, Conquistador, Machiavelli, pbm BRIT. Tony Strong, 1027 E. 7th St., #5, Long Beach, CA 90813, (213) 591-0423.

Pbm desired for TRC rated only. Also will ftf rated or unrated anything. I have 60+ titles. Rated 1500. Albert Miller, 187 Palm Ave. #68, Marina, CA 93933, (408) 384-7184.

San Fernando Valley Games looking for ftf players in GE'88, TP:STAL, MD, WAS, others. Will try any of your favorites. Jason L. Robert, 11318 Chimineas Ave., Northridge, CA 91326, (818) 363-9127.

Looking for pilots for umpired AF and DL. Send SSAE for full details. First eight responses will play. Bartow Riggs, 4814 Lewis Carroll, Sacramento, CA 95842, (916) 331-6342.

Pbm AREA 1642 TRC, WAT and STAL. Reliable, rapid responders only, please. Ted Thompson, 11539 Palito Ct., San Diego, CA 92127, (619) 487-5615.

ASL beginners in Southern California (especially Orange County), please drop me a line. James C. Allen, 28352 Paseo Establo, San Juan Capistrano, CA 92675, (714) 496-5211.

Adult 1500 Prov. seeks AREA gamers any age for pbm PL, LW, 3R and 2nd copy to accommodate a 2nd reply for a game. David Torrez, 962 Upland Ave., San Pedro, CA 90731, (213) 547-1592.

Seeking pbm opponents for SL to GI, FT, FP, SOA, JUT, SUB, 3R, FE plus many more. AREA 1500 Prov. CPL. J.E. Halfin, 8735 Midway Place, Santa Ana, CA 92709, (714) 551-9733.

Reliable player needs opponent for pbm TA. Honor system preferred. Any ftf ASL players in area? Sam Fleming, 1035 Aster #2121, Sunnyvale, CA 94086, (408) 296-4295.

Starting club in Vacaville/Davis area. For more info. please contact: Arnold Shimo, 1510 Alamo Dr. #57, Vacaville, CA 95687, (707) 451-1647.

SOA AREA gamer seeks AREA pbm or ftf—have system. Pat Cook, #915, 1900 Ascot Pkwy., Vallejo, CA 94591, (707) 552-4269.

EIA pbm for mature game players. Send an uncancelled first class postage stamp for bid sheet and base rules. Starting new 1805 and 1812 campaigns. Andy Martin, P.O. Box 17292, Denver, CO 80217.

Non-rated novice seeks Colorado gamers. Will play almost anything (have a lot of games). Need pbm systems to pbm games. Sai Williams, 650 Independence St., Lakewood, CO 80215, (303) 232-2677.

30 year old adult gamer seeks ftf competition (friendly) for ASL. Paul Anderson, 220 Rocky Top Rd., Hamden, CT 06514, (203) 248-1449.

Central CT Wargamers meet 6:30 p.m. in Windsor at Wilson Volunteers Firehouse, first and third Fridays. We play ASL, KREM, EIS. Mark Kalina, 33 Snipsic St., Vernon, CT 06066, (203) 875-2032.

Desire info. on pbm DUNE. Anyone hear of any DIP, DUNE variants? Dr Lector is coming! The lambs are screaming! Ken Burke, 6 Meadowbrook Road, W. Hartford, CT 06107, 521-2891.

ASL players in the Orlando area wanted. ASL group is active and meets regularly. Contact me for further info. Russ Bunten, 8424 Shira St., Orlando, FL 32827, (407) 851-0732.

AREA 1800 Rated wishes Rated 1600+ adult opponent for pbm RF. Two games with exchange of sides. Michael G. Mitchell, 260 Lakemont Dr., Roswll, GA 30075, (404) 998-2152.

Reliable player looking for pbm matches of BB81, AZ, or TRC. Rated only. For fun, not blood. AREA rated 1632. Bart DePalma, 4325 Old Cusseta Rd. #2, Columbus, GA 31903 (404) 689-1884.

Pbm for MR, CIV, KM, UF, Star Troopers, Alexander the Great. Call 7 to 11 evenings. Cherilyn Young, 1374-B Holli Circle, Pearl City, HI 96782, (808) 455-9897.

Rated 13 year old seeks pbm DIP, ftf CIV, BRIT; AREA 1500. All letters answered. Will travel to West Chicago suburbs. Mike Kimmott, 1097 Crestwood Ct. Bolingbrook, IL 60440, (708) 759-6260.

ASL'ers in Chicago Area come join many other ASL fanatics, beginners welcome—Windy City Wargamers. Louie Tokarz, 5724 W 106 St., Chicago Ridge, IL 60415, (708) 857-7060.

Windy City Wargamers! Four meeting places! St. Charles, Oak Lawn, Sauk Village and North Chicago! Newsletter! Opponents! You name it, we play it! Richard Wiet, 123 Pickwick Dr., Apt. C, Schaumburg, IL 60193, (708) 894-3059.

Teen seeking ftf opponents. ASL, MBT, FP, FL, DEV, BL, SST, TT and others. Jeff Tabian, 439 E. 168th Street, South Holland, IL 60473, (708) 596-1255.

New in town. Looking to meet Indianapolis area ftf players for CIV, BRIT and related historical games. Garry Hamlin, 11829 Ashton Dr., Fishers, IN 46038, (317) 841-3022.

Want ftf opponents in Lafayette area, will play most historical games. Carl Schwamberger, 3824 S CO Rd. 25 E., Lafayette, IN 47905, (317) 474-6718.

Attention Lead-Heads! Don't lie around broken and disrupted—get off your butts and go berserk! Join K.C. ASL Club. For info.: Ray Verbanic, 3838 Rainbow Blvd., Apt. #1109, Kansas City, KS 66103, (913) 432-3454.

Wanted: pbm PL, PB, 3R, NAB, W&P, or SON AREA or non AREA. Michael Patterson, 9833 Overbrook Ct., Leawood, KS 66206.

Pbm FR, also PK, EIA, 3R, Civil War, but lack systems. Ftf any game in Ft. Knox area. Hurry moving Aug. 90. John Forbes, USA NCOA/DSS, BNCOC 90-07E, Ft. Knox, KY 40121.

Wanted Opponents for ftf or pbm 3R, W&P, MD, AK, PK, NP (will travel to play a game in Louisiana. Ricci Moran, P.O. Box 1065, Ruston, LA 71273, (318) 251-9038.

35 year old gamer looking for opponents ftf 3R, SL, W&P. Will play anything and try pbm. Dennis Urquhart, 268 Main St. Calais, ME 04619, 454-8546.

Stranded gamer relocated to Balto. area wants ftf ASL opponents or group that meets regular. Also know most AH games. Thomas Cooney, 2903 Dunmore Rd., Apt. D, Baltimore, MD 21222, 284-4589.

Be part of the 18th consecutive year of the 28-member AH Football Strategy League. All games played in Baltimore area. Don Greenwood, 1541 Redfield Rd., Bel Air, MD 21014, 898-0380.

Any ASL players near Glen Burnie? Experienced player seeks experienced opponents. Brian Youse, 8191 Turn Loop Rd., Glen Burnie, MD 21061, (301) 969-2733.

Gamers meet every other Thursday at the Russell Memorial Library, 88 Main St., Acushnet, MA. Call for information. Seth Owen, 6 Whelden Lane, Acushnet, MA 02743. (508) 998-2784.

Diplomacy players—play Diplomacy by mail with the 'zine PROTOCOL or by computer and modem with its electornic counterpart, ELECTRONIC PROTOCOL. Eric Kliem, 1 Sinni Circle B10, Chelmsford, MA 01824, work—(508) 663-5480, home—(508) 250-0820.

ASL action on the cutting edge in the Red Barricades Campaign. Veterans and novices alike welcome. Greater Springield, MA, ASL Club. Vic Provost, 54 Ednson Ct., Chicopee, MA 01020, (413) 593-5849.

Seeking adult pbm opponent for SC, SL, SOA, TAC, 3R those I have, any others? Also seeking ftf MA area. Kevin Smith, 7 Parliament Drive, Franklin, MA 02038, (508) 520-6830.

Young novice seeks ftf or pbm for 3R, AK, LW, RF, Pax Britannica. No local opponents, please write! Adam Cargill, 186 Hill Road, Groton, MA 01450, (508) 448-2459.

Would like to start a club in Metrowest. Ftf 1776, PGG, PAA, anything else. Let's do it! Michael Boutot, 14 Otis Street, Natick, MA 01760, (508) 655-0406.

Non-rated player seeking ftf or pbm (need system) PGG, SL, FP or learn others. Any Dragon Pass or Dark Emperor? Alan Dickson, 36 Chestnut St., Worcester, MA 01608, (508) 791-2969.

MSU Grad seeks ftf games for: VITP, WAS, 3R, MD, TRC, GI. Have/want to learn ASL, RF, AF, DN. Kurt Romig, 1311-H University Village, East Lansing, MI 48823, (517) 355-6167.

Moving back to Minn. I play ASL, FP, TLD, MBT, ftf only. Dan Reed, Rte. 1, Box 63-1, Buffalo, MN 55313.

AREA 1400 Prov. seeks pbm opponents for 1914, GE'88, WSIM, WAT, SOA, FT and SST. Rated games preferred. David A. Brady, 5255 Mahattan Rd., Apt. P-2, Jackson, MS 39206, (601) 362-1437.

Adult seeks mature ftf competition in ASL or other games. Richard Lake, 2739 San Springs Ct., St. Louis, MO 63129, (314) 846-7937.

Am currently at Norwich University. Looking for clubs in Vermont and gamers in North Jersey for summer. SL, UF, CIV, DIP, VG-NATO. David VanderWerf, 4 Leigh Terrace, GlenRock, NJ 07452, (201) 444-5052.

Pbm opponents wanted: AK, DEV, FT, FE, GOA, HW, KOTA, MD, PAA, RW, RF, VITP. Non-rated; net to pbm. Stephen Fadden, 611 Winston Court, Apts. #4, Ithaca, NY 14850, (607) 257-8532.

Attention ASL gamers, experienced German Gruppe-Fuhrer seeks ftf opponents. Available to battle in Rockland & Suffolk. Travel to North Jersey & West Chester. Walter J. Green, Jr., 33 Palmer Ave., Nanuet, NY 10954, (914) 627-2348.

New SL player wants to pbm using programmed instruction. I have SL pbm system. Alfred Miller, 262 Wadsworth Ave., Tonawanda, NY 14150, (716) 693-0996.

Adult gamer new to RTP Area interested in joining FRP Group for RuneQuest, etc. Weekends only. Willing to travel. Dick Jesser, Rt. #3, Box 256A, Creedmoor, NC 27522, (919) 528-3768.

Wanted pbm or ftf in Burke Catawba Co. area ASL, AK, BL, BB, BR, FR, GOA, PGG, PL, RF and 3R. Todd Whisnant, Rt. 2, Box 550, Valdese, NC 28690, (704) 874-0870.

Anyone in Clermont or Brown County play boardgames? 32 year old wants ftf gamers for ASL or anything else. David Cannane, 3723 Maplewood Dr., Amelia, OH 45102, (513) 752-8056.

Opponents needed for ftf multi-player games: WSIM, CAE, RW, DP, FP, WQ. Will play others. Mark Bauer, 7509 S. Timberlane Dr., Cincinnati, OH 45243, (513) 745-0246.

ASL, UF, TP:Stal, in Findlay? George Kemp, 9705 Twp Rd. 95, Findlay, OH 45840, 423-2684.

Beginning adult gamer in North Central OH area willing to take his lumps seeks ftf opponents for BB, SOA, CASS, STAL. John Simatacolus, 25 Cedargate Court, Galion, OH 44833, (419) 462-5883.

Pbm 3R, Sixth, AK, 1776, VITP, etc. AREA or Non-AREA 1500 Prov. Will learn and play anything; ftf in Kent. Craig Hornish, P.O. Box 1774, Kent, OH 44240.

Novice adult gamer seeks ftf competition in 3R, FT, GOA. Advanced players don't scare me! (Well maybe a little). Serious play for fun. Andy Haney, 1651 Mentor Ave., #511, Painesville, OH 44077, 357-5586.

Looking for rated players for pbm of any Victory Games or PGG. Ken Mikolaj, 5603 Snow Rd., Parma, OH 44129, (216) 884-4921.

Pbm opponent wanted; experienced gamer wants MD opponent. I am AREA 1500 Prov. rated. Richard Bliss, 1314 Irwin #104, Lawton, OK 73507, (405) 248-4585.

Casual player wants sports and wargame foes. Pbm or ftf TRC, WSIM, KM, others, or pbm sports league. Can learn! Michael Hopcroft, 1613 SE Main St., Portland, OR 97214, (503) 233-7006.

Wargaming Club newly formed in Southeastern Pennsylvania. Initial meeting was very successful. Prefer no role-playing, but not a necessity. Excellent facilities! For more information contact: Joel Ferich, 335 Spring Mill Ave., Conshohocken, PA 19428, (215) 825-6969.

Need ftf player for ASL, SL, PL or PB. Please talk to recorder. Louis D'Alessandro, 26 Balsam Court, Holland, PA 18966, (215) 968-5579.

AREA 1502 verified seeks Rated pbm for BB, FR, TRC, STAL, WAT. Must be willing to play 2 games, once each side. R. G. Robinson, 83 Greenwood Dr., New Cumberland, PA 17070, (717) 938-4505.

Looking for ASL opponents in the Central PA area. Have all modules. Willing to travel a reasonable distance. Kevin Meyer, 133 E. Maple St., Palmyra, PA 17078, (717) 838-1911.

Pbm opponents wanted for GL, AF/DL, Battle for Italy and Little Round Top. Ed Snarski, 111 Swanson Road, Wilkes-Barre, PA 18702, (717) 824-2323.

ASL'ers in East Tenn. UNITE! Join E.T. Tacticians—meeting in Jefferson City every 2nd Sunday. For all ASL'ers in E.T. Tim Deane, 720 Carolyn Dr., Jefferson City, TN 37760, 475-9286.

Gamer new to Houston area looking for wargame/FRP players. Any clubs or gamers interested in starting one in area? Bob Chandler, 201 Dixie Dr. #618, Clute, TX 77531, (409) 265-8668.

Attn. D/FW area wargamers! The Texas War Dept. meets once each month to play all types of historical conflict games. For more info., please contact: Greg Clayton, 3550 Timberglen Rd., #302, Dallas, TX 75252, (214) 306-1451.

Seeking ASL opponents in Austin area. I could be persuaded to play others. AZ, BB, BR, DEV, FE, GE, 3R, TPS, UF, VITP. David Hailey, 302 Lakeway, Georgetown, TX 78628, (512) 869-1267.

Looking for 1830 pbm opponents. I have rules for simultaneous play. Rules somewhat different from original game. Chris Kolenda, 2023 Briar Lane, Richmond, TX 77469, (713) 342-1928.

Adult gamer new to area looking for ftf opponents for almost any game. Any clubs around? Will travel. Neil Moran, 5819 Spinnaker Cove Rd., Midlothian, VA 23113, (804) 739-0096.

Gamers in North VA for FT, BIS, VITP, SL, and more. Ftf wanted. Can travel weekends; can play here too! Robert Bloom, 707 Maryland Avenue., Shenandoah, VA 22849, (703) 652-8680.

Need players for umpired TA, FL. Will also accept any openings in your own umpired game. J. Thomason, 4140 14th South, Seattle, WA 98108.

Playing wargames 20+ year. Now want to get serious! Pbm MD, WAS, VITP, LW. Wish to learn others, but not ASL. Ftf almost anything. Michael Knautz, 1826 W. Kamps Ave., Appleton, WI 54914, (414) 731-3375.

New to the area after 6 years gaming. Looking to pbm/ftf PL. Will also pbm/ftf MBT, SOA, SL, ASL. Others ftf. Scott Marincic, 101 McPherson, Ft. Atkinson, WI 53538, (414) 563-4541.

Milwaukee Gamers—Napoleon's Battles, 1776, Civilization, Rail Baron. Contact: Tim Tilson, 1314 N. 63rd Ct., Wauwatosa, WI 53213, 771-2468.

Opponents wanted for historical simulation and strategy games in a variety of periods and scale. Ftf play only please. Frank Appel, Box 89, Beaver Lodge, ALTA, Canada T0H 0C0, 354-8152.

Looking for an opponent to pbm or AREA rated game of DD. Will also play ftf CIV, DD, DIP, MOV. Craig Mayer, 305 98 Ave., Dawson Creek Prov. B.C., Canada V1G 1R8, (604) 782-6361.

ASL enthusiast in B.C. Canada, looking for experienced opponent—will try pbm. Rene K.B. Hanker, #1302 E. 37 Ave., Vancouver, B.C. V5W-1G5, 322-6698.

AF, DL, FT, 3R—in order of preference. Denis Rufiange, 92 Belanger, LaSalle, Quebec, Canada H8R 3K6, (514) 366-6672.

New to AREA would like to pbm FE, HW, PGG, CM, 3R. Will take on any age, any rating (non-rated also). Ron Garrow, 11815 Guertin, Montreal, Quebec H4J 1V4, (514) 332-0294.

Experienced gamer age 27 seeks ftf opponents in Montreal Region. Also seeking non-AREA pbm for TRC, AK, BB'81, VITP, FE, ALEX. Open to new titles. Carl Paradis, 1409 Mont-Royal Blvd., Outremont, Quebec, Canada H2V 2J5, (514) 272-3219.

Opponents wanted in London, UK for ftf 3R, WSIM, PAA, KM, W&P and DIP. Will try others. James Campbell, 42A Prince of Wales Road, London, UK NW5 3LN (071) 485-1468.

Back to pbm; 1343 Prov. seeks rated competitor in pbm, PL, PB. Honor system, PL rules friendly play. Hans R. Frey, c/o Altherr, Martiusstr. 6, D-8000 Munich 40, W. Germany.

Any gamers in the Munich area? Will play UF, SL, CIV, 1776, MOV and others. Jim Winslow, Box 211, 5MI Co 18 Bn, APO 09108, 6229-6479.

ASL'ers of Europe unite! Players wanted for ftf gaming and occasional tournament play. Mike Offutt, P.O. Box 1359, APO, NY 09130, 06315-0823.

30 year old seeks pbm opponents for ASL, TLD, 6th Fleet, 7th Fleet, 2nd Fleet. Has anyone devised a good pbm system for ASL? Pascal Stalder, Rue Jean Lecomte 3, 1422 Grandson, Switzerland, (024) 242165.

THE QUESTION BOX

MBT
Clarifications & Errata:
Rulebook:

4.8 The third sentence should read, "A side controls an objective hex if one (or more) of their ground units was the last to occupy or sit adjacent to the hex for at least one complete Turn. Units may take control of one or more objective hexes simultaneously in this manner."

6.1.3.4 In the example, the numbers should be "10" from an open turret and "7" from a buttoned turret.

7.4.2.3.1 Should read *engages in AP Point Effect Fire against* instead of "hits".

8.2.1 The first sentence should say *MOVE* instead of "FIRE".

9.1 The third sentence should read, "Place spotted (MOVED) markers with all units that have unused CLOSE ASSAULT orders." The second-to-last sentence should read, "This turning expends no movement factors, but spotted (MOVED) markers should be placed as the units pivot, unless already marked with a spotted marker of either type."

12.3.3.1 Add this new sentence to the rule: "If suppressed by overwatch fire while moving, a vehicle unit gets only half of its *remaining* movement factors to complete its movement."

13.4.3.2 Change the sentence after the example to read, "When attacking for an overrun combat, all must attack the *same hex* (they may attack different units in that same hex)."

14.3.4.1 & 14.3.4.2 In both, change "HS" to *HF*.

14.4.3.3.1 Delete the word "building".

15.1.1 "FIRE orders" should read *MOVE orders*.

12.2.1.4 (Page 23) This rule is misnumbered, and instead should be **17.2.1.4.**

17.3.2.1.4.2 The example should read, *the numbers are "16" and "(2)". A die is rolled twice, with rolls of "9" and "8"="17".* Since "17" exceeds the maximum of "16", the number of rounds carried is "16".

17.10 OVERWATCH FIRE OPTION New Rule: This option applies only in a case where missile fire is directed at a target that is not moving or going to move during the Turn. If done, a gun-firing unit(s) with OVERWATCH orders in the *same* hex as the target unit may fire at the unit firing the missile, and the gun shot(s) are resolved *before* the missile fire is resolved.

19.2.3.4 The "LOOSE SHAEF" diagram is incorrect. The ones on the artillery data cards (FRG-3B, USA-2B and USSR-12A) are correct.

20.3.2.3 Delete the entire rule, and renumber **20.3.2.4** to this.

20.3.4.2 The end of the final sentence (after the dash) should read, "being suppressed affects air units when using *any* of their weapons (except ARMS)."

ARMORED CAVALRY TROOP HEADQUARTERS (Page 39) All of the listed organizations should have a half, rather than a full, squad of infantry. The points of these organizations are as follows:

a. 134Cr-112Av-90Pr.
b/c. 182Cr-152Av-122Pr.
d. 194Cr-162Av-130Pr.
e. 138Cr-115Av-92Pr.
f/g. 186Cr-155Av-124Pr.
h. 198Cr-165Av-132Pr.

LARGER ORGANIZATIONS (Page 42) The FLAK BATTERY (both gun and missile) organizations both have only "3" Flak Sections instead of "6".

SOVIET TANK COMPANY (CROSS-ATTACHED) (Page 47) There should be only "1" Squad Heavy Motorized Rifle Company [with RPG-7 V/D & SA-7B] instead of "2".

STANDARD RECORD SHEET ABBREVIATIONS (Page 52) "LN" should stand for *LANTIRN*, instead of "Lantern".

Game Card:

Air Acquired Ranges Chart The * note should read, "Require observer to acquire building, improved position and woods hexes."

Anti-Aircraft Modifiers Remove the entire third modifier line ("Helicopter Moving").

AP Point Effects Numbers of Hits Table The first ROF should be "2" instead of "1".

GP Point Effect Modifiers Rate of Fire should be "−10 each" instead of "+/−10 each".

Sequence of Play with All Options—7a After the word "pivot", add "and also on units with unused CLOSE ASSAULT (CA) orders,".

Standard Terrain values Chart The Wire "GP DEF" should read "1-3a" instead of just "1-3".

MERCHANT OF VENUS $25.00
Multi-Player Science Fiction Game of Trading

Who would have thought that a science-fiction game, especially one which concentrates on economic rather than military strife, would rate so well? Make no mistake, *MERCHANT OF VENUS* is a clever, well-crafted design. Its current slot (12th) in the on-going RBG listing proves that. If this column serves to alert potential buyers to the strengths and weaknesses of new Avalon Hill designs, the ratings below should serve to catch their eye. Granted that many who responded were pre-disposed to like the game before they ever stripped off the shrink-wrap, still-in-all Richard Hamblen's newest effort seems to continue Avalon Hill's tradition of excellent multi-player games for those of a robber-baron mentality.

There were, in the ratings, a couple of surprises for us. For one, the "Complexity" rating (3.38) was on the low end of the expected scale, and compares favorably with another popular economic game—*1830*. "Playability" came in quite high, ranking above many another titles perceived to be "user-friendly". Given the views of so many of our readers on the topic "Authenticity", *MERCHANT OF VENUS* shows well even in this. 'Course, as with all of these ratings, readers should keep in mind that most of those who responded were in-clined to overlook the fantastic elements of the design and concentrate on its elegant systems and challenging play. With a fine solitaire system, playable in a reasonable amount of time (some 90 minutes shorter than *1830* on average), and demanding considerable skill in planning to attain victory, *MERCHANT OF VENUS* is on its way to becoming a cult favorite.

Overall Value: 2.50
Components: 2.42
Map: 2.54
Counters: 2.35
Rulebook: 2.85
Complexity: 3.38
Completeness of Rules: 2.46
Playability: 2.23
Excitement Level: 2.47
Play Balance: 1.92
Authenticity: 3.53
Game Length (average): 15.42
   Shortest: 1 hr., 30 mins.
   Longest: 3 hrs., 38 mins.
Year: 1988
Type: MP

READERS BUYER'S GUIDE

The following games are ranked by their reader-generated overall Value rating. Further aspects of reader response to our titles are indicated by the ratings in other categories. By breaking down a game's ratings into these individual categories, the gamer is able to discern for himself where the title's strengths and weaknesses lie in the qualities he values highly. Readers are reminded that ratings take the form of a numerical value ranging from 1 to 9 (with "1" equalling "excellent" and "9" equalling "terrible". However, the Game Length category is measured in multiples of ten minutes (thus, a rating of "18" equates to three hours). A "+" following the Year of release indicates that the game is continued or complemented by additional modules in successive years (for instance, the ratings for SL reflect the entire system—original game plus add-on modules). Game Type is broken down into three broad categories: SO=Solitaire; MP=Multi-Player; 2P=Two Player. Finally, it should be noted that a minimum requirement of 50 responses (see the "Sample Base") was judged necessary for a valid representation; additional titles that garner such will be added to the RBG in the future.

WARGAME RBG

Title	Overall Value	Components	Complexity	Completeness	Playability	Authenticity	Game Length	Year	Type	Sample Base
ADVANCED SL	1.80	1.77	9.25	2.11	3.44	2.04	33.02	1985+	2P	172
1830	1.85	2.00	3.88	2.72	2.04	3.20	24.52	1986	MP	50
CIVILIZATION	1.97	2.60	3.20	2.03	1.72	4.09	32.08	1982	MP	152
FLATTOP	2.00	2.47	3.61	3.12	3.56	1.76	43.96	1981	2P	95
EMPIRES IN ARMS	2.08	2.45	8.08	2.94	3.84	2.11	156.86	1986	MP	71
UP FRONT	2.11	2.24	4.36	2.83	2.38	3.56	10.16	1983+	2P	126
RUSSIAN FRONT	2.12	2.33	5.32	2.88	2.67	2.40	40.16	1985	2P	113
KREMLIN	2.28	2.51	3.64	3.33	1.81	5.24	11.94	1988	2P	63
BRITANNIA	2.31	3.08	2.93	2.89	2.07	3.52	23.72	1987	MP	77
TAC AIR	2.38	2.39	5.02	2.91	2.77	2.72	33.65	1988	2P	88
GETTYSBURG	2.42	2.61	1.79	3.32	1.64	4.43	9.11	1988	2P	66
MERCHANT OF VENUS	2.50	2.42	3.38	2.46	2.23	3.53	15.42	1988	MP	79
VITP	2.55	3.12	2.56	3.32	1.91	5.56	21.09	1977	2P	183
RUSSIAN CAMPAIGN	2.60	3.35	3.85	3.10	2.28	4.22	35.44	1976	2P	220
ENEMY IN SIGHT	2.61	2.88	2.30	2.63	1.87	5.76	7.73	1988	MP	68
7th Fleet	2.62	2.77	6.47	2.96	3.04	3.16	38.01	1987	2P	50
CASSINO	2.68	2.71	4.43	2.75	2.32	2.63	23.67	1988	2P	52
DIPLOMACY	2.71	3.36	3.00	2.69	2.92	5.16	33.26	1976	MP	169
ST. NAZAIRE	2.72	2.56	4.01	3.12	2.80	2.52	18.92	1987	SO	98
FIREPOWER	2.76	3.03	6.42	3.63	3.76	2.88	15.48	1985	2P	94
STORM OVER ARNHEM	2.78	2.68	3.84	2.84	2.32	3.49	24.35	1981	2P	87
FLIGHT LEADER	2.79	2.20	4.62	3.00	2.77	3.20	10.18	1986	2P	76
BULL RUN	2.80	2.67	3.80	2.95	2.96	2.93	23.76	1983	2P	62
DEVIL'S DEN	2.81	2.85	5.04	2.99	3.52	2.61	24.58	1985	2P	60
B-17	2.83	2.87	2.93	2.83	2.00	3.33	8.82	1983	SO	192
SQUAD LEADER	2.84	2.11	8.05	3.68	4.27	3.00	21.37	1977+	2P	231
2nd Fleet	2.89	3.35	5.27	3.44	3.28	3.55	32.23	1986	2P	55
WS&IM	2.92	3.24	5.64	3.00	3.04	2.60	20.07	1975	2P	172
THIRD REICH	2.95	3.56	8.83	3.70	4.00	3.51	45.83	1981	MP	227
BULGE '81	2.96	3.11	4.21	3.24	2.92	3.19	28.02	1981	2P	155
PANZER LEADER	3.12	2.79	5.63	3.72	3.32	3.82	19.47	1974	2P	210
WAR & PEACE	3.13	3.44	4.55	3.68	2.95	3.15	36.80	1980	2P	138
TITAN	3.16	2.68	3.48	2.66	2.47	4.48	29.08	1982	MP	65
Civil War	3.20	3.69	6.95	3.92	4.17	3.58	46.96	1983	2P	112
DUNE	3.21	2.48	3.29	2.93	2.88	4.22	15.84	1979+	MP	87
MAGIC REALM	3.29	2.44	8.41	4.08	4.20	3.79	20.76	1979	MP	75
Battle Hymn	3.32	3.33	5.24	3.48	3.89		21.26	1986+	SO	
NAVAL WAR	3.35	4.20	1.12	3.40	1.60	6.72	6.00	1983	MP	81
STARSHIP TROOPERS	3.36	3.12	4.84	3.32	3.20	3.12	16.37	1976	2P	110
KINGMAKER	3.39	3.21	5.65	4.48	3.49	4.63	27.98	1976	MP	141
PG GUDERIAN	3.40	3.24	5.44	3.20	3.28	3.32	22.87	1984	2P	90
PATTON'S BEST	3.43	3.22	4.16	4.23	3.25	3.87	14.13	1987	SO	109
GLADIATOR	3.44	3.36	3.89	3.32	2.56	3.20	8.69	1981	2P	56
CIRCUS MAXIMUS	3.47	3.60	3.28	3.39	2.64	3.36	11.70	1980	2P	91
6th Fleet	3.48	3.04	5.64	3.73	3.88	3.64	47.67	1985	2P	59
AIR FORCE	3.48	4.27	5.36	3.64	3.61	3.12	12.90	1980+	2P	76
ARAB-ISRAELI WARS	3.49	3.25	6.93	3.72	3.52	3.72	16.37	1977	2P	123
PANZERBLITZ	3.56	3.55	4.92	4.16	3.26	4.50	18.25	1970	2P	215
PA AFRIKA	3.63	3.68	4.23	3.36	3.19	3.88	25.14	1981	2P	80
Pacific War	3.64	3.57	7.98	4.32	5.28	3.19	120.63	1986	2P	66
Pax Britannia	3.64	3.60	4.85	3.91	4.24	4.61	52.14	1985	MP	50
MIDWAY	3.65	4.48	2.80	3.16	2.43	4.52	21.10	1964	2P	130
DWTK	3.68	3.56	4.88	4.28	3.85	3.89	22.82	1981	MP	52
Ambush	3.68	4.08	4.94	4.40	3.91	4.61	19.69	1983+	SO	121
FORTRESS EUROPA	3.73	3.23	5.36	3.78	3.88	3.57	42.44	1980	2P	157
AFRIKA KORPS	3.77	4.43	2.20	2.84	1.88	5.40	21.44	1964	2P	167
HITLER'S WAR	3.80	3.89	4.20	4.25	3.44	4.68	34.79	1984	2P	78
WIZARD'S QUEST	3.82	3.07	2.11	2.94	2.15	4.92	20.92	1979	MP	85
Vietnam	3.89	3.35	8.60	3.83	5.26	3.19	90.86	1984	2P	60
WAR AT SEA	4.04	3.94	1.40	3.40	1.87	6.72	12.80	1976	2P	155
BLITZKRIEG	4.19	4.36	5.84	3.87	3.60	5.57	33.73	1965	2P	136
1776	4.25	3.64	5.28	3.88	3.24	4.40	26.30	1974	2P	154
D-DAY	4.32	4.73	3.56	3.45	2.91	5.08	27.16	1977	2P	125
RICHTHOFEN'S WAR	4.33	3.78	3.99	3.60	3.24	4.87	8.23	1983	2P	53
PANZERKRIEG	4.35	4.02	5.11	3.84	3.83	3.28	24.49	1973	2P	137
GUNS OF AUGUST	4.41	4.00	5.32	4.56	4.51	3.83	44.72	1981	2P	139
WATERLOO	4.44	4.48	2.24	3.08	2.21	5.55	17.99	1962	2P	130
Mosby's Raid	4.53	4.55	4.63	4.36	4.42	5.13	20.85	1985	SO	60
LUFTWAFFE	4.80	4.27	4.16	4.08	3.91	4.63	20.08	1971	2P	170
Nato	4.96	4.16	6.28	5.24	4.76	4.63	33.70	1983	2P	73
TACTICS II	5.88	6.22	1.52	3.89	2.96	6.80	14.87	1961	2P	108

Our first "sci-fi" issue in some time (Vol. 26, No. 1 featuring *MERCHANT OF VENUS*) brought the expected howls of outrage, and some surprisingly pleasant compliments. Overall, it garnered a 3.37 rating. And, given the massed voices of the too-long silent fans among our readership of the non-war titles, it was not surprising that the three top-rated articles in the issue deal with Avalon Hill's first new SF title in years. Drawn from a random selection of 200 responses—with three points awarded for first choice, two for second, and one for third—the articles of the first issue of Volume 26 carry the following tallies:

As it proved out, Mark Nixon's excellent article on the tactics of *ASL* in the desert environment, "Gunned-Up in the Desert", dominated the annual polling for the Editor's Choice Award for Vol. 25. In fact, it collected nigh twice as many votes as the second-place finisher, Mr. Campbell's look at *PAX BRITANNICA* found in the last issue of last year. In an exceptionally strong field (at least, we were hard-pressed to limit the number of "Editor's Choices"), Mr. Nixon's piece is obviously a superb example of the type of material we hope to fill these pages with. A repeat winner (he last took the award for his "They Shall be Playtesters" in Vol. 19), he will receive a $100 bonus in addition to yet another lifetime subscription to The *GENERAL*. The complete list of nominees and their percentage of the total votes cast by responding readers is as follows:

Infiltrator's Report

A small bug has been found in the first releases of our computer game, *COMBOTS*. It is located in the "Construction Section". When a player uses Option B (to view and delete equipment), it is a good idea to use the "+" key to advance the list *before* using the "–" key. Otherwise, it might cause the program to skip into the next category—or even lock up. The bug has been fixed, and while it can be avoided by taking these simple steps, an upgrade is available for $11.00 from our customer service department.

After almost 18 years of continuous publishing, Fred Davis Jr. is about to close down his *Bushwacker*, a 'zine devoted exclusively to the play of *DIPLOMACY* variants. The last issue will appear in August 1990 (the first, in March 1972). He plans to have completed the remaining postal games therein by then (any continuing that he is GM of will be handled by flyer). For many years Mr. Davis has been a solid rock in the postal *DIP* hobby, involved in many of the major tournaments, holder of several of the hobby offices, head of the Mensa *DIPLOMACY* organization, and guardian of the Variant Bank (where he has collected all of the many *DIP* variants he has uncovered). We'd like to extend our thanks, and our best wishes, to Mr. Davis for all his support over the years. Now, perhaps, he'll at last actually get to play a few games of Avalon Hill's classic multi-player game.

Contest #149 presented a nice little puzzle on the best moves for the Human player in a game of *MERCHANT OF VENUS*. Apparently, it was a puzzle for our contest designer as well, for it contains two errors: the Whynom player should have the "2" IOU instead of the "1", and there should be no Demand for Impossible Furniture on the map. As the contest was printed, the Whynom can win in *two* turns by going to the Neutron Port and trading in his shield, and then go on to Wet Landing. If you assume the "1" IOU is "1a", he can do even better by going to Dryport and trading in his IOU! The

Human player cannot interfere with any of this for he *must* go to 10 to forestall the Whynom player on the first turn. For winners, therefore, we selected anyone who broke the flawed puzzle as described above, and filled out to ten with those entries that simply presented the best Human moves. Entries that relied on illegal moves were discarded (two errors in particular cropped up: you cannot trade in a spaceship without buying a new ship, and the Bank pays the commission on factory goods when a player buys them from the factory, not when he sells them to a culture). The ten winners, by the way, were: Russell DeSpain, Tooele, UT; David Dranetz, Honolulu, HI; Andy Lewis, Old Town, ME; Phil Lowmaster, Woodburn, OR; Bob Rademaker, The Colony, TX; Philip Rennert, Fairfax, VA; Peter Rokitski, Detroit, MI; David Terry, Sykesville, MD; Alex Vlakancic, Flushing, NY; Bruno Wolff, Whitefish Bay, WI.

The solution to the *TURNING POINT: STALINGRAD* contest (#150 in the series) emphasized patience. The restoration of the artillery, the Russian's ability to employ the Advantage only on the next day, and the unfavorable chit draws remaining all argue for a delay of any attack till the next day. The German is unable to reach the river on the 20th, so there is no need to occupy the Tractor Works before the next night, in plenty of time to repel his regenerated armor on the 21st. Although readers had only one impulse to solve the contest, that does not mean that one had to use that impulse to attack—or even to occupy the Tractor Works. The correct long-term solution was to regroup the Spent units in the Red October Factory to put them in optimum position for the next day when they would again be Fresh. This can be done, however, only by recrossing the Volga with the 2nd Brigade and Regrouping the remaining units from the Red October into the Red Barricades. If the 2nd Brigade makes the crossing safely (and with only two German Interdiction Points, it has an 84% chance of landing without further disruption), it may then recross to the Tractor Factory the following night with enough MF remaining to attack either the Skuchaya Mechetka Gully or the Little Mushroom.

Carrying the analysis a bit further, on the first daylight impulse, the new Fresh NKVD unit in Area #73 should attack into Zone H to prevent the German reinforcements from being able to reach Rynok and so burn one of the remaining unfavorable Soviet chit draws. Assuming the 2nd Brigade recrosses the Volga safely and the Northern FAG has been Refit, the German player cannot prevent a 6:5 attack aginst Area #72 with a redraw possibility during the night. Only one Casualty Point is needed to retake the area and relieve Rynok.

Next

Vol. 26, No. 5

Vol. 26, No. 6

Showbiz

The Entertainment GAME!

The Entertainment GAME

An Entertaining Game of Entertainment Supply and Demand

Showbiz is a simple, fast-paced game of logic. Players are put into the shoes of top Las Vegas theatrical agents, each required to predict future demand for a variety of show business acts. Given that certain acts are more in abundance than others in the game, players attempt to deduce how long each act will remain popular and bet accordingly.

Showbiz will delight two-to-six players for two hours each time it goes on stage. During each turn a forecast is made of the talent required for the next turn. Players then bid among themselves to sign the available talent to contracts of varying length. Comedy acts may be plentiful and cheap this year, but who knows what the public will want next year? The more accurately a player predicts the demand for talent, the greater his chance of winning.

The efficiency with which players have signed their acts and forecasted future demand will determine who gets rich and who goes broke. But that's Showbiz...

No.	Title	Players	Ages	Suggested Retail
6410	**SHOWBIZ**	2 to 6	10 & Up	$20.00

The Avalon Hill Game Company

DIVISION OF MONARCH AVALON, INC.

4517 Harford Road ★ Baltimore, MD 21214 ★ 301-254-9200

DESERT WAR

DESERT WAR is an expansion set for the wildly-popular, *UP FRONT* card game. Just as *BANZAI* provided a new environment and two new nationalities for players, **DESERT WAR** provides a new theater for the tactical skirmishes of existing nationalities as well as two new combatants—the Italians and the French. While not all seven nationalities can be readily pitted historically against each other (especially in North Africa), the interaction possibilities are greatly enhanced. Tired of the Russians being mauled by the Germans? Try them against the Italians. And if your Germans don't feel like facing the Tommies, throw them at the French. Tournament play can now feature seven rounds with a differing nationality in each round, truly a mind-boggling prospect.

The new, unboxed module contains a new rulebook, new character cards, and a new small countersheet. The inclusion of Range markers above "5" is bound to draw some praise simply because you can now avoid the need to combine multiple counters to keep track of groups moving at great distances. The only rule sections cover the two new nationalities, and the terrain alterations for simulating desert conditions. Too, the rulebook now carries charts for all seven nationalities detailing the personality cards to be used in each scenario published in *UP FRONT* and *BANZAI*, something many aficionados have asked for in the past.

With **DESERT WAR**, *UP FRONT* has become, if not the greatest tactical wargame, certainly the most complete.

DESERT WAR *(UP FRONT)* EXPANSION KIT $10

ALAMEIN BRITISH AFV DATA CARDS $5

BRITISH AFV DATA CARDS

Also available for the ASL system are the British AFV Data Cards. This set of twenty-four 5" × 5½" heavy-stock card covers fifty-seven different British vehicles from **WEST OF ALAMEIN**, ranging from the early-war Mk VIB light tank through several types of armored cars and Sherman tanks to the Cromwells and Churchill AVREs used in 1944-45. Each side of each card lists the ID of all the British vehicles of that type included in **WOA**, plus their game-related specifications and special usage rules. In addition, to help reduce counter clutter on the mapboard, spare system counters (or the special counters originally provided for this in **HEDGEROW HELL**) may be placed in the appropriate spaces on the card to indicate, among other things, the functioning/malfunctioned/disabled status of all the weapons on each vehicle and the availability/absence of its special ammunition types. Furthermore, the vehicles presented on the two sides of each card have been chosen according to their usage dates, so that both sides of one card will not be needed in the same scenario.

ADDITIONAL AIRCRAFT LIST

UNIT NAME	FULL NAME (MARKS REPRESENTED)	UNIT NO.	DATE	MS	MA	MSLS	UNIT INFORMATION CHANGES	PR US	A	B	C	D	E	F	NOTES
A-10	A-10A Thunderbolt II	301-304	75	5	11	0	----------------------	FB	9	8	7	6	5	4	713-USAF a
BLANK*	--	301-304	--	--	--	----	----------------------	--	--	--	--	--	--	--	Substitute
Atkr	Attacker F.1/FB.1	501-504	50	5	12	0	----------------------	FB	4	4	3	3	3	2	181-GB b
CF100	CF-100 Mk.3/4/5	521-524	52	9	15	4R	----------------------	AS	12	11	9	8	7	5	c.200-CA c
Gnat	Gnat/Ajit F.1	501-504	59	9	15	2-1	----------------------	FB	11	10	9	7	6	5	200-GB/IN d
Gnat*	Gnat T.1	501-504	59	9	15	0	C:2;M:0	FT	10	9	8	7	6	4	'' -GB d
Me262	Me-262A1a	531-534	44	6	11	0	----------------------	AS	4	4	3	3	3	2	c.1433-TR e
BLANK	--	531-534	--	--	--	----	----------------------	--	--	--	--	--	--	--	Substitute
Scmtr	Scimitar F.1	511-514	58	9	15	4-1	----------------------	AS	10	9	8	7	6	4	76-GB f
SVix	Sea Vixen FAW.1	511-514	57	8	14	4-1	----------------------	FB	13	12	10	9	7	6	114-GB f
SVix	Sea Vixen FAW.2	511-514	63	9	14	4-6	----------------------	FB	14	12	11	9	8	6	15-GB f
Swift	Swift FR.5	521-524	55	8	8	0	----------------------	RC	8	7	6	5	5	4	62-GB f
J21R	J/A-21R	651-654	49	7	12	0	----------------------	FB	5	5	4	4	3	3	60-SW g
BLANK	--	651-654	--	--	--	----	----------------------	--	--	--	--	--	--	--	Substitute
La15	La-15 FANTAIL	931-934	49	8	14	0	----------------------	FB	8	7	6	5	5	4	c.200-USSR h
MG9	MiG-9 FARGO	931-934	46	8	13	0	----------------------	AS	9	8	7	6	5	4	c.550-USSR h
Su25	Su-25 FROGFOOT	941-944	83	7	12	0	----------------------	FB	9	8	7	6	5	4	In prod.-USSR h
YK15	YaK-15 FEATHER A	951-954	46	7	13	0	----------------------	AS	7	6	6	5	4	3	c.400-USSR
YK17	YaK-17 FEATHER B	951-954	47	7	13	0	----------------------	AS	8	7	6	5	5	4	c.700-USSR
YK23	YaK-23 FLORA	941-944	48	8	16	0	----------------------	AS	9	8	7	6	5	4	c.300-USSR

NOTES: a. A missile load of "2-3" is currently proposed, but not presently carried. Scenario points with "2-3" armament are "13-12-10-9-7-6." Because of the huge gun carried by the A-10, it can also be fired from two hexes directly behind a target and co-altitude with a "PK6." This gun never causes damage—it always eliminates with a hit. Used only by the U.S.A.F. **b.** Used by Great Britain and Pakistan. **c.** Used by Belgium (Mk.5 only) and Canada. **d.** Used by Great Britain, Finland and India. **e.** Used by the Third Reich in the closing days of World War II. **f.** Used only by Great Britain. **g.** Used only by Sweden. **h.** Used only by the U.S.S.R. **i.** Used by Bulgaria, Czechoslovakia, Poland and the U.S.S.R., **j.** Used by Czechoslovakia, Poland and the U.S.S.R.

MBT — $30.00
Game of Modern Tactical Ground Combat in Germany

INSTRUCTIONS:
Rate each category by placing a number ranging from 1 through 9 in the appropriate space to the right ("1" equating to excellent; "5", average; "9", terrible). EXCEPTION: Rate items 7a and 7b in terms of minutes necessary to play the game, in ten-minute increments. (Example: If you've found it takes two and a half hours to play the basic scenario of HITLER'S WAR, enter "15" for category 7a.) For an explanation of the categories, refer to the AH Philosophy of Vol. 24, No. 5. Enter ratings only for those categories relevant to the game in question. Note that AH's ratings for Complexity, Year of Publication and Type (2P=two player; MP=multi-player; SO=solitaire) have been provided for your information.

1.	Overall Value	____
2.	Components	____
2a.	Mapboard	____
2b.	Counters	____
2c.	Rulebook	____
3.	Complexity	5
3a.	Avalon Hill Complexity	____
4.	Completeness	____
5.	Playability	____
5a.	Excitement Level	____
5b.	Play Balance	____
6.	Authenticity	____
7.	Game Length	____
7a.	Shortest	____
7b.	Longest	____
8.	Year of Publication	1989
9.	Type	2P

WHAT HAVE YOU BEEN PLAYING?

Top ten lists are always in vogue—be the subject books, television, shows, movies or even games. The public seems never to tire of seeing how its favorite way of spending their leisure time stacks up against the competition. So, to cater further to your whims (and to satisfy our own curiosity), this is The GENERAL's version of the gamer's top ten. From the responses to this form the editors produce the regular column "So That's What You've Been Playing" found elsewhere in this issue.

We aren't asking you to subjectively rate any game. That sort of thing is already done in these pages and elsewhere. Instead, we ask that you merely list the three (or fewer) games which you've spent the most time playing since you received your last issue of The GENERAL. With the collation of these responses, we can generate a consensus list of what's being played by our readership. This list can serve both as a guide for us (for coverage in these pages) and others (convention organizers spring instantly to mind). The degree of correlation between this listing, the Best Sellers Lists, and the RBG should prove extremely interesting.

Feel free to list any game of any sort regardless of manufacturer. There will be, of course, a built-in bias to the survey since the readers all play Avalon Hill games to some extent; but it should be no more prevalent than similar projects undertaken by other periodicals with special-interest based circulation. The amount to which this bias affects the final outcome will be left to the individual's own discretion.

1. _____

2. _____

3. _____

Opponent Wanted — 50¢

1. Want-ads will be accepted only when printed on this form or a facsimile and must be accompanied by a 50¢ token fee. No refunds. Payment may be made in uncancelled U.S. postage stamps.
2. For Sale, Trade, or Wanted To Buy ads will not be accepted. No refunds.
3. Insert copy on lines provided (25 words maximum) and print name, address, and phone number on the appropriate lines.
4. Please PRINT. If your ad is illegible, it will not be printed.
5. So that as many ads as possible can be printed within our limited space, we request that you use official state and game abbreviations. Don't list your entire collection, list only those you are most interested in locating opponents for.

Advanced Squad Leader—ASL, Afrika Korps—AK, Air Force—AF, Arab-Israeli Wars—AIW, Blitzkreig—BL, Britannia—BRIT, Battle Of The Bulge—BB, Bull Run—BR, Circus Maximus—CM, Civilization—CIV, D-Day—DD, Devil's Den—DEV, Diplomacy—DIP, Empires in Arms—EIA, Enemy in Sight—EIS, Firepower—FP, Flat Top—FT, Flight Leader, FL, Fortress Europa—FE, France 40—FR, Gettysburg—GE, Gladiator—GL, Guns of August—GOA, Hitler's War—HW, Kremlin—KREM, Kingmaker—KM, Knights of the Air—KOTA, Luftwaffe—LW, Magic Realm—MR, Merchant of Venus—MOV, Midway—MD, Naval War—NW, PanzerArmee Afrika—PAA, Panzerblitz—PB, PanzerGruppe Guderian—PGG, Panzerkrieg—PK, Panzer Leader—PL, Patton's Best—PAT, Platoon—PLA, Raid on St. Nazaire—RSN, Rail Baron—RB, Richthofen's War—RW, The Russian Campaign—TRC, Russian Front—RF, Stellar Conquest—SC, Squad Leader—SL, Storm Over Arnhem—SOA, Tac Air—TA, Tactics II—TAC, Third Reich—3R, Thunder at Cassino—CASS, Titan—TT, Up Front—UF, Victory In The Pacific—VITP, War and Peace—W&P, War At Sea—WAS, Waterloo—WAT, Wooden Ships & Iron Men—WSIM.

NAME _____ PHONE _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

CONTEST #151

The key to modern warfare seems to be to spot your target before it spots you. 'Course, it helps to recognize friend from foe. The following is a test of your ability to do so. Given the side view presented, merely label each of the vehicles below as found in MBT. (Hint: each is mentioned in Jim Day's article "The Challenge of Modern Combat" in this issue.)

1: _____ 2: _____ 3: _____

4: _____ 5: _____ 6: _____

7: _____ 8: _____ 9: _____

The answer to this contest must be entered on this official entry form (or a reasonable facsimile). Ten winning entries will receive merchandise credit from The Avalon Hill Game Company. To be valid, an entry must include a numerical listing for this issue as a whole and a listing of the three best articles herein in the judgement of the contestant.

Issue as a whole _____ (Rate from 1 to 10, with "1" equating excellent and "10" terrible). To be valid for consideration, your contest entry must also include the three best articles, in your view:

1. _____
2. _____
3. _____

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

AVALONCON

OR

THE GRAYING OF THE HOBBY & WHAT WE'RE DOING ABOUT IT
August 23rd-25th, 1991
PENN HARRIS INN & CONVENTION CENTER
CAMP HILL, PA

Recently, there has been much lamenting the fate of the "hobby" as we know it. Manufacturers have come and gone with increasing rapidity and the incursions of computer/video technology and fantasy role playing has disturbed many a traditional wargamer. The attendance of historical boardgamers at ORIGINS has dwindled to the point where they are an afterthought and must accept second class status. GAMA, the organization of manufacturers which runs ORIGINS, can't really be blamed for this state of affairs. ORIGINS is, after all, primarily a reflection of what the majority of manufacturers sell, and any realist would have to admit that the numbers of companies still actively promoting wargames have dwindled to a precious few.

Many reasons have been cited for this situation with varying degrees of accuracy, ranging from the well documented incursions of the electronic age to the humorous moanings of one hobby wag about the evils of expensive graphics contributing to the overpricing of today's product. While acknowledging to varying degrees the many factors involved, my own pet theory is wargaming's current lack of focus. In the olden days we all spoke the same language because we played the same games. Nearly everyone who claimed to be a wargamer not only owned, but played, the "classics". We all had similar experiences and stories to tell of how we had stormed Quatre Bras or taken Leningrad. But with the proliferation of manufacturers and the resulting game glut that common denominator was lost. There were more wargamers than ever before, but ironically it became more difficult to find an opponent for the particular game you wanted to play. No wonder then that gamers turned to computers for their opponents. And as for the next generation, they've taken the easy road . . . plug it in and turn it on. Ever try to get a kid to read a rulebook when there was a Nintendo set around? The "Graying of the Hobby" is not just a cute phrase but an accurate description of what has happened to the wargame market. The younger generation simply has not embraced sophisticated boardgames with the same enthusiasm as their fathers. If it hasn't got bells and whistles, or if you have to read more than two paragraphs, forget it.

So, are we a dying breed? Definitely not! I'd like to think that board wargaming still has a fascination and reward far greater than the rote solutions of computer/video puzzles. The challenge of besting a thinking opponent and the meshing of an elaborate strategy against like-minded opposition capable of more than just programmed reactions provides a sense of enjoyment and social satisfaction far greater than any video screen for those who will invest the time and effort.

Most of you agree or you wouldn't subscribe to a board-gaming publication. So what to do about it? We've tried simplifying the games by putting more sophistication into the components and less into the rules, but there will always be a rules hurdle for boardgames. Roleplayers can get by on the imagination and assertiveness of a single gamesmaster, but

boardgamers need a fundamental understanding of the rules by which they play. There is no machine to channel responses into acceptable (legal) and impossible moves. Reading is becoming a lost art; verbal SAT scores decline every year. Yet, reading comprehension is a required skill for a boardgamer. But maybe we can restore some of the focus of historical boardgaming by trying to find that common denominator again. Time and again, wargamers have come to me at recent ORIGINS and decried current efforts. "Why doesn't AH run tournaments anymore? Why are there so few wargame events to choose from? Where are all the wargamers?"

As GAMA took control of ORIGINS, AH had less and less to say about how it was run. We were at the mercy of local sponsors who imposed their own rules on how things were handled. The first tradition to go was the awarding of an ORIGINS plaque to the winner of events—let alone public acknowledgement for the winners—and the sense of a national championship was lost. This may seem a small thing to many, but it struck hard at AH games which stood above the rest in their suitability for repeat play value and which tend to be designed with competitive aspects stressed. By de-emphasizing competition, playing, and the player's achievements, AH games were dealt a subtle blow. In subsequent years we lost the right to set the entrance fees for our own tournaments or to collect them to defray the expenses of the prizes. The GAMA sponsor usurped that role. Each year, the sponsor and the conditions changed. One year we could not host free events—the sponsor had to collect ticket fees. The next year we were not allowed to run events at all—not enough room. I won't even mention how many times we've been stiffed out of the event fees altogether. In short, it's been many years since we were allowed to run our events in the style and spirit of the first ORIGINS conventions.

Those early shows were predominantly wargame conventions with a limited number of highly-attended tournaments. The winner of each truly felt that he had accomplished something of note—that he had actually won a national championship. The chance to renew rivalries/friendships from past years was as much a reason to attend as the event itself. But with the passing years and the proliferation of other events, boardgamers started to drop out and each defection made ORIGINS less attractive to those who returned. We need to re-establish that spirit of competition and brotherhood of boardgamers again, and we propose to do it with an exclusively Avalon Hill boardgaming convention.

It is not too late for boardgamers to rally around the colors again. Historical miniatures gamers felt similarly threatened by the predominance of role playing at ORIGINS years ago and broke off under the aegis of a group of historical miniaturists called HMGS to sponsor their own convention which has been extremely successful and is growing larger every year. We will

be following their lead and using the same site in an effort to recapture some of the same magic.

You might wonder how sponsoring another convention is going to reverse the "graying of the hobby". It won't, by and of itself. However, if we don't restore some focus to the board-gaming hobby soon, there will be no hobby left to save. The Baby Boomers who financed wargaming's "Golden Age" are now raising the next generation of gamers, and if the dads don't return to the fold, the offspring will never be converted. So while attracting the grognards to compete in the old-style way, we'll be asking them to bring their families as well. Attendance at Avaloncon will be free to those under 14 as well as to non-playing spouses, and special "Juniors only" tournaments will be held for the youngsters.

Is AH abandoning GAMA and ORIGINS by sponsoring its own convention? Not at all. We will continue to support both just as we have since their inception and have been careful to avoid conflicting dates. However, just as the gaming companies abandoned the HIA (Hobby Industry of America) show when it became dominated by crafts, we are looking elsewhere to service the boardgame market which we feel ORIGINS no longer adequately serves. Boardgamers need a rallying point and in the absence of any better source we are resolved to provide a convention whose emphasis is not commercialism but value for the gamer. Events will be run by volunteers concerned about the hobby instead of entrepreneurs in it for a percentage of the tickets sold. Avaloncon will be a weekend devoid of extra charges . . . no one trying to make a buck at your expense. A weekend for gamers by gamers. And the GENERAL will be there every step of the way—reporting what's new in every issue before the convention and what happened afterward with an eye towards promoting the hobby's best players. We'll even go so far as to provide an Avaloncon Bulletin with every issue where we'll announce who will be hosting what events, who is looking for roommates/teammates, and even paid pre-registrants and the tournament they've signed up for so you can look forward to renewing old friendships or making new ones. And we will be one of the few conventions to send your program before the convention so you'll have all you need before you get there.

THE SURVEY

When last we broached this subject in these pages (Vol. 24, No. 6), our beloved editor (otherwise known as the Butcher of Butte) found himself pressed for space and in his eminent wisdom truncated the Convention survey run in that issue by exorcising all explanation of the Team Championships, Area play and t-shirts from the discussion. Never mind that you didn't know what you were voting for, the important thing is that you got to express your opinions. Right? Not satisfied with that act of sabotage, he then printed what was left in tiny type making it unreadable to anyone other than a microbiologist with a high-powered microscope. And just to make sure too many of those wouldn't chance upon it, he exiled it to the nether regions of the insert to be cut into oblivion on the back of countless coupons, RBGs, want-ads, etc. Needless to say, he got crossed off my Xmas card list. But you fooled him! Contrary to his best efforts to thwart you, 400 hardy souls (presumably equipped with bifocals) sent in the survey anyway urging us to create Avaloncon. Here then, is the rest of the story.

WHEN

Let's start with the date. We asked you to select the most and least favorable month for the convention. Subtracting your collective dislikes from your preferences, the end result was: July, June, August, May, September, April, October, and November in that order. Making allowances for avoiding conflicts with ORIGINS and HMGS, we settled on August. 44% of you indicated you'd be less likely to attend during a holiday weekend (as opposed to 31% being more likely to attend) so that shot the Labor Day weekend idea. The duration was more clearcut. A whopping 61% favored a three-day convention compared to 27% for four days, and only 12% for two days.

WHERE

"Where" was a little harder. Keeping affordability and convenience uppermost, we travelled up I-83 near Harrisburg, PA to the Penn Harris Inn and Convention Center which offered us an outstanding facility at a reasonable price. The $60/day room rate for a single, double, triple, or quad occupancy compares very favorably to any we've seen in recent years. Players who band together to take advantage of the quad rate will be getting quality hotel accommodations at a rate approaching that for dormitory rooms at the early ORIGINS. A member of a four-man team using the Quad rate need spend only $30 plus applicable taxes for his weekend lodging.

The site has more going for it than just price. Nestled amidst the confluence of the Pennsylvania north-south, east-west interstates, it is among the most accessible locations on the east coast. The pleasant suburban setting provides an uncrowded environment with an abundance of free parking and nearby restaurants of both the fast food and better fare variety to augment the Inn's snack and restaurant facilities. The ballroom where our competitions will take place could easily accommodate several times our expected attendance. Players will be able to survey the entire convention on the same floor with a minimum of movement and there will be plenty of extra room for open gaming and special events.

PUT UP & SHUT UP!

Seminars drew a 72% favorable response, but here we broke from your wishes. If there is a malais in boardgaming, it has been caused by losing sight of the basics of what this hobby is all about. Historical board wargaming is a hobby grounded in the competitive *playing* of the games. All other activities are secondary to the act of playing them. For too long the hobby has been dominated by designers, editors, reviewers, and convention managers who rarely, if ever, actually *play* the games. Much of today's hobby press and most of its conventions provide convenient forums for "reviewing", "studying", "discussing", and even "collecting" the games. Isn't it time for a new venue that concentrates on "playing" the games? So, we've decided to declare a temporary moratorium on "talking" in favor of increased emphasis on "playing". We'll limit seminars to a post mortem Saturday night in which you can voice what we did right or wrong at the first Avaloncon and how we can improve the second. In addition, we'll call for volunteers to run for election to a nine-member Advisory Board to plan the next Avaloncon. Boardgamers, it's time to control your own destiny!

THE WAGES OF PLAY

When it came to prizes you backed our thinking to the hilt with an overwhelming 47% favoring plaques. The less popular choices were plaques and merchandise credits in combination at 26%, medallions at 10%, merchandise credits at 9%, and cash at 8%. Plaques it will be.

SKILL LEVELS

On the matter of different skill level tournaments for the same game, 45% of you were against splitting the field as opposed to 28% in favor and 27% with no opinion. We are glad to be relieved of the burden of making the distinction between true novice and expert—preferring to leave this choice to the field of play. While it is not our purpose to scare away newcomers, if you are intimidated by the idea of losing, perhaps you should limit your play to one of the newer games where no one has had a chance to develop great skill. We have included new games in the tournament offerings for just this reason. However, the best way to learn is to play someone better. Defeat is a great teacher and unlike a real battlefield, the vanquished can rise to fight again and do better next year. The only real losers are those who don't even try. Serving your apprenticeship at the hands of a master is the only way to improve your skill in any endeavor.

AREA

Opinion on requiring all the games to be rated for AREA purposes was split pretty evenly with 29% in favor, 25% opposed, and 46% with no preference. Given the fact that our intrepid editor removed the description of this proposal from the accompanying article, I feel relatively safe in siding with the small majority. What the survey didn't tell you due to the overzealous editing was that *all* paid attendees will be enrolled in AREA for free. Attendance will *not* be limited to *prior* AREA members. If you are a paying attendee, you become an AREA member. Should you choose not to avail yourself of the system after the convention, that is your option. However, it is yours to use if you want it. While at the convention, all games played in tournament competition will be rated. Each player will need to turn in a signed AREA victory slip to advance to the next round.

Players who are already AREA members will not be short-changed. They too will receive a free AREA membership—but theirs will be one of the new Specific Game memberships as opposed to the Generic memberships given to new members (see the REVISED AREA BRIEFING article in Vol. 25, No. 2).

Those who don't like the AREA system should nonetheless enjoy the opportunity to despoil the rating of those who do. The most valid criticism of AREA has always been that it fosters a point-hungry specialist who refuses to play rated games in other than his specialty and on his own terms to safeguard his rating. That player will be at risk at Avaloncon. All tournament play will be rated—regardless of specialties or relative ratings. Even if a top-rated player cannot possibly gain points because of the relative difference in ratings, he must still play the assigned game for ratings if he is to advance in the tournament. At last, players will be unable to duck opponents and must prove their rating is a valid one. Those who elect not to attend will simply not be eligible for the various championships and will have their Top 50 rankings embellished with an asterisk indicating that they have not competed against all comers. In future years these ratings will be more and more valid as a result, and can be used in a fair manner to seed players and bestow byes on uneven tournament fields. To veteran competitors, eventually even the seedings of a tournament may make interesting reading.

New AREA members will not be at a disadvantage other than for their inability to draw many first round byes in uneven tournament fields. The addition of the AREA rankings will allow us to accommodate any number of players by fairly accounting for first round byes. AREA ratings will be frozen during the Convention. All player's seeds will be based on the rating printed on their badge as determined two weeks prior to the convention.

UNIFORM OF THE DAY

The "free" t-shirt proposal won easy approval with 43% in favor, 21% opposed, and 37% with no preference. This is in keeping with our non-commercialization policy. We're not going to ask you to buy a thing. There will be no exhibit booths. However, we will limit the free t-shirt offer to those who pre-register. This ensures that we won't over-produce the shirts, that we have them in the correct sizes, and gives you more incentive to pre-register. Despite our intention of keeping the emphasis on playing as opposed to sales, 87% of you indicated that you wanted to be able to purchase AH parts or games while there so we will take orders on Friday and Saturday for delivery Sunday morning.

TEAMS

Your interest in Team play was enthusiastic with 64% indicating a desire to bring a team or be randomly added to a pick-up team. This was amazing in that the description of the Team Championships was another casualty of "creative editing". So, assuming we can avoid the editor's blade this time, here is our planned format for the Team Championship.

ORIGINS has tried unsuccessfully for years to crown a national champion for all of wargaming. Big money prizes were not enough to offset high entrance fees, convoluted rules and lack of a single game to act as the common denominator. To find a common ground, invariably the players are asked to submit a long list of games from several manufacturers that they must play in order of preference. The chances of many players knowing how to play all of those games—let alone feeling competent enough at them to put up a big entrance fee—are slim, which may explain the lack of entries. Invariably, a "champion" is crowned with the luck of the draw deciding the game to be played—or worse, without having beaten all the competition in head-to-head play. Here is our solution.

While doing their own thing individually, gamers may also Pre-register in teams of four. Each team registers the four different games it will compete in for the team Championships—one title per player. Each player enters the tournament of his choice playing his favorite game, but no two members of the same team may enter the same tournament if that tournament is among the team's selections. The top places in each tournament earn points for their team with bonus points awarded for advancing in accordance with the number of opponents beaten. In the case of Multi-Player games, the tournament GM will dispense team points on a sliding scale to all participants in the final round. Tournaments with less than eight entrants will not count towards the Team standings.

Tournament Entrants	1st	2nd	3rd-4th	5th-8th	9th-16th	17th-32nd
64	10	5	4	3	2	1
32	10	4	3	2	1	—
16	10	3	2	1	—	—
8	10	2	1	—	—	—

Team standings will be totalled and announced as each tournament ends. In the case of a tie, total number of participants in the entered tournaments will be used as the tie breaker. The winning team will receive both a team plaque and free accommodations at next year's convention to defend their championship. Nothing could be simpler. Everyone gets to compete for the national championship while playing only his favorite game. Things could get quite exciting as the last tournaments draw to a close. If you agree, start recruiting your team now. It will also help reduce the cost of travel and lodging by splitting it among your team.

To aid those wishing to play in the Team Championships or find roommates, we will be offering a special section of the Opponents Wanted Page for free ads prior to the convention. Merely check the "Roommate" box of that issue's Opponent's Wanted form and fill in your name, address, and phone number. If also interested in finding one or more teammates, list the names of the 1-3 games you or your current members are already committed to playing in the Team Championships. If you are exclusively an *ASL* player, for example, you'll want teammates with another game preference.

THE GAMES

Finally, we come to the games to be played. Nearly 100 different titles were nominated for competition. Obviously, we can't offer that many even if we could find the space and the gamemasters. To do so would dilute competition by the wide choice of activities. So our main tournaments will be purposely limited to the 20 titles most frequently requested in the survey. For the record, those games in order were: *ASL, UP FRONT, THE RUSSIAN CAMPAIGN, RUSSIAN FRONT, THIRD REICH, VICTORY IN THE PACIFIC, BULGE '81, AFRIKA KORPS, WS&IM, BRITANNIA, KINGMAKER, DIPLOMACY, CASSINO, FLIGHT LEADER, CIVILIZATION, WAR AT SEA, SQUAD LEADER, PANZERBLITZ,* and *WATERLOO.* However, because *BULGE '81* has been discontinued and will be replaced in 1991 by an introductory *GETTYSBURG*-style game, it will be replaced by the as-yet unpublished version. *CASSINO,* due to its length, will be

replaced by its new sister game *TURNING POINT: STALINGRAD* which is more suitable for tournament play.

GMs will not be paid for their services. They will be volunteers whose interest transcends collecting a share of our non-existent entry fees. GMs may play in the tournaments they oversee, and we hope to establish a tradition of previous winners serving as GM for their event in the following year. Players may not play in more than one tournament at a time and for that reason, we encourage GMs to run their events with consecutive rounds and minimum meal breaks so that eliminated players will have an opportunity to enter other events. GMs may participate in the Team Championships. We hope to have an overlap of volunteers so that each GM will have two assistants to rule in games he may be involved in or act as an alternate in his absence.

Thanks to the AREA rating system, there will be no limit to the number of players in any event. Pre-registrants will be given first crack at the resulting byes. Players are limited to pre-registration for one event only, but can play in any event they are present for at the announced start time provided they have a copy of the game. Overflow players will be given byes in order of their AREA rating as printed on their badges, pre-registrants first. While this may seem biased in favor of prior AREA members, it is the only way to ensure that everyone can compete in their favorite tournament while administering byes in an objective manner. In future years the system will become more equitable as even those who use their AREA rating only during Avaloncon will have a revised rating based on their prior performance.

Besides his personal plaque, the winner will have his name engraved on a permanent Roll of Champions plaque to be displayed at future Avaloncons. Each winner will be the reigning champ for that year and subject to all the fame and fortune our *GENERAL* coverage can muster. Our staff photographer will be on hand to record the winners for posterity and "Meet the 50" type coverage will await the winners as champions of their events.

We will also be offering a few tournaments in games of our own choice because they are short, provide a more balanced slate of interests, and offer interesting diversions for those eliminated from the lengthier competitions.

SPECIAL EVENTS

We realize that wargame conventions mean more than just tournaments to some and we'll be happy to promote special events for you as soon as you indicate an interest. For example, if you'd rather play in a weekend-long game of *THE LONGEST DAY, EMPIRES IN ARMS,* or *SIEGE OF JERUSALEM,* we'll be happy to schedule a table for you and announce it in the program. Just let us know what you want to run.

THE COST OF FUN

Lastly, when it came to the Admission price, you certainly weren't pikers. An overwhelming 66% favored the $20 admission compared to 22% for $15, 9% for $10, and only 3% for $5. For our part, we'll live up to our pledge. There will be no individual event fees. Once you buy your badge, you're in. By the time you add up the cost of an AREA membership, t-shirt, and the event fees usually charged at other conventions, your admission is virtually free. However, to help us encourage Pre-Registration, the At-The-Door price will be $25 and will not include a free t-shirt. Due to the added paperwork required by the AREA rating, it will be very important for us to ensure a higher-than-normal percentage of pre-registrants.

WHAT NOW?

That's it. The First running of the best in boardgaming. We hope you'll be among the attendees whether you fancy yourself a top player or just an interested novice. Gaming needs both and we need to restore the pride of achievement that playing these games can bring. It is time to decide whether this hobby is more interested in talking about games or actually playing them. Call your friends and recruit a team today or fill out next issue's special free Want Ad to find a roommate/teammate.

Here's what can you do to help:

1. Attend—and pre-register ASAP so that your registration can be reported so as to encourage others to attend. No pre-registration is too early.
2. Recruit others to attend and field your own team for the Team Championships.
3. Volunteer to run an event.
4. Bring an interested youngster.

The ball's in your court. The actual Pre-Registratioon form for Avaloncon will appear in an upcoming *GENERAL* soon. Don't delay. Recruit your team now. Want to run a special event? Let us know now so we can schedule it. Volunteer for a GM or Assistant GM if you feel qualified. Now is the time for boardgamers to stand up and be counted in their hobby! Get started now.

The Avalon Hill Game Company
Division of Monarch Avalon, Inc.

Merchant of Venus

Agent	Agent	60	MG 30	SL 30	GL 60	CI 30	60	Agent	Agent
2nd Ship	BASE	60	AA 40	PJ 40	TS 20	SA 20	60	2nd Ship	BASE
Agent	Agent	60	PP 60	SG 40	SC 50	AP 30	60	Agent	Agent
2nd Ship	BASE	60	ST 40	FT 50	PB 40	WP 50	60	2nd Ship	BASE
Agent	Agent	60	SF 40	AC 70	TT 60	SW 20	60	Agent	Agent
2nd Ship	BASE	60	NM 50	MD 50	BC 30	TTTT 40	60	2nd Ship	BASE

Flight Leader

dn •00 0C 931	An •04 0C 941	dn •00 0C 951	En •00 0C 501	Bn •00 4C 511	eN •00 0C 521	Fn •00 0C 531	An •04 0C 301	An •04 0C 302
dn •00 0C 932	An •04 0C 942	dn •00 0C 952	En •00 0C 502	Bn •00 4C 512	eN •00 0C 522	Fn •00 0C 532	An •04 0C 303	An •04 0C 304
dn •00 0C 933	An •04 0C 943	dn •00 0C 953	En •00 0C 503	Bn •00 4C 513	eN •00 0C 523	Fn •00 0C 533	En •00 0C 651	En •00 0C 652
dn •00 0C 934	An •04 0C 944	dn •00 0C 954	En •00 0C 504	Bn •00 4C 514	eN •00 0C 524	Fn •00 0C 534	En •00 0C 653	En •00 0C 654

Firepower

LZ 4	LZ 5	PZ	target						
SOG Team	LZ 1	LZ 2	LZ 3						
VC 1	VC 2	VC 3	VC 4	VC 5	VC 6	VC 7	VC 8	VC 9	VC 10

4a $80	4a $80	Fort $50 DELL	1a $90	1b $180	2 $90	2 $90	Fort $50 WHYNOM	8 $80	8 $80
$120		Fort $50 DELL	2 $60	2 $60	3 $120	4a $120	Fort $50 WHYNOM	$120	
3 $80	3 $80	Fort $50 NIK	4a $90	4b $150	4b $120	5 $180	Fort $50 EEEP	7b $80	7b $80
$120		Fort $50 NIK	5 $150	5 $120	6 $150	7a $120	Fort $50 EEEP	$120	
4b $80	4b $80	Fort $50 HUMAN	7a $60	7b $180	8 $210	9a $120	Fort $50 QOSSUTH	10 $80	10 $80
$120		Fort $50 HUMAN	9b $120	9b $90	10 $150	10 $150	Fort $50 QOSSUTH	$120	

Merchant of Venus

302	301	531	En :30 4M 521	Bn :10 4 511	bn ·00 2C 501	bn ·00 0C 951	bn ·00 0C 941	bn ·00 0C 931
304	303	532	En :30 4M 522	Bn :10 4 512	bn ·00 2C 502	bn ·00 0C 952	bn ·00 0C 942	bn ·00 0C 932
652	651	533	En :30 4M 523	Bn :10 4 513	bn ·00 2C 503	bn ·00 0C 953	bn ·00 0C 943	bn ·00 0C 933
654	653	534	En :30 4M 524	Bn :10 4 514	bn ·00 2C 504	bn ·00 0C 954	bn ·00 0C 944	bn ·00 0C 934

Flight Leader

Turning Point: Stalingrad