GENERAL

AH Philosophy Part 117

The end of yet another year comes upon us and as is traditional, it is time to collar the designers and find out what they have in store for us in 1987. Despite their natural reticence, I managed to pry the following brief descriptions out of them. Each of these games bodes to be a great hit, a remarkable statement given the gamut of these:

After several interruptions, our WW II solitaire tank game, *PATTON'S BEST*, is nearing completion. The remaining work consists of smoothing out problems found in playtesting, correcting and designing the various charts and tables, and completing the rules. *PATTON'S BEST* should be available in February.

Another project planned for February release is *BRITANNIA*, an enjoyable multi-player game about the invasions of Britain from 43 AD to 1066 BC. Each of the four players controls several nationalties, which arrive on the British coast at different times. Each turn a nationality survives it has the opportunity to grow in population, attack its enemies, and control larger areas of the island. Victory points are gained by each for control of special areas, destroying Roman forts, eliminating opposing armies, and for being elected "Bretwalda" or King. Game victory goes to the player whose nationalities have totaled the most points. We have found *BRITANNIA* to be
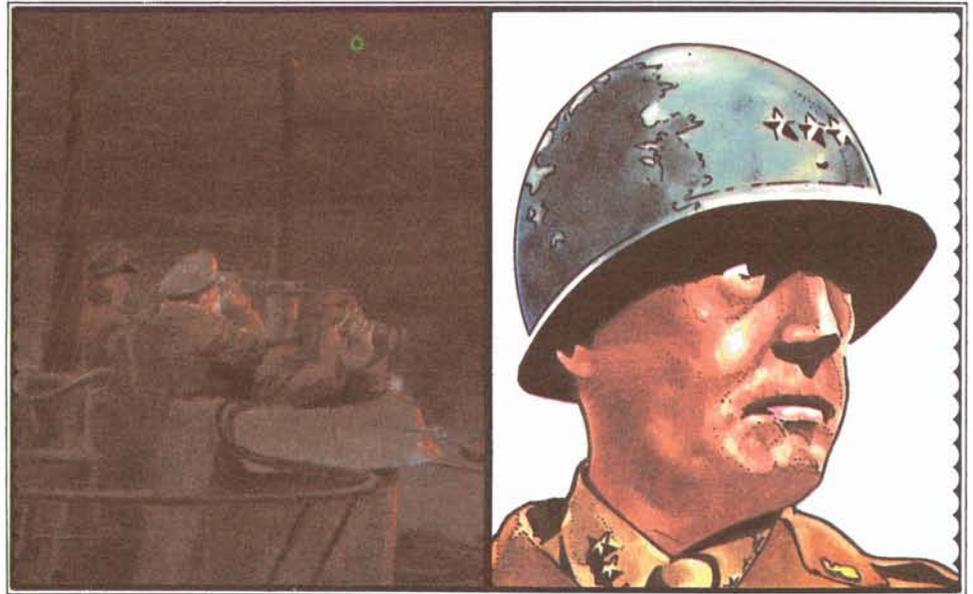
Bismarck

At dusk on 21 May 1941, the German pocket battleship *Bismarck*, accompanied by the heavy cruiser *Prinz Eugen*, slipped without fanfare from her base in Bergen to open one of the most dramatic chapters in naval warfare. Her orders: clear the Atlantic of Allied merchant shipping. Success could mean the isolation of beleaguered Great Britain. Defeat would mean the loss of Germany's only operational battleship and the collapse of the Kriegsmarine's strategic timetable.

BISMARCK is organized into three games of increasing realism and increasing complexity, appealing to both the beginning gamer and the true aficionado of board wargames. The Basic Game concentrates on the British attempt to locate, track and sink the *Bismarck*. Using counters representing the ships and planes available to the Admiralty, the British player must scour the North Atlantic while his opponent tries to elude him. The Intermediate Game introduces a number of optional rules: weather, fuel expenditure and refueling, torpedoes for tactical combat, ammunition expenditure, submarines and destroyers, air attack, and the merchant convoys the *Bismarck* was seeking. The Advanced Game is a miniatures oriented approach, concentrating on the details of tactical naval combat. Here the experienced wargamer will find a host of factors to consider—gun size, armor strength and construction, fire control, damage control, and every factor that the captains on the spot had to contend with. A separate game by itself, the Advanced Game can be used with the Intermediate Game to simulate the outcome when the *Bismarck* is at last brought to bay by the British fleet.

Two search boards make the game one of hidden movement, the first "blind" system to gain popular acceptance. Engagements are fought on the Battle Board, or on any convenient large surface in the case of the Advanced Game. Over 300 counters represent all the major ships that took part or could have taken part in the operation, as well as planes and various system markers. A hit record pad, range finders, movement gauges, six player aid cards places every facet of the game at the player's fingertips.

BISMARCK is available for $16.00 from the Avalon Hill Game Company (4517 Harford Road, Baltimore, Maryland 21214). Please add 10% shipping and handling (20% for Canadian orders or 30% for overseas orders). Maryland residents please add 5% state sales tax.
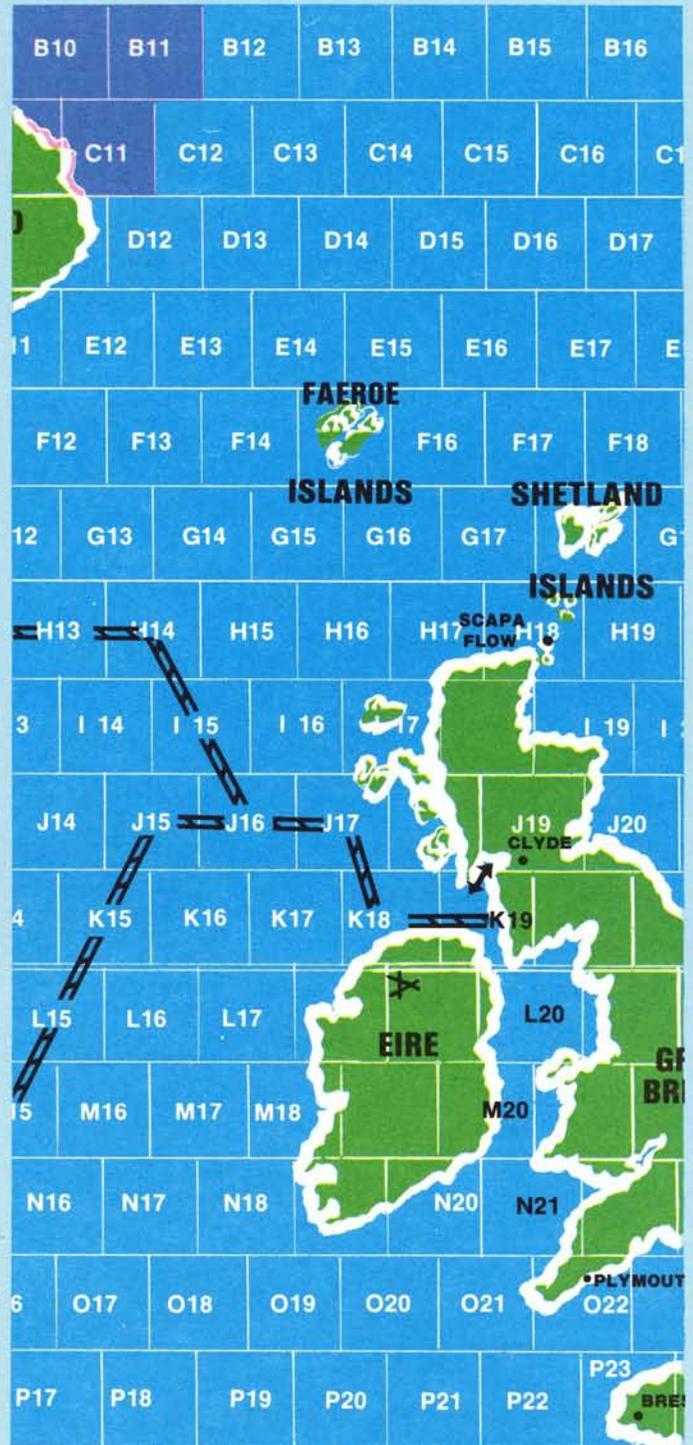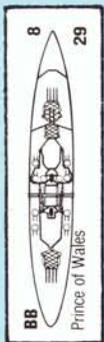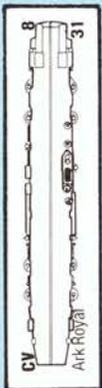
An elegantly simple system has made **WAR AT SEA** the best introductory wargame around. Somewhat surprisingly, it has also become a favorite among experienced wargamers as well due to its ease of play and complex strategy.

WAR AT SEA abstractly portrays the Battle for the Atlantic during World War II between the Axis and Allied navies. The British and Americans must establish the blockade in the North Sea and Barents to stop German raiders from escaping out into the sealanes vital for British resistance. The Germans must find a way to hit and run, keeping their escape routes and options open. to the south, the British and the Italians are locked in a deadly battle for dominance of the Mediterranean.

Every capital ship that took part in the action is represented. The famous—the *Bismarck, Hood, Tirpitz, Ark Royal*—as well as a few that never sailed such as the German aircraft carrier (the *Graf Zeppelin*) are all here. Combat is resolved by die rolls after determining each individual ship's attack and defense factors, and allocating fire. Other rules cover submarines, Russian ships, convoys, neutral ports, refueling at sea and air power. Every facet of the strategic war for the sealanes of the Western Hemisphere is handled, and the decisions that players face are many and varied.

The perfect game for beginners and experienced wargamers alike, **WAR AT SEA** is available for $10.00 from The Avalon Hill Game Company, 4517 Harford Road, Baltimore, Maryland 21214. Please add 10% for shipping and handling (20% for Canadian orders, 30% for overseas). Maryland residents please add 5% state sales tax.
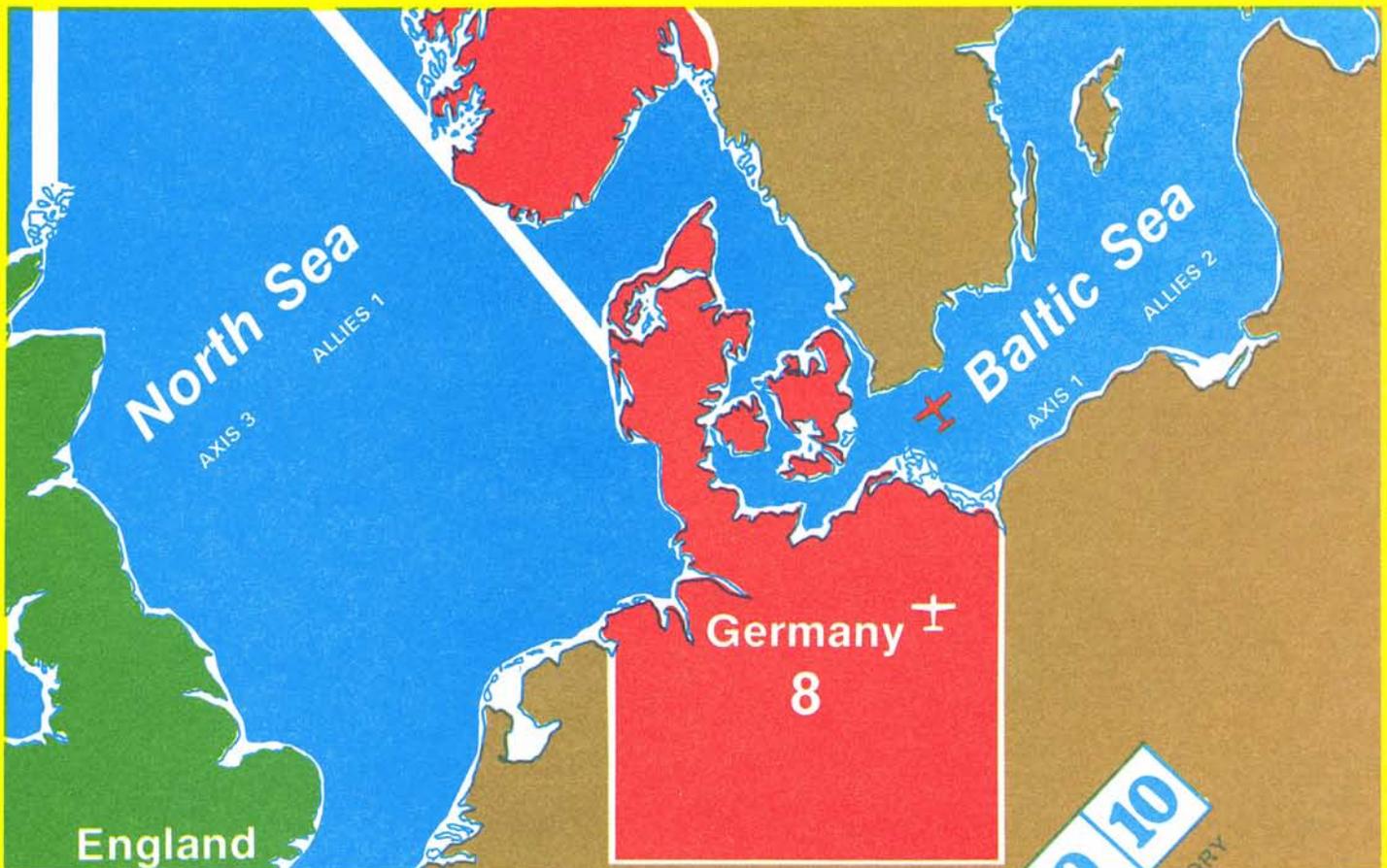
WAR AT SEA
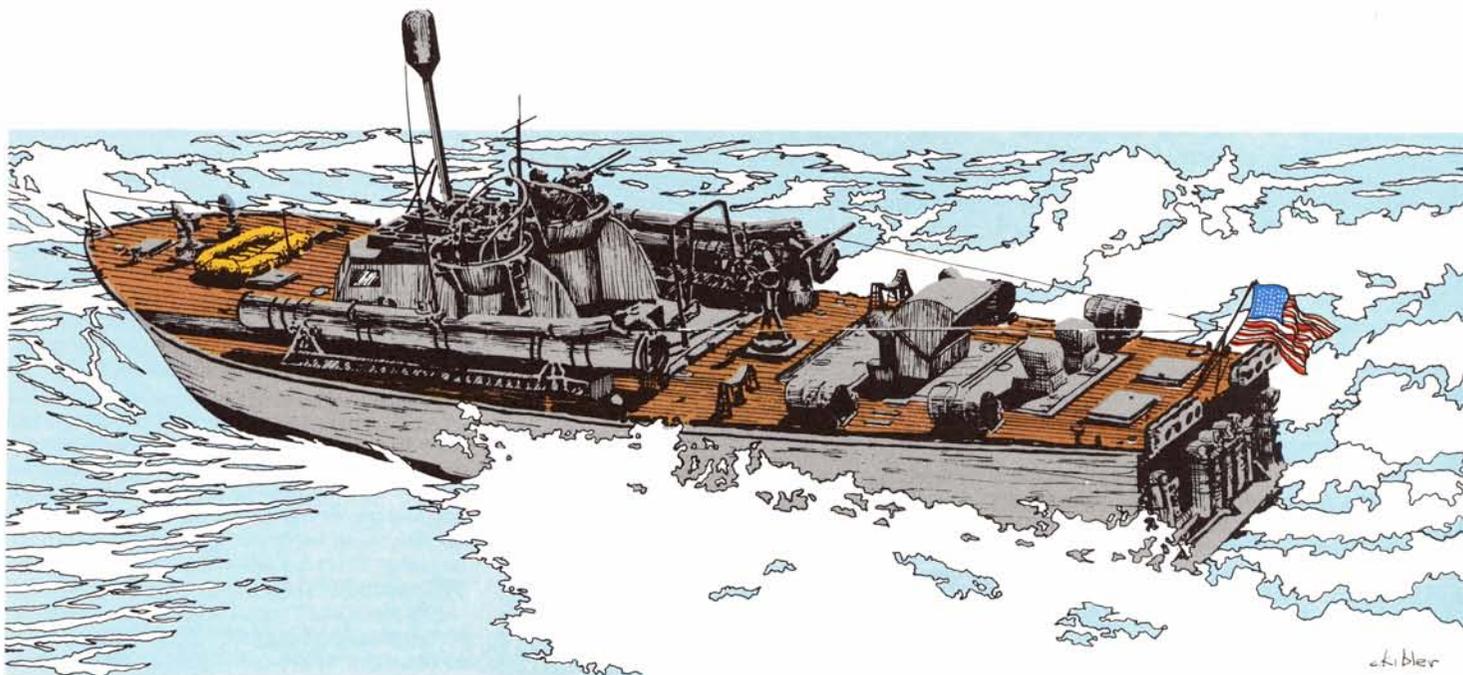
WAR IN THE SHALLOW SEAS
Adding the Little Ships to SUBMARINE
By Rex A. Martin

1.0 INTRODUCTION

The bitterest naval encounters of the Second World War were those of the "little ships", the highly maneuverable motor torpedo boats. Small enough to slip unseen over moonlit waters, penetrating minefields and coastal defenses to take the war to an enemy's home seas, and fast enough to fire their torpedoes and speed away before enemy guns could be brought to bear, they were deadly weapons in shallow waters. Too small and numerous to be given the dignity of names, they were known by numbers—to the British as MTBs and MGBs, to the Americans as PT boats, to the Germans as S boats and Italians as MAS boats. They saw action in every major theater of war: in the English Channel and the North Sea, among the dreamy islands of the Aegean and along the coasts of Italy and North Africa, in Burma and Malaya, in the South China Sea, and across the Pacific to the final liberation of the Philippines.

Night was the time of their hunting. By day, because weight had been sacrificed for speed, they were vulnerable. Rapid maneuverability, a low silhouette and smokescreens were their primary means of protection. Guns were mounted, but these could only be really effective against craft of their own size. At rest, the boats were squat and ugly. But at speed they were things of beauty, planing over the water at forty knots or more, with bows lifted, slicing great waves from either side of their hulls and leaving foaming wakes far behind. Battles when the small craft of opposing sides met were fought at closer quarters and higher speeds than any other naval action.

The main purpose of the motor boats was to strike at enemy shipping. But they were used in numerous other ways. Apart from escorting their own coastal merchant shipping, they took part in combined operation raids, transporting troops and giving covering fire. They raided enemy harbors, dropped intelligence agents on lonely enemy shores, boarded and captured enemy merchant ships in a manner reminiscent of the buccaneers. They acted as naval scouts, seeking enemy ships and hidden bases. They rescued downed pilots from the waves and attacked enemy submarines. They laid mines in shallow waters and swept safe lanes along friendly coasts. Their only limitations were range, due to the high fuel consumption of their powerful engines, and their inability to take punishment in heavy seas.

In three main areas of conflict the motor torpedo boats played a significant role; and, in broad terms, their operations reached a peak at three distinct stages of the war. First, there was the fight for dominance in the "narrow seas" off the east and south coasts of the United Kingdom which, with Germany's occupation of the coastline of Western Europe, was as grim and desperate as the great air battle raging in the skies overhead. This was their greatest theater of operations. Not only were motor boats of Britain and Germany used for attacking each others' merchant convoys by mine and torpedo, but there was continual direct confrontation as they strove to defend as well as attack. Here the little boats were in their element, weaving among the mines and shallows where the submarines and capital ships feared to go. Included among the Coastal Forces of Britain were crews and boats from the Dominion and European allies and, at a later date, from the United States. It was not until early 1943 that the Allies began to reach equality in terms of quantity and quality with the OKM *Schnellboote*, perhaps the most successful of all motor torpedo boat designs. The fight grew in intensity in 1943 as the Allies carried the battle to enemy waters and again in 1944 with the Normandy landings; it continued until the very end of the war when German boats, although greatly outnumbered, were still harrying Allied coastal shipping.

The second area of conflict was in the Mediterranean, where the naval war followed the progress of the land battles as they extended from North Africa to Sicily, Italy and the Balkans. Here also the small ships attacked as well as defended convoys, as both sides fought to keep open lines of supply to their land forces. Malta figured prominently in this bitter struggle, both as a base for Allied MTBs and as a target for MAS and S boats. But the whole canvas of the Mediterranean was on a larger scale and gave greater scope for the lone role that suited the individualistic temperament of those who served in small boats. Either singly or in small formations, the craft would set out from their bases for days at a time to strike at enemy convoys, take part in commando raids, or cooperate with partisans or agents behind enemy lines by night and hiding amongst the numerous islands by day, sheltering in quiet bays and inlets. As in English home waters, Coastal Forces included Dominion and American crews and boats. For awhile, an American PT squadron was the sole representative of the US Navy in these waters. In the early stages, the large numbers of Italian boats dominated the sea lanes; Italy had given more attention to the military application of such craft before the war than had the other powers, which tended to concentrate on the development of big ships to the neglect of smaller ones. In early 1943, after a passage through the inland French waterways, German S boats reached the "warm sea". For the next two years, these would contest Allied control of the Mediterranean.

The third, and last, area to come into prominence was the Pacific and Far East. Although British Coastal Forces were employed to a limited extent off the coasts of Malaya and Burma, this was primarily an American theater of operations in which the use of PT boats during the island-hopping strategy to liberate Japanese-occupied territories was, perhaps, the most successful and spectacular of all. As well as being utilized to strike coastal supply routes, the PT boats took part in some of the great fleet battles of the Pacific war and proved effective against Japanese warships up to the size of heavy cruiser. In the initial stages of the war, trapped by the rapid Japanese advance, the British MTBs and American PT boats were sunk by air-

craft or scuttled by their crews. But with determination and skill, the surviving crew members formed a core for the final victory. The Japanese did less than any of the other major powers in the development of motor torpedo boats. Their sole contribution to the progress of small boat operations was the *Shinyo*, the marine equivalent of the *kamikaze*, 16 to 18 feet in length and armed with a charge of 4000 pounds of explosives in their bows.

And, of course, there were other areas of the world where small craft kept up the monotonous and watchful work of patrolling and seldom, if ever, came into contact with the enemy. Areas such as the Caribbean, off the American coasts, in the Aleutians, in the frigid Baltic, and off the shores of West and South Africa. In all these regions, and more, the little ships operated, the most common of all the vessels of war, armed and dangerous, ready at a moment's notice to go into action.

Motor torpedo boats of all major powers depended greatly on the development by private companies of motorboats for sport and pleasure. Gentlemen such as Sir Malcolm Campbell and Henry Segrave, with their record-breaking achievements over water, provided valuable knowledge for research into speedboat design. Because most of the major navies of the world had paid so little attention to the possibilities of motor boats, even though they had been used dramatically and successfully during the First World War (especially by the Italians in the Austrian coastal region), there had been much interchange of ideas between nations which were to find themselves on opposing sides in the coming conflict. Too, the smaller countries, unable to afford large ships of war and unable to contest the deep-sea commerce lanes, were eager to explore the potential of the coastal craft. Thus, firms like Vosper, Elco and Thornycroft built motor launches for many foreign navies. And so, at the beginning of the war, the few British MTBs that were in service were powered by the fine Italian Isotta Fraschini engines—which immediately became unavailable; the German *Schnellboote* was based on the American design of a motor launch built privately by the Lurssen yard for an American sportsman; Thornycroft boats built for the Yugoslavian navy were captured by the Italians and used by them against the Allies; an MTB design by the British Power Boat Company was used as the basis for the first American PT boat; the American Packard engine was to be the main power unit for all British boats; a Thornycroft design was sold to Japan to become the basis for most of the boats built for the Imperial Navy.

There were similarities, too, in the manning of the small craft. Most of the crews, officers and ratings alike, were civilian volunteers, often from the ranks of pre-war yachtsmen and power boat enthusiasts. To a great extent they were regarded with scepticism by those of the regular navies. This attitude was modified after the small boats had proved their worth; but the tactics involved in fighting in such craft had to be developed by the volunteers themselves through trial and bitter error. The similarities in temperament between these men and the airmen of the First World War are striking. Daring, individualistic, quick-witted with quicker reflexes, honorable, and with great respect for their opponents who fought in similar craft; they had often known the enemy personally, from international competition and correspondence before the war. These sailors fought a war apart. The small boats and small crews were, despite their differences, an elite brotherhood—and viewed themselves as such.

Diverse as they were, what all small boat operations proved—and this has been true of every war in this century—is the vital importance of coastal waters. It is not solely that through such waters every merchant ship carrying supplies from overseas must pass, but often coastal convoys are the only practical manner of transferring materials from one part of a country to another. These ships must be protected, while equally there is a vital need to attack those of the enemy. Equally, from the military point of view, coastal waters are a crucial factor in mounting any expeditionary raid or invasion. This applies to defense as well as an assault, whenever it involves the transporting of a large body of troops by sea. Thus, the domination of a nation's sea space is as vital to modern strategy as the domination of its air space.

It is impossible to assess accurately the results achieved by the motor torpedo boats and their contribution to the course of the Second World War. For one thing, actions invariably took place at night when visibility was poor and were fought at such high speeds that it was often difficult for the crews involved to know exactly what happened. Claims were made in all good faith which cannot be confirmed by later examination of enemy records. Many a MTB or PT boat or *Schnellboote* came limping back to base, heavily damaged and crewed by wounded men, hours or days overdue, after having been claimed as sunk by the opposing side. Such craft showed a remarkable ability to survive even heavy damage. Nor are the action reports reliable guides to the losses of enemy merchants; even from these an inaccurate, incomplete picture develops. Many of the vessels sunk by MTBs in the Mediterranean, for instance, were caiques and fishing craft, used by the Axis for a variety of purposes and too small to be included in lists of merchant shipping losses. With the exception of major warships losses, such as cruisers and destroyers of which there can be no doubt, no such figures can be regarded as entirely accurate. When it comes to losses of minor warships of 100 tons or less (such as motor torpedo boats) and small merchant ships and barges or tugs, it is often impossible for a researcher to verify what caused the destruction.

Although the American PT boats played such an important role in the Pacific campaigns, they were seldom directly opposed by similiar craft and there is little basis for comparison here between the performance of these boats of the American and Japanese navies. It is in the North Sea, English Channel and Mediterranean Sea that the major confrontations took place between craft designed for the specific purposes of torpedo attack—the British MTBs and the German S boats—and it is on the record of their performance that the most realistic assessment can be made.

The strength of British Commonwealth Coastal Forces at the end of the war totalled 1383 craft. Losses during the war totalled 222 boats—115 MTBs, 28 MGBs, 79 MLs and HDMLs. Confirmed German and Italian warship losses credited to MTBs totalled 70 ships of 34554 tons, including one cruiser, five minelayers, one armed merchant raider and one submarine; of the remainder, most were German S and R boats. Merchant shipping sunk by Coastal Forces in the home waters totalled 40 ships of 59650 tons, and in the Mediterranean some 100 vessels of about 70000 tons.

Including those built before the war, the German brought into operational service 244 S boats and 326 R boats. Losses totalled 146 S boats and 163 R boats. (Of the 41 MAS boats seized by Germany after Italy's surrender, 24 were destroyed; of the remaining 103 Italian MAS boats commissioned, 50 were destroyed in combat, 20 were scuttled and the rest fell into Allied hands.) British warships lost and credited to S boats total some 40 ships of approximately 25000 tons including two cruisers and seven destroyers; Allied merchant ship losses to small boats totalled 99 ships of 229676 tons.

What emerges is that the German boats were, overall, more successful against Allied shipping than the MTBs, while the MTBs achieved a greater degree of success against their enemy opposite numbers. But this should be viewed against the number of targets available to each side. British coastal convoys comprised about 40 ships usually, up to ten miles in length and often escorted by no more than two destroyers and a few MLs. The German convoys, on the other hand, usually had no more than a half-dozen merchants, heavily escorted. Had the situation and strategy been reversed, the totals would have been reversed.

Assessed against the records of the war at sea as a whole, motor torpedo boats played a relatively minor role. For example, the direct successes by torpedo attack of the German S boats accounted for only 1.1 percent of the total Allied merchant ship losses of 21,570,720 tons (as against 68.1 percent by submarines). But the story does not end there. It was as the Allies turned increasingly to a policy of amphibious warfare by combined operations that the small boats came increasingly into their own, when command of enemy coastal waters became important—indeed as vital as the defense of those at home. Such raids as that on St. Nazaire were not only strategically successful in their own right, they led directly to tactics employed in the larger invasions of North Africa, Sicily, the Pacific islands, Italy and finally to the greatest of all—Normandy.

After the war, the small boats suffered much the same fate as they had in 1918. These boats that had given such strenuous service were broken up or sold, some to take up new privateering careers as gun-runners or smugglers, others to end in a more gentle manner as pleasure craft, where only an ex-volunteer on holiday might chance upon one suddenly and wistfully recognize her for what she had been. For now only memories remain of the glory and the grimness, the triumphs and the tragedies of the war in the shallow seas.

2.0 COMPONENTS

All game components found in *SUBMARINE* are to be utilized. In addition, the following items supplement these components, allowing the players to recreate small boat actions of the war.

2.2 Unit Counters

Necessary to the play of the variant is a collection of counters representing the small boats (49 to 116 feet in length, displacing 12 to 105 tons; hereafter referred to as ML/MTBs). Each counter carries identifying information essential to the play of the variant. A ML/MTB counter always occupies one hex on the mapboard.

ML/MTB

Class

ID Number

Bow   Stern
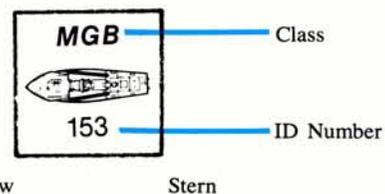
2.2.3 Explanation of Terms

SMALL BOAT TYPE—

MTB—Motor Torpedo Boat
ML—Motor Launch
MGB—Motor Gun Boat
PT—Patrol Torpedo
HDML—Harbor Defense Motor Launch
S—Schnellboote
R—Raumboote
MS—Motosilurante
VAS—Vedette Anti-Sommergibile
MAS—Moto-Anti-Sommergibile

2.3 Tables and Charts

A set of National Data Charts provide players with the information for all available small boats. All accompanying variant tables are designed to be used in the Advanced Game.

2.4 Ship's Log Pad

All essential ML/MTB data and information necessary for movement and weapons employment are recorded in the Log. Data for ML/MTBs is designed for use on the Escort Log Sheet.

4.0 FILLING OUT THE LOG SHEET

4.2 A player must fill out a Log for each ML/MTB he controls. All characteristics for that vessel will be recorded in the Log.

4.3 The accompanying National Data Charts are designed to be used in the Advanced Game.

4.6 ML/MTB Log Sheet

The characteristics for all ML/MTBs are recorded on the Escort Log Sheet.

4.6.1 In space 1, enter the damage capacity of the ML/MTB.

4.6.2 In space 2, record the types of anti-submarine weapons that the ML/MTB can use. Check the Weapons Availability Chart on the National Data Cards for the exact types of weapons available during the period designated in the scenario introduction. Normally, ML/MTBs were fitted with the most recent weapon types.

B. *K-gun* indicates the maximum number of K-gun counters that can be fired from the sides of a ML/MTB in any one turn. This value is invariably equal to the total number of K-gun charges available for the entire scenario in play. A ML/MTB always has the same number of K-guns on each side.

C. *Stern Rack Depth Charge (D.C.)* indicates the maximum number of D.C. counters that can be dropped from the stern of a ML/MTB in any one turn. This value is invariably equal to the total number of D.C. available for entire scenario in play.

4.6.3 In space 3, enter the Surface Gunnery Strength of the ML/MTB firing forward, broadside and aft. Values printed within parentheses represent small calibre weaponry, effective only against submarines and other ML/MTBs. Values without parentheses represent standard naval armament, suitable against all types of shipping. Both values must be entered in the appropriate sections if available.

4.6.4 In space 4, enter the Crew Rating if utilizing Rule 49.0.

4.6.5 Space 5 is left blank. Only a few specially modified ML/MTBs were equipped with either sonar or radar (and these were drastically inefficient). Such equipment will be noted in scenario special rules.

4.6.6 In space 6, record the Victory Point Value of the ML/MTB.

4.6.7 In space 7, enter the Defense Type of the ML/MTB.

4.6.8 In space 8, enter the maximum Speed of the ML/MTB.

4.6.9 In space 9, place the ML/MTB's identifying number.

4.6.10 The current speed of the ML/MTB will be recorded in the corresponding turn box in space 10.

4.6.11 Directly below ''D.C. AVAIL:'', create an entry ''TORP AVAIL:''. Enter the number and type of torpedoes available for the ML/MTB. As with anti-submarine weapons, utilize the most recent torpedo type available.

ADVANCED SURFACE SHIP DATA CHARTS

GERMAN

ID	Type	Class	Def. Type	Speed	Damage	Torp. Tubes	ATW	K-gun	DC	Fwd	Bde	Aft	VP	Avail
G1	ML	R17	2	6	1	—	—	—	4	—	—	—	1	F '39
G4	ML	R151	2	8	1	—	—	—	4	—	—	—	1	Sp '40
G12	MTB	S2	1	11	1	2	—	—	—	(1)	(1)	—	1	W '30
G13	MTB	S7	1	11	1	2	—	—	—	(2)	(2)	—	1	F '34
G14	MTB	S15	1	12	2	2	—	—	—	(2)	(4)	(2)	2	F '38
G15	MTB	S26	1	12	2	2	—	—	—	(2)	(6)	(4)	2	F '40
G16	MTB	S119	1	12	2	2	—	—	—	2(4)	2(6)	(2)	2	S '43
G17	MTB	S193	1	13	2	2	—	—	4	2(2)	3(4)	2(2)	2	F '41
G18	MTB	S218	1	13	2	4	—	—	4	3(4)	3(6)	3(4)	3	W '44
G19	ML	R5	2	7	1	—	—	—	—	1(3)	1(4)	(2)	1	S '38

ITALIAN

ID	Type	Class	Def. Type	Speed	Damage	Torp. Tubes	ATW	K-gun	DC	Fwd	Bde	Aft	VP	Avail
I1	MTB	Spica	1	10	4	2	—	—	4	1(2)	2(4)	(2)	3	Sp '39
I9	MTB	MAS 423	1	12	2	2	—	—	—	(1)	(1)	—	1	S '29
I10	MTB	MAS 502	1	12	2	2	—	—	6	(2)	(2)	—	1	Sp '36
I11	MTB	MAS 526	1	12	3	2	—	—	6	(2)	(2)	(2)	2	W '37
I12	ML	MS11	2	10	4	2	—	4	10	(4)	(4)	(2)	3	F '41
I13	ML	MS 51	1	10	4	4	—	4	12	(4)	(4)	(2)	3	F '42
I14	ML	VAS 201	2	5	5	2	—	4	20	(2)	(2)	—	3	Sp '42
I15	ML	VAS 231	2	5	5	2	—	4	20	(4)	(4)	(2)	3	Sp '43

JAPANESE

ID	Type	Class	Def. Type	Speed	Damage	Torp. Tubes	ATW	K-gun	DC	Fwd	Bde	Aft	VP	Avail
J23	MTB	T1	2	11	1	2	—	—	—	1(2)	2(2)	1(2)	1	Sp '41
J24	ML	T1 Var. I	2	11	1	—	—	—	6	1(2)	2(2)	1(2)	1	Sp '41
J25	MTB	T51	2	9	2	4	—	—	8	(3)	(3)	(1)	2	S '43
J26	MTB	T14	1	10	2	2	—	—	—	(2)	(2)	—	1	S '44
J27	ML	MG7	1	10	1	—	—	—	—	1(3)	2(5)	1(3)	1	W '40
J28	ML	Mg7 Var. I	1	10	1	—	—	—	4	(3)	(3)	(3)	1	W '40
J29	ML	Shinyo	1	9	1	—	—	—	—	—	—	—	—	F '44

BRITISH

ID	Type	Class	Def. Type	Speed	Damage	Torp. Tubes	ATW	K-gun	DC	Fwd	Bde	Aft	VP	Avail
B27	MTB	BPB	1	9	1	2	—	—	—	(1)	(1)	(1)	1	W '35
B28	MTB	Vosper I	1	12	2	2	—	—	—	1(2)	2(2)	1(2)	1	S '39
B29	MTB	Vosper II	1	12	2	2	—	—	—	2(2)	2(2)	(2)	2	S '42
B30	MTB	Vosper II Var. I	1	12	2	2	—	—	—	3(6)	3(6)	—	2	W '43
B31	MTB	Vosper III	1	12	2	4	—	—	—	1(3)	1(6)	(3)	3	Sp '44
B32	ML	MA/SB	2	7	1	—	—	—	2	(2)	(2)	(1)	1	Sp '39
B33	ML	MA/SB Var.	2	7	1	—	—	—	—	1(2)	(2)	(1)	1	F '40
B34	ML	MGB	1	12	1	—	—	—	—	2(4)	2(6)	(3)	2	Sp '42
B35	ML	HDML	3	3	2	—	—	—	6	1(2)	(2)	—	1	Sp '40
B36	ML	Fairmile A	2	7	2	—	—	—	—	2(3)	(2)	—	1	Sp '40
B37	ML	Fairmile B	2	6	3	—	—	—	—	2(3)	(2)	—	1	W '40
B38	ML	Fairmile C	2	8	4	—	—	—	—	3(4)	(6)	(3)	2	W '41
B39	ML	Fairmile D	2	9	4	—	—	—	2	2(4)	(4)	(2)	3	F '42
B40	MTB	Fairmile D Var. I	2	8	4	4	—	—	—	4(6)	2(6)	(2)	4	F '42
B41	MTB	Fairmile D Var. II	2	9	4	2	—	—	—	2(4)	(4)	(2)	3	F '42

AMERICAN

| ID	Type	Class	Def. Type	Speed	Damage	Torp. Tubes	ATW	K-gun	DC	Fwd	Bde	Aft	VP	Avail
A18	MTB	Elco	1	12	2	4	—	2	—	(2)	(2)	—	2	Sp '40
A19	MTB	Higgins	1	12	2	4	—	—	2	(2)	(2)	—	2	Sp '40
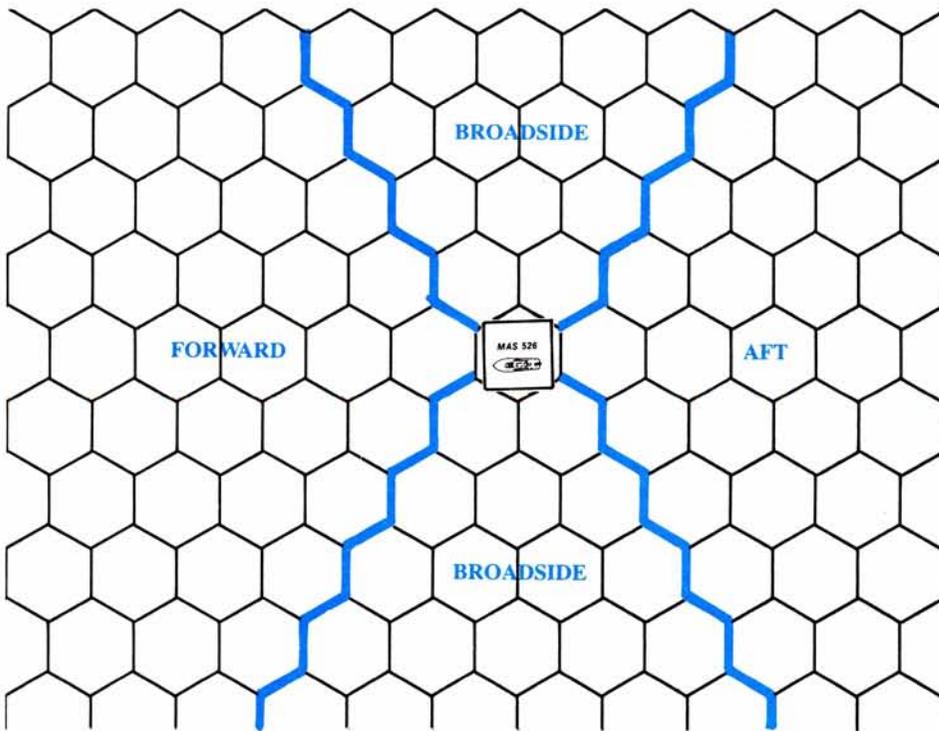
Figure I: Field of Fire for a ML/MTB.

5.0 SEQUENCE OF PLAY

Once the set-up is completed, play begins. Each turn is now composed of 11 sequenced phases. Each phase must be completed in the exact order as presented below:

Phase 1. Movement Plot Phase
Phase 2. Surface Gunnery Phase
Phase 3. Star Shell Phase
Phase 4. Convoy Movement Phase
Phase 5. Escort Movement Phase
Phase 6. ML/MTB Movement Phase
Phase 7. Visible Submarines Lost by Sonar Revert to Hidden Status
Phase 8. Torpedo Launch and Movement Phase
Phase 9. Submarine Movement and Depth Charge Phase
Phase 10. Anti-Submarine Attack Resolution Phase
Phase 11. Visible Submarines and ML/MTBs Out of Visual Range of Radar Depth Revert to Hidden Status

5.6 ML/MTB Movement Phase

ML/MTB movement occurs immediately upon completion of the Escort Movement Phase. ML/MTB movement is completed in two distinct stages. In the first stage the defensive player, as indicated in the scenario special rules, moves any or all ML/MTBs under his command as he desires, within the restrictions imposed by the rules for Ship Movement (6.0). In the second stage his opponent, the offensive player, moves any or all ML/MTBs under his command he desires.

6.0 SHIP MOVEMENT

All rules for ship movement apply to ML/MTB movement except as amended below. The bow of an ML/MTB must always face a specific hexside. Should a ML/MTB in play violate this precept, the opposing player may turn the ML/MTB to face any hexside that he desires.

6.6 A ML/MTB may change its facing as many hexsides as desired. The small size and high speed of ML/MTBs made these craft extremely maneuverable; a 180-degree turn could be completed with a forty-yard radius in less than ten seconds. This change of direction is made by pivoting the ML/MTB counter so that the bow faces a different hexside.

6.7 ML/MTBs are not restricted to only one turn for each hex entered nor are they subject to a movement limit of three hexes or less in the current turn.

6.11 ML/MTBs must move if unable to slow speed sufficiently to halt momentum.

7.0 PLOTTING OF MOVEMENT

The movement of ML/MTBs is not plotted. The ML/MTB player(s) must decide how to move the ML/MTBs during the ML/MTB Movement Phase.

8.0 CHANGE OF SPEED

8.1 A ML/MTB is not required to move the number of hexes indicated by its maximum speed; it may move any number of hexes not exceeding its maximum speed and within its allowed change of speed.

8.2 At the completion of the movement of each ML/MTB the player must record the number of hexes the vessel moved (its current speed) in the Escort Speed Section of its modified Log in the current turn box.

8.2.1 On any given turn, a ML/MTB may never increase its current speed by more than five hexes over its speed in the previous game turn (e.g., a MTB that moved at a speed of "6" in Game Turn 7 could not increase its speed to more than "11" on Game Turn 8).

8.2.2 On any given turn, a ML/MTB may never reduce its current speed by more than five hexes below its speed in the previous game turn (e.g., a MTB that moved at a speed of "6" in Game Turn 7 could not decrease its speed to less than "1" on Game Turn 8).

8.2.3 In the first turn of the game, a ML/MTB may move at any speed not exceeding its maximum speed, unless restricted by the scenario special rules.

10.0 COLLISION

10.1 When a ML/MTB enters a hex that already contains a surface ship or a surface ship enters a hex that already contains a ML/MTB, a collision immediately occurs between these vessels. The ML/MTB involved loses one-half (½) of its initial damage capacity and one-half (½) of its initial maximum speed (rounded down) immediately. If damage due to to the collision causes the ML/MTB to lose all its remaining damage points, the ML/MTB sinks immediately and the opposing player is awarded the victory points for the ML/MTB as if it were sunk in combat. The surface ship, if in collision with a ML/MTB, suffers no damage and is not "dead in the water".

10.2 In a collision which involves a submarine and a ML/MTB, the submarine player rolls on the "3" damage point column of the Damage Table to determine the amount of damage the submarine receives. The ML/MTB in collision still suffers the effects described above (10.1).

10.3 No collision occurs if all vessels in the hex are ML/MTBs. Thus, one or more ML/MTBs may occupy or pass through a hex containing a ML/MTB without penalty.

10.6 A surface ship or submarine will collide with a ML/MTB which is stationary or "dead in the water". The results of such collisions are as above (10.1 and 10.2).

10.7 If a collision with a ML/MTB does occur, the surface ship or submarine involved must continue its movement to completion in the current phase. The ML/MTB may continue its movement to completion or terminate its movement immediately (negating 8.2.2 if necessary) at the ML/MTB player's option.

11.0 LAUNCHING TORPEDOES

11.1 Some ML/MTBs, depending upon class, have a certain number of torpedo tubes from which torpedoes are fired. These tubes are invariably located in the bow of the ML/MTB, facing forward. All torpedo tubes of a ML/MTB are considered loaded when it enters play and may not be reloaded once fired.

11.2 During the Movement Plot Phase, a ML/MTB may plot to launch any number of torpedoes from none to the total currently loaded in the torpedo tubes.

11.3 Each torpedo to be fired in the current game turn must have its move for that turn plotted in the Movement Plot Phase. This plot is entered immediately following the "TORP AVAIL" notation in the modified Escort Log.

11.4.1 A torpedo which is fired in the current turn from a ML/MTB must be plotted to enter hex B *only* as its first hex of movement as marked in the diagram on page 7 of the *SUBMARINE* rulebook. In all other respects, a ML/MTB-fired torpedo may be plotted as per those from submarines (11.4.3-11.4.4, 35.0). Thus, the only legitimate plots for ML/MTB-fired torpedoes are BL, BLC, B, BRC, BR with the desired initial speed.

12.0 TORPEDO MOVEMENT

12.4 All ML/MTB-fired torpedoes are automatically set to run shallow.

13.0 TORPEDO DETONATION

13.2 Due to its shallow draft, a ML/MTB cannot be hit by a torpedo.

14.0 RELOADING TORPEDO TUBES

14.1 The number of torpedoes available for each ML/MTB always equals the number of torpedo tubes on that boat. Thus, torpedo tubes on a ML/MTB may not be reloaded; due to weight limitations, spare torpedoes and the equipment necessary to load these were not normally carried into action by the small boats.

15.0 ANTI-SUBMARINE WEAPONS (ASW)

15.1 Certain ML/MTBs are fitted with one or more types of anti-submarine weapons which can be utilized against submerged submarines or against surface vessels during the ML/MTB Movement Phase.

15.3 Surfaced submarines may be affected by ASW attacks against surface ships, with all rules of such enforced (15.11).

15.4 Stern Rack Depth Charges:

15.4.1 Many ML/MTB are equipped with depth charge racks at the stern of the boat.

15.4.4 Depth charges that are placed by a ML/MTB are dropped in the hex directly behind and adjacent to the stern of the ML/MTB.

15.4.5 Depth charges that are placed by a ML/MTB are dropped only in a hex through which the ML/MTB passes while moving forward during that turn.

15.4.9 A ML/MTB may enter and move through a hex which is part of a path (or "wake") of hexes of an escort or ML/MTB conducting an ASW attack (with any anti-submarine weapon).

15.4.10/15.4.11 A ML/MTB may enter and move through a hex that contains one or more K-gun depth charges at any point without negating the attack.

15.5 K-Gun Depth Charges:

15.5.1 A few ML/MTBs were equipped with K-guns, which fire depth charges from the side of the boat.

15.5.6 Depth charge counters, when discharged from ML/MTB K-guns must be placed in the locations as illustrated in Figure II.

15.5.7 A ML/MTB may enter a hex occupied by a K-gun depth charge.

15.7 A ML/MTB may execute ASW attacks in as many consecutive turns as its total supply of depth charges permits. As there is no reloading of stern racks or K-guns, ML/MTBs need not wait one turn between attacks.

15.8 A ML/MTB carried only a limited number of depth charges. Thus, the number designating the per-turn depth charge capacity is equal to the scenario depth charge capacity (61.0).

15.11 ASW Attacks against Surface Ships:

15.11.1 In early 1940 British crews operating small boats in the Channel perfected a daring method of attack against the slower-moving merchant vessels utilizing their relatively useless depth charges; the German crews were quick to adapt this tactic, but its employment among the other naval powers was not widespread. Therefore, only British and German ML/MTBs may conduct ASW attacks against surface ships, unless otherwise specified by the scenario in play.

15.11.2 Depth charges used in ASW attacks on surface ships may either be dropped from stern racks or fired from K-guns.

15.11.3 Any and all surface ships may enter or move through a hex containing a depth charge designated for an attack on surface ships without penalty or negating its attack during the current or following turn.

15.11.4 Such depth charges were placed with delay fuses in the hopes of "breaking the back" or damaging the screws and steering of the surface ship as it passed over the charge. Delayed depth charge attacks are *not* resolved during the Anti-Submarine Attack Resolution Phase (Phase 9) of the game turn in which they are placed. Rather, these are resolved during the Anti-Submarine Attack Resolution Phase of the immediately following game turn. (It is advisable to mark such delay depth charge counters, either DC or DCK, in red to distinguish these from standard depth charge counters.)

16.0 ANTI-SUBMARINE ATTACK RESOLUTION

16.1 Upon conclusion of the Submarine Movement Phase, any delay depth charges which were placed during the ML/MTB Movement Phase of the previous game turn and currently occupy the same hex as any surface ship or ML/MTB may do damage. Those delay depth charges which are not in the same hex as a vessel have no effect and are removed.

16.5 ASW Surface Ship Resolution:

16.5.1 All delay depth charges explode at less than 25 feet deep and have no effect whatsoever on submerged submarines.

16.5.2 For every effective delay depth charge, the player whose ML/MTB placed the charge rolls one die. This value is cross-indexed with the "5" damage point column of the Damage Table to determine the amount of damage the surface ship or ML/MTB sustains.

16.5.3 If the delay depth charge detonates in a hex

containing more than one ML/MTB, the resulting damage must be applied to any one ML/MTB, at the option of the player whose ML/MTB placed the charge.

17.0 SURFACE GUN FIRE

17.4 Every ML/MTB capable of surface gunnery has three surface gunnery strengths; for every surface gunnery strength, there are one or two values. Only one of these surface strength values may be used each turn, and only one target vessel may be fired upon per firing vessel (see Figure 1). If the hex being fired into contains more than one ML/MTB, only one may be selected as the target vessel.

17.4.1 The surface gunnery strength value within parentheses represents the total surface gunnery, effective against lightly-armored vessels. This value may be utilized whenever the target vessel is either a ML/MTB or a submarine.

17.4.2 The surface gunnery strength value without parentheses represents only the heavier surface gunnery, effective against all vessels. This value may be utilized whenever the target vessel is either an escort, a merchant ship or a surface warship.

17.4.3 The two surface gunnery strength values may never be combined.

17.4.4 In those instances in which only one surface strength value is available, the ML/MTB has no heavy surface gunnery and may not fire upon escorts, merchant ships or surface warships. The heavier surface gunnery is always effective against all vessels, including ML/MTBs and submarines.

18.0 BLOCKED LINE OF SIGHT

18.1 A ship or boat may always fire through a hex containing a ML/MTB.

20.0 SCENARIOS

The scenarios presented in this section reflect actual ML/MTB actions fought during the Second World War. Each scenario contains all the information necessary to set up and play a historical battle.

Figure II: Deck Depth Charge Placement for a ML/MTB.

10
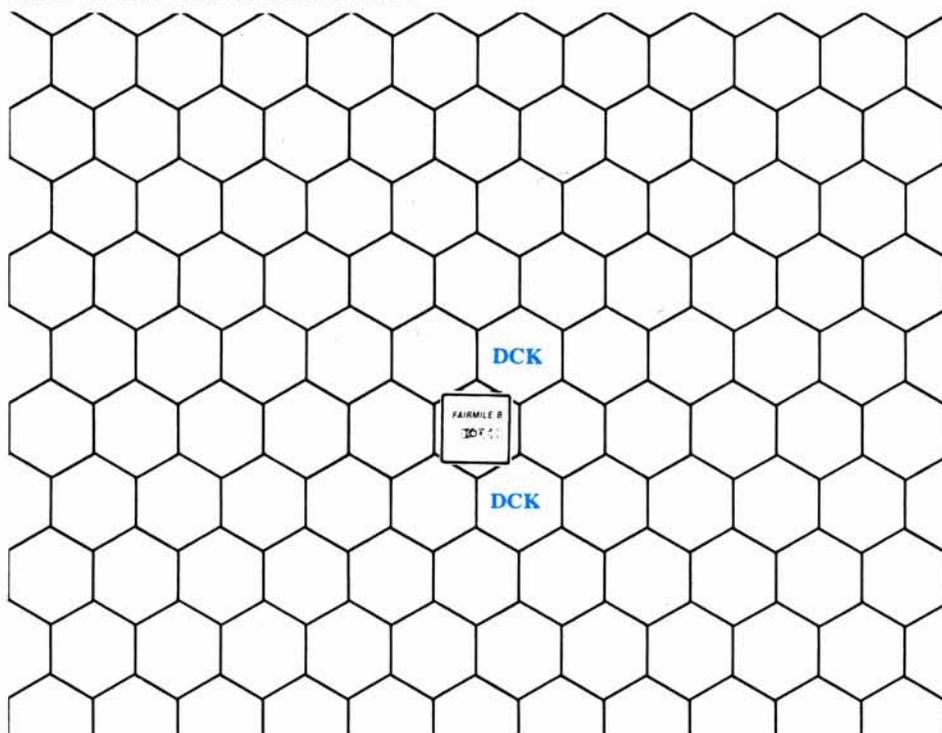
SCENARIO 1
STRAITS OF DOVER

I. Introduction

On the night of 9 May 1940, four boats of *Kapitanleutnant* Rudolph Petersen's 2nd Schnellboote Flotilla were in position in the English Channel—the first German patrol of the war in British home waters—to lend naval support to the invasion of Holland, Belgium and France. At 2200 hours silhouettes were sighted on the horizon. As German shipping had been cleared from the area, Petersen ordered his force into the attack. The enemy ships proved to be British destroyers. In the ensuing brief melee, HMS *Kelly* sustained severe damage after being struck by two torpedoes. Thus began the long battle for control of the Channel waters.

II. Order of Battle

1. German Player—*S30*, Class S26
   S31, Class S26
   S32, Class S26
   S33, Class S26

2. British Player—*Dundee*, Class Town
   Kelly, Class Hunt
   Jamaica, Class Hunt

III. Starting Location

1. *S30*—Q53, Bd A, Dir. 1
   S31—O48, Bd A, Dir. 1
   S32—I48, Bd A, Dir. 1
   S33—Q50, Bd A, Dir. 1

2. *Dundee*—V23, Bd B, Dir. 5
   Kelly—D31, Bd C, Dir. 5
   Jamaica—E23, Bd C, Dir. 5

IV. Victory Conditions

The German player must inflict at least 6 damage points, in any configuration, upon the British destroyers and exit all S boats still afloat off-board. Any other result is a British victory.

V. Game Length

12 Turns, Night Scenario

VI. Special Rules

All surviving German boats must be exited off any board edge of Bd. A before the scenario concludes. Should any German boat still in play remain on board at the end of Turn 12, it is considered to be captured—which could alert the British to the offensive planned to commence the next day.

SCENARIO 2
BLANC NEZ

I. Introduction

After months of frustration, Dover Command received reports of a German convoy running the straits on 8 September 1941. Only three boats of the polygot 6th MTB Flotilla—composed of New Zealanders, Canadians, Britons, Australians, Scots, South Africans, Irish and Norwegians—were operational. But Lt. Cdr. Pumphrey did not hesitate to order them out to intercept. At 2342 hours the British engaged the enemy screen. Drawn by the gunfire, two boats of the 3rd MGB Flotilla soon entered the battle. This action resulted in an encouraging British victory, the sinking of both German merchants and two S boats for the loss of one British boat. The German ascendency in the Channel had finally been curbed.

II. Order of Battle

1. German Player—Two C2 Merchantmen
   S51, Class S26
   S52, Class S26
   S53, Class S26
   S54, Class S26
   S55, Class S26
   S58, Class S26

2. British Player—*MTB 35*, Class Vosper I
   MTB 54, Class Vosper I
   MTB 218, Class Vosper I
   MGB 43, Class Fairmile B
   MGB 52, Class Fairmile B

III. Starting Location

1. C2 Merchant—E22, Bd B, Dir. 4
   C2 Merchant—L19, Bd B, Dir. 4
   S51—J31, Bd B, Dir. 4
   S52—P14, Bd B, Dir. 4
   S53—H14, Bd B, Dir. 4
   S54—D28, Bd B, Dir. 4
   S55—C19, Bd B, Dir. 4
   S58—O21, Bd B, Dir. 4

2. *MTB 35*—Q55, Bd C, Dir. 5
   MTB 54—Q51, Bd C, Dir. 5
   MTB 218—V51, Bd C, Dir. 5
   MGB 43—Enter on Turn 6 on hex D1, Bd A
   MGB 52—Enter on Turn 6 on hex J1, Bd A

IV. Victory Conditions

The British player must accrue at least 8 V.P. more than the German player. Any other result is a German victory.

V. Game Length

12 Turns, Night Scenario

VI. Special Rules

On the first turn of the game, the German S boats may not exceed a speed of four hexes. The German merchant ships must move as a fast convoy (30.0). The German player is considered to be the defensive player.

British MGBs may enter play at full speed.

SCENARIO 3
BJOKKA FJORD

I. Introduction

During the autumn of 1941 the Royal Navy made the decision to carry the war into German-controlled waters. On 1 October, the Norwegian destroyer *Draug* left the Scapa anchorage with MTB 56 in tow. Thirty miles from the Norwegian coast the small boat slipped from the destroyer and quietly entered the fjord south of Bergen. Here the British boat came upon a fully laden tanker, escorted and northward bound. The British boat sank the tanker by torpedo, and one S boat by gunfire, and then sped away to rendezvous with the destroyer for the return voyage across the North Sea.

II. Order of Battle

1. German Player—T2 Tanker
   S57, Class S26
   S63, Class S26

2. British Player—*MTB 56*, Class Vosper I

III. Starting Location

1. T2 Tanker—H19, Bd B, Dir. 3
   S57—D23, Bd B, Dir. 3
   S63—R17, Bd B, Dir. 3

2. *MTB 56*—Enter on Turn 1 on any hex numbered 58

IV. Victory Conditions

The British player must sink the German tanker. Any other result is a German victory.

V. Game Length

10 Turns, Night Scenario

VI. Special Rules

On the first turn of the scenario, the German S boats may not exceed a speed of four hexes. The German tanker must move as a slow convoy (30.0). The German player is considered to be the defensive player.

The following hexes represent shallow waters and, as such should the tanker enter (with either bow or stern) any of these hexes it is immediately "dead in the water": all hexes and half-hexes on Bd A, all hexes numbered 54 and above on Bd C, all hexes lettered N and above on Bd C. These hexes do not affect the small boats or torpedoes in any manner.

SCENARIO 4
BINANGA BAY

I. Introduction

At the beginning of the conflict in the Pacific only six boats were available for the coming four-month struggle to defend the Philippines against the invading Japanese—the six boats of PT Squadron 3, under the command of Lt. John Bulkeley. Despite the hopeless situation, these PT boats harassed Japanese naval movements at every opportunity. On 18 January, Bulkeley received orders to make a night attack on four ships, possibly including an enemy destroyer, that had been sighted. Selecting two boats which seemed to be in the best condition, he intercepted three merchantmen, escorted by a fleet destroyer, shortly before midnight. Attacking, a Japanese 5000 ton merchant ship was sunk before the American boats were forced to flee the gunfire from *Otashushu*. Their jubilation was dampened, however, when PT 31 was lost on a reef during the return voyage.

II. Order of Battle

1. Japanese Player—Three C2 Merchantmen
   Otashushu, Class Kamikaze

2. American Player—*PT 31*, Class Elco
   PT 34, Class Elco

III. Starting Location

1. *Otashushu*—B28, Bd B, Dir. 3
   C2 Merchant—H28, Bd B, Dir. 3
   C2 Merchant—H21, Bd B, Dir. 3
   C2 Merchant—H14, Bd B, Dir. 3

2. *PT 31*—X28, Bd C, Dir. 4
   PT 34—W32, Bd C, Dir. 4

IV. Victory Conditions

The American player must inflict at least 8 damage points upon the *Otashushu* or sink at least one merchantman. Any other result is a Japanese victory.

V. Game Length

14 Turns, Night Scenario

VI. Special Rules

The Japanese merchant ships must move as a slow convoy (30.0).

SCENARIO 5
CRETE

I. Introduction

Nowhere was the fight for the shallow seas fought more bitterly than in the warm waters of the Mediterranean, where control of the sealanes was vital for both sides. Not surprisingly, the early successes of the small boats in this theater were carried out by the Italians, with their considerable force of light but fast craft. The emphasis on individual effort, rather than teamwork, which the handling of these boats required seemed particularly suited to the Italian temperament. Perhaps the most brilliant of all the Italian motor torpedo boat victories occurred on 12 March 1942, when four MAS boats placed four torpedoes in the cruiser HMS *York* which was on patrol off Crete.

II. Order of Battle

1. Italian Player—*MAS 516*, Class MAS 502
   MAS 520, Class MAS 502
   MAS 526, Class MAS 526
   MAS 536, Class MAS 526

2. British Player—*York* (as per British Ajax)

III. Starting Location

1. *MAS 516*—Q39, Bd C, Dir. 5
   MAS 520—J6, Bd C, Dir. 4
   MAS 526—K9, Bd C, Dir. 4
   MAS 536—S36, Bd C, Dir. 5

2. *York*—W24, Bd A, Dir. 4

IV. Victory Conditions

The Italian player must either sink or make "dead in the water" (19.1) the HMS *York*. Any other result is a British victory.

V. Game Length

10 Turns, Night Scenario

VI. Special Rules

The movement of the *York* must be plotted by the British player at the beginning of each turn during the Movement Plot Phase. The plotted move is not, however, conducted until after ML/MTB movement (Phase 6) but prior to torpedo launch and movement (Phase 8).

SCENARIO 6
BAIE DE SEINE

I. Introduction

In the summer of 1942, a new generation of coastal craft and small boat tactics were introduced by the British in an attempt to wrest control of the European coastal waters away from the OKM. On the evening of 18 June, three British boats under the command of of Lt. J.D. Ritchie set out with the destroyer *Albrighton* to intercept two German merchant vessels which were known to have departed Le Havre with an escort of S boats. Shortly after 0230 the following morning, *Albrighton* made RDF contact with the enemy force and led the two MGBs into the attack. The first coordinated destroyer-motor boat operation of the war was a moderate success, the sinking of a German 3000 ton merchant for the loss of MGB 7.

II. Order of Battle

1. German Player—Two C2 Merchantmen
   S110, Class S26
   S113, Class S26
   S114, Class S26
   S118, Class S26

2. British Player—*Albrighton*, Class Town
   MGB 7, Class MGB
   MGB 8, Class MGB

III. Starting Location

1. C2 Merchant—D34, Bd C, Dir. 3
   C2 Merchant—D27, Bd C, Dir. 3
   S110—J34, Bd C, Dir. 3
   S113—Z24, Bd B, Dir. 3
   S114—H25, Bd C, Dir. 3
   S118—Y37, Bd B, Dir. 3

2. *Albrighton*—V43, Bd A, Dir. 6
   MGB 7—U46, Bd A, Dir. 6
   MGB 8—W49, Bd A, Dir. 6

IV. Victory Conditions

The British player must accrue at least 12 V.P. more than the German player. Any other result is a German victory.

V. Game Length

15 Turns, Night Scenario

VI. Special Rules

On the first turn of the scenario, the German S boats may not exceed a speed of four hexes. The German merchant ships move as

a fast convoy. The German player is considered to be the defensive player.

SCENARIO 7
CAP DE LA HAGUE

I. Introduction

In the fall of 1942, the British Admiralty finally had the ships and boats available to base a strong force of MTBs, MGBs, and Hunt-class destroyers at Dartmouth, Plymouth and Portsmouth in an attempt to close the Channel entirely to German shipping. Over the next two years these carried out many sorties amongst the Channel Islands and between Cherbourg and Ushant. One such operation took place on the night of 13 October 1942, when the Germans tried to bring the armed merchant raider *Komet* through the Channel to Cherbourg, from which she could strike at th Atlantic convoys. While most of the attacking forces failed to intercept the *Komet* and her escort, two destroyers made contact in the early hours of the day and succeeded in damaging—but not stopping—her. Engaged heavily by S boats, the destroyers were unable to halt her escape. But, at that moment, MTB 236 slipped into the fray and, at a range of 500 yards, delivered the *coup-de-grace* with two torpedoes.

II. Order of Battle

1. German Player—*Komet*, Merchant Raider
   S96, Class S26
   S97, Class S26
   S98, Class S26
   S99, Class S26
   S101, Class S26
   S115, Class S26
   S117, Class S26

2. British Player—*Cottesmore*, Class Hunt
   Cotswold, Class Hunt
   MTB 236, Class Vosper II

III. Starting Location

1. *Komet*—V21, Bd B, Dir. 3
   S96—S24, Bd B, Dir. 3
   S97—Z17, Bd B, Dir. 3
   S98—D13, Bd C, Dir. 3
   S99—Y24, Bd B, Dir. 3
   S101—O19, Bd B, Dir. 3
   S115—V10, Bd B, Dir. 3
   S117—Q17, Bd B, Dir. 3

2. *Cottesmore*—D27, Bd A, Dir. 1
   Cotswold—D32, Bd A, Dir. 1
   MTB 236—Enter on Turn 8 on hex X58, Bd B.

IV. Victory Conditions

The British player must sink the *Komet*. Any other result is a German victory.

V. Game Length

12 Turns, Night Scenario

VI. Special Rules

The *Komet* is an armed merchantman utilized as a commerce raider with the following surface gunnery strengths: Fwd 3, Bde 6, Aft 3. It is represented as a coverted C3 Merchant, with appropriate Def. Type and Damage values. It must move as a fast convoy (30.0).

In the first turn of the scenario, the German S boats may not exceed a speed of four hexes. The German player is considered to be the defensive player.

The British MTB may enter play at full speed.

SCENARIO 8
SKAJAERGAARD FJORD

I. Introduction

To raid the shipping lanes along the coast of Norway, the 30th MTB Flotilla, equipped with the new Fairmile D craft and manned by officers and men of the Royal Norwegian Navy under the command of Lt. Cdr. R.A. Tamber, was formed in October 1942 and based in the Shetlands. Their first success came early in the morning of 27 November. In spite of a brilliant full moon, two of the boats managed to penetrate the Skajaergaard unseen, avoid the patrolling S boats, and torpedoed two large merchant ships anchored there. The Allied boats returned home unscathed, although they had to weather a full gale on the return voyage.

II. Order of Battle

1. German Player—Three C3 Merchantmen
   S85, Class S26
   S89, Class S26
   S91, Class S26

2. British Player—*MTB 196*, Class Fairmile D Var. I
   MTB 198, Class Fairmile D Var. I

III. Starting Location

1. C3 Merchants—at anchor (see Special Rules)
   S85—K37, Bd B, Dir. 2
   S89—Q20, Bd A, Dir. 3
   S91—L35, Bd C, Dir. 4

2. *MTB 196*—Enter on Turn 1 on any hex numbered 58
   MTB 198—Enter on Turn 1 on any hex numbered 58

IV. Victory Conditions

The British player must inflict at least 12 damage points, in any configuration, upon the German merchant ships. Any other result is a German victory.

V. Game Length

15 Turns, Night Scenario

VI. Special Rules

The German merchants are anchored for the night. These ships may not move nor change facing for the duration of the scenario. During initial placement, the German player may place these ships, in any facing, anywhere within ten hexes, inclusive, of Hex III on Bd B but no closer than seven hexes, inclusive, of any hex occupied by another merchantman.

All German merchantmen have the following surface gunnery strengths: Fwd 0, Bde (2), Aft 0. The German player is considered to be the defensive player.

SCENARIO 9
KUMUSI RIVER

I. Introduction

The first PT boats arrived in the southwest Pacific theater in mid-December 1942. There were only six boats, formed into "Division 17" commanded by Lt. Daniel S. Baughman. The first victory of these few boats in the desperate warfare around New Guinea was dramatic. On the night of Christmas Eve, while on patrol from the advance base at Tufi, Lt. Baughman in PT 122 sighted a surfaced submarine off the mouth of the Kumusi River. Beyond it was a dark object which proved to be another Japanese submarine. The rapid American attack by two boats sank the I122 and avoided the return fire from the other submarine to speed away to safety.

II. Order of Battle

1. Japanese Player—*I22*, Class I15
   I37, Class I15

2. American Player—*PT 120*, Class Elco
   PT 122, Class Elco

III. Starting Location

1. *I22*—X27, Bd A, Dir. 4
   I37—U25, Bd A, Dir. 2

2. *PT 120*—T41, Bd B, Dir. 5
   PT 122—S36, Bd B, Dir. 5

IV. Victory Conditions

The American player must sink at least one Japanese submarine. Any other result is a Japanese victory.

V. Game Length

9 Turns, Night Scenario

VI. Special Rules

The Japanese submarines must commence the scenario on the surface (0 ft. depth). Further, they must remain on the surface until a PT boat is sighted (utilizing the Night Visual Search Table) or either submarine is fired upon with surface gunnery or incurs damage from a torpedo. The Japanese submarines may move normally while on the surface.

Due to the shallow waters, the Japanese submarines may not dive to a depth exceeding 125 ft. A dive to 150 ft. depth or lower removes the submarine from play and results in an automatic American victory.

VII. Optional Rules

The Japanese player may, at his option, utilize Hidden Submarine Movement (21.0). In this case, the American player may utilize Night Visual Search (47.0) and Game Length is extended to 20 turns.

SCENARIO 10
TRIPOLI HARBOR

I. Introduction

Early in 1943 the MTBs based at Malta achieved their first major success. Four boats left the island at midday on 19 January on patrol towards Tripoli. Approaching the harbor at ten knots on silent engines, the three boats which made landfall chanced upon a stationary Italian submarine, the *Santorre Santorosa*, which was actually grounded on the shoals a mile outside the harbor. Engaged by cannon fire from the submarine, the MTBs maneuvered to place their torpedoes, but were driven off by a German destroyer which had emerged from the harbor. However, after a few minutes, the small boats tenaciously returned to the attack and, at 0220 hours, were rewarded when a torpedo from MTB 220 struck the submarine aft of the conning tower. The other boats quickly broke off their action with the destroyer and all three arrived at Malta in the dawn light of 20 January.

II. Order of Battle

1. German/Italian Player—*Santorre Santorosa*, Class Cagni
   Anzeichen, Class Z

2. British Player—*MTB 260*, Class Fairmile D Var. II
   MTB 264, Class Fairmile D Var. II
   MTB 313, Class Fairmile D Var. II

III. Starting Location

1. *Santorre Santorosa*—N27, Bd B, Dir. 6 (aground)
   Anzeichen—Enter on Turn 4 on any hex numbered 1

2. *MTB 260*—Enter on Turn 1 on any hex
   MTB 264—Enter on Turn 1 on any hex
   MTB 313—Enter on Turn 1 on any hex

IV. Victory Conditions

The British player must accumulate at least 20 V.P. Any other result is an Axis victory.

V. Game Length

14 Turns, Night Scenario

VI. Special Rules

The Italian submarine is grounded and may neither move, dive nor change facing.

The following hexes represent the sand bar and, as such, should the German destroyer or any British MTB enter (with either bow or stern) any of these hexes, it is immediately "dead in the water": all hexes along the hex grain extending from hex C21, Bd. B to hex F36, Bd. C, inclusive. Torpedoes may not pass over these hexes, and will detonate if they do so.

SCENARIO 11
RAS-EL-MIRH

I. Introduction

In April 1943 the first boats of the American PT Squadron 15, commanded by Lt. Cdr. Stanley Barnes, arrived at the British base at Bone. Until the Sicily landings in July, this squadron of twelve boats was the only representative of the US Navy in offensive action in the Mediterranean. On 8 May the PT boats, patrolling with experienced MTB commanders, scored their first success when PT 206 sank an Italian freighter and evaded the accompanying S boats. Unfortunately, MTB 61 ran aground 300 yards from shore during the action and, as the shore guns opened fire from the fort at Keliba, was abandoned and the crew picked up by the surviving American and British craft.

II. Order of Battle

1. German/Italian Player—C2 Merchantman
   S56, Class S26
   S59, Class S26
   S35, Class S26

2. American/British Player—*PT 206*, Class Higgins
   MTB 61, Class Vosper II
   MTB 77, Class Vosper II

III. Starting Location

1. C2 Merchant—K33, Bd C, Dir. 3
   S56—K42, Bd C, Dir. 3
   S59—O25, Bd C, Dir. 3
   S35—H37, Bd C, Dir. 3

2. *PT 206*—Y34, Bd A, Dir. 1
   MTB 61—Z39, Bd A, Dir. 1
   MTB 77—W28, Bd A, Dir. 1

IV. Victory Conditions

The Allied player must accrue at least 8 V.P. more than the Axis player. Any other result is an Axis victory.

V. Game Length

10 Turns, Night Scenario

VI. Special Rules

The following hexes represent shallow waters and, as such, should any ship or boat enter (with either bow or stern) any of these hexes, it is immediately "dead in the water": all hexes lettered Q and above on Bd. C. These hexes do not affect torpedoes in any manner.

On the first turn of the scenario, the German S boats may not exceed a speed of four hexes. The Italian merchant ship must move as a slow convoy (30.0). The Axis player is considered to be defensive player.

SCENARIO 12
STRAITS OF MESSINA

I. Introduction

With the invasion of Sicily, it now became vital for the Allied forces to secure control of the Messina Straits, to prevent the enemy from supplying and reinforcing the defenders or, later, evacuating the survivors to the mainland. This task fell to the British MTBs, based at Malta initially, later moved to Syracuse. On 14 July 1943, three boats of the 24th Flotilla from Malta were lying in mid-channel with engines silent when two surfaced U-boats suddenly came bearing down on them. A torpedo, fired from a range of 100 yards, sank the hapless U561 but the other submarine crashdived. As the MTBs were searching for survivors, a group of S boats passed by at high speed, and the British gave chase, while radioing ahead to the southern patrol.

II. Order of Battle

1. German Player—*U561*, Class IXC
   U375, Class IXC

2. British Player—*MTB 77*, Class Vosper II
           MTB 81, Class Vosper II
           MTB 84, Class Vosper II

III. Starting Location

1. *U561*—P14, Bd B, Dir. 3
  U375—T18, Bd B, Dir. 3

2. *MTB 77*—anywhere within ten hexes, inclusive, of Hex IV on Bd B
  MTB 81—anywhere within ten hexes, inclusive, of Hex IV on Bd B
  MTB 84—anywhere within ten hexes, inclusive, of Hex IV on Bd B

IV. Victory Conditions

The British player must sink at least one German submarine. Any other result is a German victory.

V. Game Length

10 Turns, Night Scenario

VI. Special Rules

The German submarines must commence the scenario on the surface (0 ft. depth). Further, they must remain on the surface until a MTB is sighted (utilizing the Night Visual Search Table) or either submarine is fired upon with surface gunnery or incurs damage from a torpedo. The German submarines may move as normal while on the surface.

On the first turn of the scenario, the British MTBs may not exceed a speed of four hexes.

VII. Optional Rules

The German player may, at his option, utilize Hidden Submarine Movement (21.0). In this case, the British player may utilize Night Visual Search (47.0) and Game Length is extended to 20 turns.

SCENARIO 13
STRAITS OF MESSINA

I. Introduction

On 14 July, the southern patrol in the Straits was comprised of MTBs 655, 656 and 633. Upon receipt of the message from MTB 77 to intercept the S boats, these three boats engaged the German craft at 2340 hours—an hour an a half after the sinking of U561. Shortly after, seven MAS boats and the northern British patrol arrived. Thus commenced what was to develop into the largest "dogfight" of the war in coastal waters, as further reinforcements joined in over the course of the next few hours. Despite the shells expended, the battle was inconclusive: two S boats were lost, the rest retiring to the mainland; the MAS boats, utilizing their superior speed, fled north; and even with heavy damage and casualties on several boats, the Allied craft all returned to port.

II. Order of Battle

1. German/Italian Player—*S47*, Class S26
            S57, Class S26
            S59, Class S26
            S63, Class S26
            MAS 543, Class 526
            MAS 549, Class 526
            MAS 553, Class 526
            MAS 554, Class 526
            MAS 555, Class 526
            MAS 568, Class 526
            MAS 587, Class 526

2. British Player—*MTB 655*, Class Fairmile D
           MTB 656, Class Fairmile D
           MTB 633, Class Fairmile D
           MTB 77, Class Vosper II
           MTB 81, Class Vosper II
           MTB 84, Class Vosper II

III. Starting Location

1. *S47*—P24, Bd B, Dir. 4
  S57—X23, Bd B, Dir. 4
  S59—W17, Bd B, Dir. 4
  S63—N18, Bd B, Dir. 4
  all MAS boats—Enter on Turn 6 on any hex numbered 58 on Bd. A

2. *MTB 655*—P42, Bd B, Dir. 6
  MTB 656—R47, Bd B, Dir. 6
  MTB 633—M44, Bd B, Dir. 6
  MTB 77—Enter on Turn 8 on any hex lettered Z on Bd. C
  MTB 81—Enter on Turn 8 on any hex lettered Z on Bd. C
  MTB 84—Enter on Turn 8 on any hex lettered Z on Bd. C

IV. Victory Conditions

Whichever player accumulates the most V.P. is the victor.

V. Game Length

16 Turns, Night Scenario

VI. Special Rules

The Axis player is considered to be the defensive player.

VII. Optional Rules

This scenario may be played utilizing the results of Scenario 12 above. Thus, damage acquired by MTB 77, MTB 81 and MTB 84

VARIANT NOTES

The intent of this article—actually a rewrite of the rules—was simply to enable players of *SUBMARINE* to include the small boats in the flow of the game. As will be instantly obvious, I've kept the same format as the original rules and scenarios published in 1978. Thus, to utilize this variant a reader will need a copy of the game, and should refer back to the published rule sections as he reads the article in order to fully understand how the small boat rules are incorporated. I strove to keep new rules to a minimum; this causes a minor distortion possibly, but keeps the playability of the original intact.

Each scenario included in the article presents a slightly different tactical problem. But, to me, the most fascinating aspect of any tactical game is its DYO potential. Notice that the National Data Charts have been included so that players may do so if they wish. These Data Charts are as complete as I could make them. As the long-time aficionado of *SUBMARINE* can readily see, however, I've not touched the basic tables of play (revising only the *Night Search Table* for visual search for ML/MTBs) and introduced no new ones. Hopefully, this will lessen confusion and—again—retain the playability of the original.

A few words might be in order on some of the logic behind certain rules and figures in this article:

Most of the data on the National Data Charts should be fairly obvious—of the surface gunnery values, the ones without parentheses represent the 30mm and 40mm cannon, 2" guns, 2-lb. guns and the like, while those values in parentheses are the small armament added to those (the machine guns, AA guns, and 20mm cannon). The torpedo and depth charge values are easy to verify; likewise the speed values. The damage values are a function of construction (wooden construction, steel reinforcement, vulnerability of critical areas such as engines and ammo storage, etc.). The V.P. values are my judgement as to the relative worth of the boat type in battle and the rarity of the boat type in the war. Def Type is included only with an eye toward the future. A few of the class designations are somewhat unrealistic in that I lumped several boat models produced by various companies but with similar functions, speeds and armaments together under one class (e.g., the MGB class represents all non-Fairmile and Vosper MGBs) in order to simplify matters and reduce the impulse to recreate data on every one of the hundreds of small boat variations that were used in the war.

As to the rules, the first that I'd expect some flak on are the two surface gunnery rules limiting the small weaponry to fire only on ML/MTBs and submarines—the two craft that I felt to be most susceptible to damage by heavy MGs and 20mm cannon. Many will wonder then at not assigning small weaponry values to all the escorts and surface warships. However, my readings indicate that this weaponry was not all that common on these ships and was rarely designed to fire at the surface of the sea, where the small boats would be operating below the level of these guns' fire arc. Further, instead of modifying the gunnery values of the escorts as I attempted to do earlier (the larger weaponry was notoriously inaccurate against a small, fast moving target at a lower level), I simply kept the values the same and now allow these to reflect the overall effectiveness of *all* fire from the escorts and surface ships against the small boats.

Next, not adding smokescreen capabilities to the ML/MTBs was done since most actions took place at night (both historically and in these scenarios), rendering smokescreens relatively pointless. The rules for the Shinyo suicide boats and on engine malfunction seem obvious to me, but I would appreciate your comments.

Forcing the defensive ML/MTB player to move first was found to be the best method of offsetting the defender's advantages in regard to numbers, victory conditions, and usually greater firepower. I at one time toyed with the idea of an incremental movement system for those times when opposing small boats are in combat. But this proved to slow the game considerably and I settled for a more playable solution.

The radar rules are at best approximations of the uselessness of conventional radar and partial effectiveness of 3cm radar. In all that I've read, most escort personnel seem to indicate the useless nature of radar once combat with small boats at the range represented by the mapboards is joined. Crew effectiveness (the "eliteness rating") is a mote point and has little bearing on the combat operation of the boat.

Finally, a brief word on tactics for the readers. First, don't be afraid to lose the small boats to gain an advantage or a victory—in all the Naval High Commands, the crews and boats were looked upon as cheap and expendable, certainly more so than any other type of warship. So be ruthless and bold. Next, do not get too close to an escort. A favorite tactic of destroyer captains on both sides when faced with small boats was to run them down. The larger ship didn't suffer anything worse than some expended fuel. Remember the sequence of phases and avoid the awful feeling of watching your boats run down by a single frigate or destroyer.

Which leads to the next point—*Never* bunch up your small boats. They were designed to operate independently—each skipper responsible only to his crew and himself once battle was joined. Coordinate your attacks—sure; but attack from several sides or in waves. Against other small boats, this is not such a threat; but against a naval escort, bunching your small boats is sure death. Use every advantage at your disposal. Use every weapon you have if possible. Don't rely just on your torpedoes; you may have heavy guns or depth charges. If you have them, use them.

One last important point to keep in mind: your greatest advantage is surprise. That means that you should always use the rules for hidden movement. Three or four hidden ML/MTBs on board, operating indpendently, placing themselves in position for an attack without revealing themselves (i.e., keep your speed down) and then using their speed to close in fast, launching torpedoes at optimum range and taking every surface gunnery shot possible, firing flares to confuse the enemy and racing away to ready another attack is the traditional, tried and true, use of your small boats. Of course, should the other player also have ML/MTBs, hidden movement means a deadly cat-and-mouse game while you set up your attack. Should your ML/MTBs be "babysitting" (acting as escorts), stick close to your wards. The enemy has to come through you to get at the target. And fire star shells every turn. This may give your enemy some idea where your boat is, but—who knows—you may get lucky and if he is an experienced player he'll have a good idea of your locations anyway.

during the course of that scenario must be applied to the relevant boat. Further, entry of any MTB which suffered an unrepaired engine malfunction in Scenario 12 must be denied for an additional six turns (and thus may not enter play until Turn 14).

Scenario 13 represents only the initial actions during the great "dogfight" of 14 July. For those players more adventuresome, the following changes may be incorporated to reflect the first hour of the lengthy battle. Game Length is increased to 60 turns. The following reinforcements may enter play on any board-edge hex:

Turn 19—Four German S boats, Class S26
Turn 24—Three British MTBs, Class Vosper II
Turn 30—One American PT boat, Class Higgins
Turn 41—Five German S boats, Class S26
Turn 42—Two Italian MS boats, Class MS51
Turn 45—Six British MTBs, Class Fairmile D Var. II

Victory conditions for the extended scenario remain the same.

SCENARIO 14
STRAITS OF MESSINA

I. Introduction

On 23 July Palermo fell. The American PT squadron, which had seen little action thus far, was established there and on the following day began patrolling the northern approaches to the straits. On the night of 29 July the PT boats finally hit back at a target thus far too elusive for them—the Italian-built MAS boats (now crewed either by Germans or loyal Italian fascists). In a hectic action that night, PT 204 and PT 217 managed to sink one and severely damage another.

II. Order of Battle

1. Italian Player—Two C2 Merchantmen
   MAS 513, Class MAS 502
   MAS 529, Class MAS 526
   MAS 533, Class MAS 526
   MAS 534, Class MAS 526

2. American Player—*PT 204*, Class Higgins
   PT 217, Class Higgins

III. Starting Location

1. C2 Merchant—J30, Bd B, Dir. 5

   MAS 513—F26, Bd B, Dir. 5
   MAS 529—U26, Bd B, Dir. 5
   MAS 533—O23, Bd B, Dir. 5
   MAS 534—N37, Bd B, Dir. 5

2. *PT 204*—R40, Bd C, Dir. 5
   PT 217—O42, Bd C, Dir. 5

IV. Victory Conditions

The American player must accrue more V.P. than the Italian player. Any other result is an Italian victory.

V. Game Length

12 Turns, Night Scenario

VI. Special Rules

All Italian merchantmen have the following surface gunnery strengths: Fwd (1), Bde (2), Aft 0. On the first turn of the scenario Italian MAS boats may not exceed a speed of four hexes. The Italian merchant ships must move as a slow convoy (30.0). The Italian player is considered to be the defensive player.

SCENARIO 15
SILBA ISLAND

I. Introduction

Allied coastal operations were extended into the Adriatic following the landings in Italy. The original intention had been to attack enemy shipping along the east coast of Italy, but this was soon found not to be feasible and the Dalmatian coast thus proved a more lucrative hunting ground. On 21 December 1943, MTBs achieved their greatest single victory in the area. It had been reported that the ex-Yugoslavian cruiser *Dalmatia*, renamed by the Germans *Niobe*, was aground off Silba Island. Two MTBs of the 20th Flotilla were dispatched from Hvar. Sighting the cruiser at 0100 hours, the British boats approached silently and fired four torpedoes. A series of violent explosions wracked the *Niobe*. Avoiding the fire of the German patrol craft, the MTBs returned to base at dawn.

II. Order of Battle

1. German Player—*Niobe* (as per Japanese Mogami)
   S46, Class S26
   S49, Class S26
   S67, Class S26

2. British Player—*MTB 226*, Class Vosper II
   MTB 298, Class Vosper II

III. Starting Location

1. *Niobe*—C28, Bd B, Dir. 1 (aground)
   S46—X25, Bd A, Dir. 5
   S49—H21, Bd B, Dir. 5
   S67—H37, Bd B, Dir.

2. *MTB 226*—P44, Bd C, Dir. 5
   MTB 298—N47, bd C, Dir. 5

IV. Victory Conditions

The British player must sink the *Niobe*. Any other result is a German victory.

V. Game Length

10 Turns, Night Scenario

VI. Special Rules

The *Niobe* is aground and may neither move nor change facing. The German player is considered to be the defensive player.

SCENARIO 16
HARWICH

I. Introduction

With the new generation in S boats, the German commanders showed less reluctance to engage in direct confrontation; the time inevitably came, on the night of 14 February 1944, when they sought out a group of British boats. A flock of S boats had been spotted and the corvettes *Mallard* and *Shearwater* dispatched to drive them off. Meanwhile, these boats of the 16th Schnellboote Flotilla were informed of the course of a group of MTBs returning from a raid off Ijmuiden. Briefly losing the corvettes, the S boats intercepted the British and proceeded to maul them. Only the arrival of the corvettes saved the British boats from complete disaster; as it was, all four MTBs were heavily damaged. The German craft slipped away in the darkness.

II. Order of Battle

1. German Player—*S121*, Class S119
   S122, Class S119
   S123, Class S119
   S127, Class S119
   S133, Class S119
   S134, Class S119

2. British Player—*Mallard*, Class Flower
   Shearwater, Class Flower
   MTB 439, Class Fairmile D
   MTB 441, Class Fairmile D
   MTB 444, Class Fairmile D
   MTB 459, Class Fairmile D

III. Starting Location

1. all S boats—Enter on Turn 1 on any hex numbered 1

2. *Mallard*—Enter on Turn 8 on any hex lettered A on Bd. A
   Shearwater—Enter on Turn 8 on any hex lettered A on Bd. A
   MTB 439—I28, Bd B, Dir. 2
   MTB 441—R31, Bd B, Dir. 2
   MTB 444—E25, Bd B, Dir. 2
   MTB 459—M33, Bd B, Dir. 2

IV. Victory Conditions

The German player must accrue more V.P. than the British player. Any other result is a British victory.

V. Game Length

12 Turns, Night Scenario

VI. Special Rules

The British player is considered to be the defensive player. Due to damage received during the course of the action off Ijmuiden, MTB 441 may not exceed a speed of seven hexes at any point during the scenario.

SCENARIO 17
CHERBOURG

I. Introduction

The invasion of Normandy set off a furious battle in the French coastal waters as the Allied boats sought to protect the flanks of the cross-channel routes and the S boats sought to strike at Allied supply and transport shipping. As the fight intensified, the British attempted to intercept enemy craft at their points of departure—Cherbourg and Le Havre—the major S boat bases. Thus, at midday on 7 June, the frigate *Stayner* and two MTBs intercepted a group of boats from Kptlt. Mirbach's 9th Schnellboote Flotilla. After a brief, inconclusive action, the S boats returned to the shelter of the harbor.

II. Order of Battle

1. German Player—*S119*, Class S119
   S120, Class S119
   S126, Class S119
   S130, Class S119
   S132, Class S119

2. British Player—*Stayner*, Class River
   MTB 448, Class Fairmile D Var. I
   MTB 478, Class Fairmile D Var. I

III. Starting Location

1. all S boats—Enter on Turn 1 on any hex numbered 58 on Bd. B

2. *Stayner*—N36, Bd B, Dir. 2
   MTB 448—M40, Bd C, Dir. 4
   MTB 478—M32, Bd B, Dir. 2

IV. Victory Conditions

The German players must exit three S boats off any hex numbered 1 on any board. The British player must sink three S boats. Any other result is a draw.

V. Game Length

12 Turns, Day Scenario

VI. Special Rules

The British player is considered to be the defensive player.

SCENARIO 18
BAIE DE SEINE

I. Introduction

The Allied naval command had reason to feel satisfied with their efforts to neutralize the S boat threat. By all appearances, Allied destroyers and torpedo boats had successfully sealed the harbors of Cherbourg and Le Havre. But on 11 June, German craft slipped through the blockade with ease. In the Baie de Seine, boats from Le Havre encountered HMS *Halstead* escorting three merchant ships. Attacking, the S boats isolated the frigate from the convoy. Before Allied reinforcements could arrive, the *Halstead* and one merchant ship were torpedoed and left sinking.

II. Order of Battle

1. German Player—*S137*, Class S119
   S151, Class S119
   S156, Class S119
   S157, Class S119

2. British Player—Three C3 Merchantmen
   Halstead, Class River

III. Starting Location

1. *S137*—I52, Bd A, Dir. 1
   S151—C51, Bd A, Dir. 1
   S156—C55, Bd A, Dir. 1
   S157—H57, Bd A, Dir. 1

2. C3 Merchant—E24, Bd B, Dir. 4
   C3 Merchant—L21, Bd B, Dir. 4
   C3 Merchant—S19, Bd B, Dir. 4
   Halstead—P27, Bd B, Dir. 4

IV. Victory Conditions

The German player must accrue at least 10 V.P. more than the British player. Any other result is a British victory.

V. Game Length

13 Turns, Night Scenario

VI. Special Rules

All British merchantmen have the following surface gunnery strengths: Fwd (2), Bde (3), Aft (2). The British merchant ships must move as a slow convoy (30.0).

SCENARIO 19
LE HAVRE

I. Introduction

As the battle in Normandy reached its culmination, Allied efforts concentrated on maintaining a close blockade of Le Havre as the Germans tried to move supplies and reinforcements in and, at the same time, evacuate shipping from the harbor. Typical of this period were the actions of 25/26 August. A trio of S boats slipped from Le Havre to act as a diversionary force to draw off the MTBs from a convoy forming outside Fecamp. With their slight advantage in speed and the cover of darkness, the S boats shook off their pursuers and joined the convoy to act as escorts. The scattered Allied forces now concentrated on the convoy. At 0230, the frigate *Thornborough* engaged the convoy and was soon joined by three British MTBs. Meanwhile, under cover of this action, the French destroyer *La Combattante* crept up on the convoy unobserved. In a battle lasting nearly an hour, all five merchants, one S boat and one minesweeper were lost. No vessels managed to reach Le Havre that night.

II. Order of Battle

1. German Player—Five C2 Merchantmen
   R35, Class R17
   R39, Class R17
   S137, Class S119
   S142, Class S119
   S143, Class S119

2. British/French Player—*Thornborough*, Class River
   MTB 473, Class Fairmile D Var. I
   MTB 519, Class Fairmile D Var. I
   MTB 523, Class Fairmile D Var. I
   La Combattante (as per British Tribal Class)

III. Starting Location

1. C2 Merchant—H28, Bd B, Dir. 3

C2 Merchant—H21, Bd B, Dir. 3
C2 Merchant—H14, Bd B, Dir. 3
C2 Merchant—Q28, Bd B, Dir. 3
C2 Merchant—Q21, Bd B, Dir. 3
R35—I35, Bd B, Dir. 3
R39—S34, Bd B, Dir. 3
S137—Y25, Bd B, Dir. 3
S142—C11, Bd B, Dir. 3
S143—B28, Bd B, Dir. 3

2. *Thornborough*—J38, Bd A, Dir. 1
all British MTBs—Enter on Turn 4 on any hex lettered A on Bd A
La Combattante—Enter on Turn 8 on any hex numbered 1

IV. Victory Conditions

The British player must accrue at least 24 V.P. more than the German player. Any othr result is a German victory.

V. Game Length

18 Turns, Night Scenario

VI. Special Rules

The R boats are minesweeper conversions. Each has the following surface gunnery strengths: Fwd 1 (2), Bde 1 (2), Aft 0. All other class characteristics as per the German Advanced Surface Ship Chart for Class R17. All German merchantmen have the following surface gunnery strengths: Fwd 1 (2), Bde (2), Aft 0.

On the first turn of the scenario, the German S boats may not exceed a speed of four hexes. The German merchant ships must move as a fast convoy (30.0). The German player is considered to be the defensive player.

SCENARIO 20
STRAIT OF SURIGAO

I. Introduction

With their inner defenses breached by the Leyte landings, the Japanese High Command was prepared to force a naval engagement to regain the initiative. One of three Japanese task forces, a collection of battleships and cruisers and destroyers, entered the Surigao Strait, divided into two fleets under the commands of Vice-Admiral Shoji Nishimura and Vice-Admiral Kiyohide Shima. Brushing a screen of American PT boats and destroyers aside, Nishimura's force was defeated in a heated action with US Navy capital ships on 20 October 1944. The destroyer *Shigure* was the only ship of Nishimura's van to survive the battle. Retreating down the Strait, it was engaged by three American PT boats. During this action PT 137 fired a torpedo at the destroyer. The torpedo missed. But, at that moment, Vice-Admiral Shima's force was entering the area and the torpedo ploughed on to strike the cruiser *Abukuma*, so damaging it that it was forced to drop out of the formation. Shima's destroyers scattered the PT boats, sinking two. But the crippling of the *Abukuma* threw Shima's timetable and plans into total confusion. Shima chose to withdraw.

II. Order of Battle

1. Japanese Player—*Nachi* (as per German Scheer)
   Ashigara (as per German Scheer)
   Abukuma (as per Japanese Mogami)
   Shiranuhi, Class Shimikaze
   Shigure, Class Shimikaze
   Shinoya, Class Shimikaze
   Kiyoshima, Class Matsu

2. American Player—*PT 152*, Class Elco
   PT 493, Class Elco
   PT 137, Class Elco

III. Starting Location

1. *Nachi*—K30, Bd A, Dir. 1
   Ashigara—D34, Bd A, Dir. 1
   Abukuma—N34, Bd A, Dir. 1
   Shiranuhi—T26, Bd A, Dir. 1
   Shigure—T39, Bd B, Dir. 4
   Shinoya—H26, Bd A, Dir. 1
   Kiyoshima—V30, Bd A, Dir. 1

2. *PT 152*—S35, Bd C, Dir. 4
   PT 493—P54, Bd C, Dir. 5
   PT 137—S38, Bd C, Dir. 4

IV. Victory Conditions

The American player must accumulate 12 V.P. Any other result is a Japanese victory.

V. Game Length

14 Turns, Night Scenario

VI. Special Rules

The *Nachi, Ashigara* and *Abukuma* move as a convoy (i.e., all three ships move from one written plot). Their movements are written three turns in advance. The Japanese capital ships move as a fast convoy (30.0).

The Elco *PT 493* is a modified 1943 version, and has the following surface gunnery strengths: Fwd 2(4), Bde 2(6), Aft (2).

SCENARIO 21
SCHELDT ESTUARY

I. Introduction

Within a period of one week in April, in a series of fierce

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encounters between S boats and MTBs that were made possible by the close cooperation that now existed between Allied air patrols and surface vessels, the German craft were finally defeated. The patrolling frigate *Ekins* and two MTBs intercepted a group of S boats on their way to lay mines, and severely damaged one. The German boats returned to base without accomplishing their mission. And there they remained for the rest of the war. This action on 12 April 1945 marked the final clash between British and German small boats.

II. Order of Battle

1. German Player—*S195*, Class 193
   S205, Class 193
   S220, Class 218
   S221, Class 218
   S223, Class 218

2. British Player—*Ekins*, Class Captain
   MTB 623, Class Vosper III
   MTB 654, Class Vosper III

III. Starting Location

1. *S195*—B53, Bd C, Dir. 6
   S205—X55, Bd B, Dir. 6
   S220—Y51, Bd B, Dir. 6
   S221—B48, Bd C, Dir. 6
   S223—E51, Bd C, Dir. 6

2. *Ekins*—M23, Bd A, Dir. 2
   MTB 623—P20, Bd A, Dir. 2
   MTB 654—E23, Bd A, Dir. 2

IV. Victory Conditions

The German Player must exit three S boats off any hex numbered 1 on Bd A. Any other result is a British victory.

V. Game Length

12 Turns, Night Scenario

VI. Special Rules

The British player is considered to be the defensive player.

SCENARIO 22
CAORLE LIGHT

I. Introduction

The last successful action by Allied naval forces in the Mediterranean came on 13 April when two boats of the 57th MTB Flotilla attacked TB45, a German heavy torpedo boat (seized from the Italians in 1943) attempting to reach Venice. Despite heavy fire from the enemy boat, the MTBs sank it with gunfire. Unfortunately, on the run home, MTB 697, in an area which was supposed to have been cleared of mines by Tito's partisans, struck a mine and broke in two, both halves burning furiously. Its crewmen were never found.

II. Order of Battle

1. German Player—*TB45*, Class Spica

2. British Player—*MTB 670*, Class Fairmile D Var. II
   MTB 697, Class Fairmile D Var. II

III. Starting Location

1. *TB45*—P37, Bd C, Dir. 5

2. *MTB 670*—K43, Bd A, Dir. 1
   MTB 697—H34, Bd A, Dir. 1

IV. Victory Conditions

The British Player must sink TB45. Any other result is a German victory.

V. Game Length

8 Turns, Day Scenario

VI. Special Rules

The Spica class boat was modified by the Germans and has the following surface gunnery strengths: Fwd 1(2), Bde 3(5), Aft 2(4). The German boat is considered to be an escort vessel and, as such, will move in the appropriate phase.

SCENARIO 23
LINGAYAN GULF

I. Introduction

It was soon after the landings in the Lingayan Gulf that a new threat to Allied shipping became apparent—the Japanese suicide boats which, in the manner of the Kamikaze aircraft, were to reverse the Allied offensive momentum. With virtually no navy left to fight with, it was to this kind of warfare that Japan was reduced in the final months of their despairing struggle. One of the main tasks of the PT boats in 1945 was to counter these suicide craft. Thus, on 13 May, after reports of Shinyo boats had brought PT 398 and PT 423 into the area, and as three large American supply ships suddenly presented an irresistible target, six Shinyo craft issued from concealment on the Luzon coast and streaked towards the merchant ships. The PT boats intercepted the attack and, in the melee, managed to sink all six.

II. Order of Battle

1. Japanese Player—six Special MLs, Class Shinyo

2. American Player—Three IC3 Merchantmen
   PT 398, Class Elco
   PT 423, Class Elco

III. Starting Location

1. *all* Shinyo boats—Enter on Turn 1 on any hex numbered 58

2. IC3 Merchant—E30, Bd B, Dir. 2
   IC3 Merchant—X27, Bd A, Dir. 2
   IC3 Merchant—Q23, Bd A, Dir. 2
   PT 398—L36, Bd C, Dir. 5
   PT 423—Q36, Bd C, Dir. 5

IV. Victory Conditions

The Japanese player must accrue 9 V.P. Any other result is an American victory.

V. Game Length

9 Turns, Day Scenario

VI. Special Rules

All American merchant ships have the following surface gunnery strengths: Fwd (2), Bde (2), Aft 0. The American merchant ships must move as a slow convoy (30.0). The American player is considered to be the defensive player.

SCENARIO 24
KOKKAWA ON BAWLE RIVER

I. Introduction

During the third Arakan campaign to liberate Burma, the Japanese utilized the myrid inland waterways of the coastal region to supply, reinforce and evacuate their troops in the region. To halt this, the Royal Navy assigned the arduous task of closing these routes to the 36th, 37th, 49th and 55th ML Flotillas, equipped with Fairmile B craft suited for the operation. Patrols began in October 1944, as soon as the monsoon ended. But by May 1945, the British still were struggling for control of the waterways. A typical operation: On 15 May, three British boats, concealed along the banks of the Bawle River, were alerted by the natives to the approach of three Japanese launches. Waiting until the last moment, they burst from cover and engaged the enemy craft. Despite casualties, the British pressed their attack. Within fifteen minutes, all three Japanese launches were in flames. The natives hunted down the Japanese wounded and survivors the next day.

II. Order of Battle

1. Japanese Player—*MG78*, Class MG7
   MG131, Class MG7
   MG141, Class MG7

2. British Player—*MGB 367*, Class Fairmile B
   MGB 391, Class Fairmile B
   MGB 437, Class Fairmile B

III. Starting Location

1. *MG78*—D26, Bd B, Dir. 3
   MG131—L32, Bd B, Dir. 3
   MG141—J27, Bd B, Dir. 3

2. *MGB 367*—B45, Bd B, Dir. 1
   MGB 391—Z26, Bd B, Dir. 5
   MGB 437—B49, Bd B, Dir. 1

IV. Victory Conditions

The British player must accrue more V.P. than the Japanese player. Any other result is a Japanese victory.

V. Game Length

12 Turns, Night Scenario

VI. Special Rules

Only Board B is in play; remove Boards A and C. All action must be confined to this playing area.
The Japanese player is considered to be the defensive player.

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OPTIONAL RULES
21.0 ML/MTB HIDDEN MOVEMENT

21.1 When utilizing this rule, a ML/MTB which enters play out of visual range is not placed on the mapboard until such time as it is spotted by a visible (i.e., non-hidden) enemy vessel.

21.2 The ML/MTB player(s) should note the hex occupied by each hidden ML/MTB above the current speed in the corresponding turn box in the CURRENT SPEED section of the modified Escort Log. This procedure will be continued each turn for

each ML/MTB that exercises the hidden movement option.

21.4 A ML/MTB is visible and must be placed on the mapboard if it conforms to one or more of the following situations:

21.4.1 A ML/MTB is always visible during a day scenario.

21.4.2 A ML/MTB is visible during a night scenario while it is within four hexes of an enemy vessel or within seven hexes of any vessel that was torpedoed in the previous Torpedo Determiniation Phase, sustained damage and is still afloat.

21.4.3 A ML/MTB is visible during a night scenario while it is in or adjacent to a hex containing a star-shell counter.

21.5 A visually located ML/MTB must remain in view only for that period during which it is visible.

21.6 The ML/MTB player(s) need not place a torpedo fired by a hidden ML/MTB on the mapboard until it reaches the last hex of its move in the turn it was fired. All depth charges, including delay depth charges, must be immediately placed on the mapboard as they are dropped or fired by a hidden ML/MTB.

23.0 RADAR SEARCH

Due to their wood construction and high speed, radar was rarely accurate in locating ML/MTBs during combat situations. Therefore, hidden ML/MTBs may not be located by radar.

24.0 RADAR AND SONAR FIT

Due to weight restrictions, rarely were ML/MTBs fitted with either radar or sonar. Unless specifically stated in the special rules of the scenario in play, ML/MTBs may not utilize either radar or sonar.

25.0 STAR SHELLS

25.1 Each ML/MTB, whether visible or hidden, may fire one or two star shells per turn.

25.3 A star shell can be placed in any hex within five hexes, inclusive, of the hex currently occupied by the ML/MTB (see Figure III).

25.5 A ML/MTB that is to fire star shells may not participate in surface gunnery in the same turn. It may, however, engage in surface gunnery the following turn.

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ADVANCED GAME
34.0 SUBMARINE EMERGENCY MOVEMENT

34.7 *Prolonged Attack Procedure* ML/MTBs may not be utilized to conduct prolonged attacks.

35.0 LAUNCHING TORPEDOES

35.1 A ML/MTB may launch unaimed torpedoes only (35.3). A ML/MTB, due to the instability of the launching platform and the high speed normally operated at, may never fire aimed torpedoes.

41.0 INITIAL TORPEDO LOAD

41.1 A ML/MTB does not possess the capacity to reload torpedo tubes while in combat. Thus, a ML/MTB is restricted to carrying only one type of torpedo.

46.0 RADAR SEARCH

As the war progressed, advances in technology gave Allied escorts the limited capability to locate enemy small boats by radar.

46.2 A ML/MTB can be located by 3cm. radar.

46.3 As each escort fitted with 3cm. radar conducts its radar search, the Escort player rolls two dice. The ML/MTB player cross-indexes this roll with the column headed ''3CM RADAR—Snort Up'' to determine the basic radar range effective against ML/MTBs.

46.5 The final range is the number of hexes within which the escort could spot a ML/MTB.

47.0 NIGHT VISUAL SEARCH

47.1 ML/MTBs do not have a night visual search capability and may not extend their night visual range. All vessels not equipped with 3cm. radar may utilize night visual search to locate hidden ML/MTBs.

47.3 *Night Visual Search Procedure*. ML/MTBs at speed were often revealed at night due to the highly visible and distinctive wake created by their passage. The greater the speed, the more visible their wake. The Night Visual Search Table is to be modified to reflect this. In sighting attempts by vessels, in the place of ''Submarine Depth'' read *Current ML/MTB Speed*; instead of ''0 ft.'', substitute *7+ Speed*, and instead of ''25 ft.'', substitute *0-6 Speed*.

47.3.1 As each vessel conducts its night visual search, the player rolls two dice. The ML/MTB player cross-indexes this roll with each ML/MTB's speed at the end of the previous game turn to determine the vessel's basic visual range to that ML/MTB.

47.3.3 The range, with any modification, is the number of hexes within which a vessel could spot that ML/MTB.

49.0 CREW QUALITY

Crew quality does not normally affect operations by small boats in any manner.

49.4 ML/MTBs, when utilizing radar search if given the capability by the scenario special rules, are considered to be novice crews.

50.0 WEATHER

The operations of the ''little ships'' were dictated by the weather. Forced to reduce speed or seek shelter by foul weather, many promising missions were forced to abort.

50.2 Weather affects the operations of all ML/MTBs in a combat situation.

50.2.1 During a Gale, ML/MTBs are unable to function. Remove all ML/MTB counters from play if the dice roll results in ''Gale''.

50.2.2 During a Storm, ML/MTB maximum speed is affected. Reduce the maximum speed of each ML/MTB in play by one-half (rounded down) of the appropriate maximum speed listed in the National Data Chart if the dice roll results in ''Storm''.

50.2.3 If the dice roll results in ''Rough'' or ''Clear'', ML/MTBs are not affected in any manner.

51.0 SPECIAL WEAPONS

51.2 ML/MTBs may not be equipped with a ''foxer''.

51.4 ML/MTBs may not utilize T3 torpedoes.

51.5 ML/MTBs may not utilize one-ton depth charges.

52. REPAIR

52.1 Due to weight limitations and the short duration of most actions, a ML/MTB may not effect repairs.

65.0 ENGINE MALFUNCTION AND REPAIR

The greatest unpredictable factor faced by the officers commanding the small boats was engine failure. Due to the extreme stresses placed upon the

Figure III: Star Shell Field for a ML/MTB.

STAR SHELL FIELD

engines of these craft, malfunctions occurred with some frequency and proved accutely embarrassing, and occasionally fatal, for the unlucky crew.

65.1 In each game turn that the current speed of a ML/MTB equals or exceeds seven hexes, the possibility exists that it may suffer engine malfunction.

65.2 At the end of the ML/MTB Movement Phase, the ML/MTB player(s) must roll two dice for each ML/MTB that faces the possibility of engine malfunction. If the dice roll equals or exceeds ten (10+), the ML/MTB experiences an engine malfunction.

65.3 For each ML/MTB with an engine malfunction, the ML/MTB player(s) again must roll two dice. The numerical value of this dice roll is immediately subtracted from the ML/MTB's maximum speed. The ML/MTB's modified maximum speed is noted in the Log. Until repairs are effected, the ML/MTB may not exceed this modified maximum speed.

65.4 Should the numerical value of the second dice roll equal or exceed the ML/MTB's maximum speed, the ML/MTB is considered "dead in the water" and may neither move nor change facing.

65.5 The results of engine malfunction take effect immediately (negating 8.2.2 if necessary).

65.6 It is possible for a ML/MTB to suffer successive engine malfunctions. The results of engine malfunctions are cumulative (until the ML/MTB is "dead in the water" or unable to exceed a speed of six hexes).

65.7 Engine malfunction and the resulting reduction in maximum speed need not be revealed to the opponent until the conclusion of the scenario in play.

65.8 Upon the game turn following an engine malfunction, and for each game turn thereafter, an afflicted ML/MTB may attempt to correct the malfunction. This attempt may be made regardless of fire and current speed.

65.8.1 At the end of the ML/MTB Movement

Phase, the ML/MTB player(s) may roll two dice for each ML/MTB currently experiencing engine malfunction. If the dice roll equals or is less than four, the ML/MTB crew has repaired all engine malfunctions and the reduction in its maximum speed is negated. The ML/MTB's maximum speed reverts to its original value. (Note however, that rule 8.2.1 remains in force.)

65.9 Due to the superb Isotta Frashini petrol engines employed by the Italians and the superior Daimler-Benz diesel engines utilized by the Germans, their small boats suffered less from engine malfunctions than their opponents. Therefore, modify all initial malfunction dice rolls for German and Italian ML/MTBs by subtracting one (−1). Dice rolls for the results of engine malfunction and repair are not modified.

66.0 SHINYO SUICIDE BOAT

During the closing months of the war, the Japanese introduced the one-man Shinyo type suicide motor launch. These craft were 16 feet in length, powered by one or two automobile engines producing speeds up to 30 knots, and containing two tons of high explosives in their bows which was contact-armed by the pilot when on a collision course with an enemy vessel. Over 6000 were built for use during the Okinawa and expected Home Islands invasions.

66.1 When a collision (10.1) occurs between a surface vessel and a Shinyo type suicide boat, detonation of the suicide boat warhead occurs immediately.

66.2 The Shinyo ML/MTB is sunk and immediately removed from the mapboard.

66.3 The opposing player immediately rolls twice on the "9" damage point column of the Damage Table to determine the amount of damage the surface vessel receives. Each dice roll is resolved separately and the damage is cumulative. (Add the two amounts of damage together to produce the total damage suffered by the surface vessel.) ☆

The counters reproduced here are those necessary to play the scenarios included with this article.
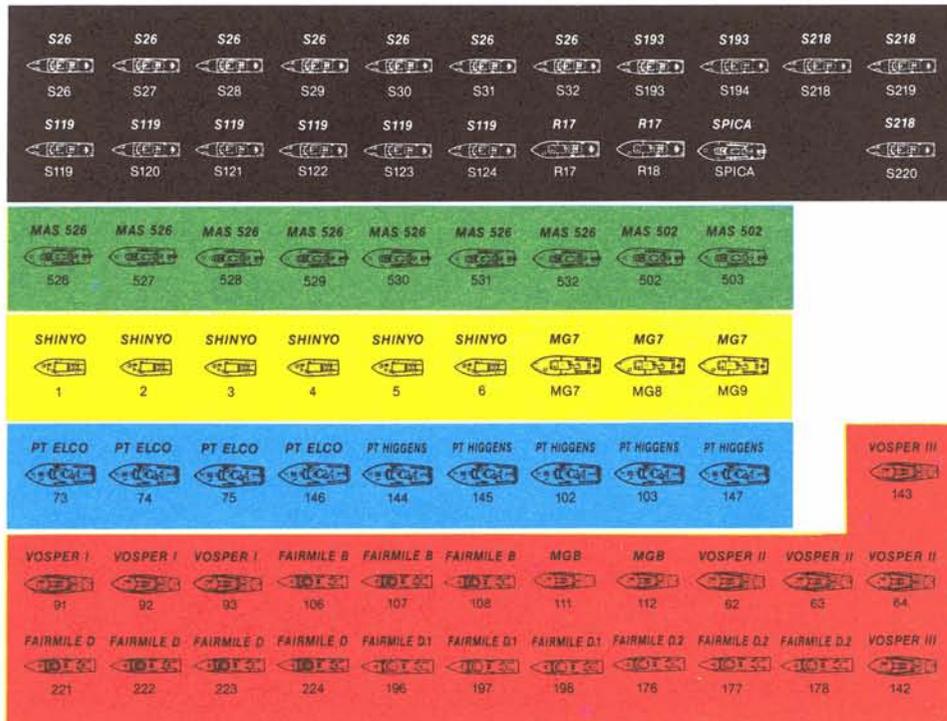
CONTEST #133

As commander of an American destroyer of the Buckly class, your mission in this contest is to cause the greatest possible damage to the sighted Japanese submarine (of the RO35 class) that was threatening your convoy. The diagram shows your position and that of the enemy submarine, at a depth of 25 feet according to your radar. There are two important pieces of information to consider in making your decision:

1. You've just made an ASW attack on this submarine the previous turn.
2. You will not be able to keep contact with the submarine in your next turn.

We have already plotted the next two moves, and the depth of the submarine in each turn. To enter the contest, all you need do is plot the course of your next two moves (enter the hexes on the entry form). Indicate your position at the end of the first move with an asterisk. Use the identification letters to indicate the locations of your launched or dropped anti-submarine weapons. Indicate the depth settings of your depth charges in the space provided. All entries will be matched with the pre-plotted course of the Japanese boat and winners will be those whose attacks offer the chance of greatest damage.

The answer to this contest must be entered on the official entry form (or a facsimile) found on the insert of this issue. Ten winning entries will receive merchandise credits from The Avalon Hill Game Company. To be valid, an entry must include a numerical rating for this issue as a whole and a listing of the three best articles in the judgement of the contestant. The solution to Contest 133 will appear in Vol. 23, No. 4 and the list of winners in Vol. 23, No. 5 of The *GENERAL*.
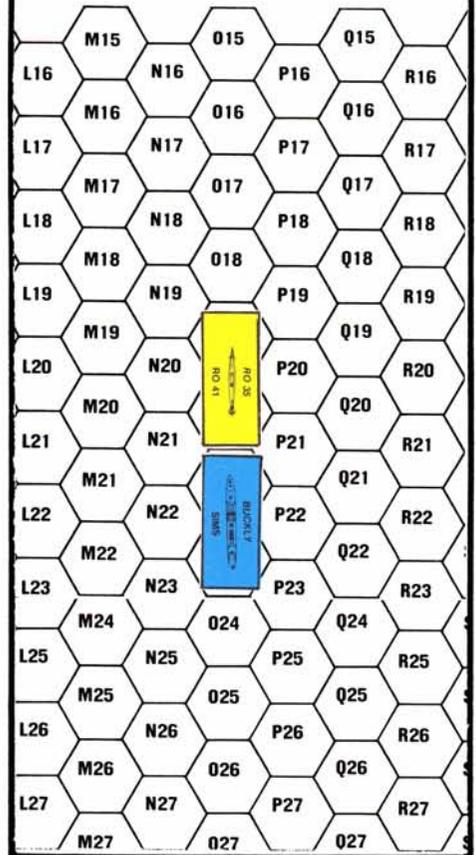
THE LONE WOLVES
The British in SUBMARINE
By Charles Markuss

SUBMARINE, for the true buff, suffers from one shortcoming—a shortage of scenarios—as other articles in The *GENERAL* have already emphasized. To date, scenarios for the German, American, Russian and odd Japanese submariners have appeared, even though the counter-mix provides a feast of information on other nationalities. But British submariners deserve much credit for depriving the Axis of transports and warships, and Rommel's Chief of Staff would complain after his capture, ''we should have taken Alexandria and reached the Suez Canal if it had not been for the work of your submarines''. (About 70% of all British successes were in the Mediterranean, and in some months 60% or more of Rommel's supplies were lost, largely to submarine attack.) British submariners did not just attack transport ships; British submarines helped make the German invasion of Norway very costly for the *Kriegsmarine* by sinking 21 ships.

Britain began the war with roughly the same submarine strength as the OKM, about 58 boats; the Royal Navy put another 157 into service through the war, losing some 74 through various causes. This represents less than 10% of the German submarine losses, but does not include the eight Dutch, three French, four Greek, two Polish and one Norwegian submarines lost while under British command. In exchange for these losses, British submariners accounted for six enemy cruisers, 16 destroyers, 36 submarines, 112 minor warships and 493 merchantmen. Another 38 merchantmen, a U-boat, a destroyer, a corvette, and three torpedo boats are known to have been sunk by mines placed by British submarines.

By American or German standards, these figures appear unimpressive. But it should be remembered that British submarines were deployed as ''mobile minefields'' or ''lone wolves''. Too, the quality of the opposition must be kept in mind. The German and Italian escorts were efficient and deadly; there was no ''happy time'' for British submariners of the kind enjoyed by their German and American counterparts. Very few large, slow, weakly-defended convoys came their way. When Rommel began to lose supplies, German influence transformed Italy's poor ASW capabilities; by the end of 1941, the Italians were ''dangerous'' as one British sub commander typically understated. Whatever Allied propaganda may have said about the Italian navy, their escort vessels were not to be underestimated and sank some of Britian's great submarine crews—Wanklyn's *Upholder*, Linton's *Turbulent*, Tomkinson's *Urge* among them.

Not suprisingly, Britain's heaviest losses in their submarine arm were in the Mediterranean. Only the rare Allied submarine lasted longer than twelve months in those waters. Unbeknownst to the British, the Italians had perfected minelaying in waters up to 600 feet deep, and so laid mines on such a scale that one British flotilla commander stated that ''it is difficult to see how we could have operated our submarines in the Mediterranean at all.'' At least 21 of the 45 submarines lost in this area were mined.

The Mediterranean was also the scene for Britain's greatest blunder in submarine deployment, and the fate of the large classes of British submarines —designed for operations in the Pacific—makes depressing reading. Had these boats, with their long range capability, designed for depths of 500 feet and the ability to reload all bow torpedo tubes in seven minutes, been available in the Pacific to support the few Dutch and American boats thrown against the

Japanese invasion convoys in December, much subsequent bloodshed might have been avoided. They were capable of diving in 40 seconds and could stay far below the maximum Japanese depth charge setting (295 feet). Their commanders, due to intensive peacetime training, could operate as a flotilla in near perfect coordination to form British wolf-packs.

Instead, when Italy declared war these boats were sent into the Mediterranean—tantamount to keeping a killer-whale in a garden pond. Their size, relative sluggishness, noisy auxiliary machinery and leaky fuel tanks were a fatal combination in an area where exactly the opposite features were essential to survival. With their commanders used to the murky Pacific waters, and crews exhausted from a lack of shore-leave, they were hunted down and sunk one after another. By the end of 1940, nine of the fifteen initially committed to the theater had been lost.

Losses, and successes, were fewer in other areas; about 20% of the sinkings and 36% of the losses were in northern waters, and the remaining 10% of sinkings and 4% of losses occurred in the Far East. The German invasion of Norway provided plentiful, if tough, targets. In the North Sea, the British submariners usually encountered the fast, elusive blockade runners or the thick-skinned German warships or Axis submarines. If American submariners specialized in destroyer-demolition, British ones can be regarded as specialists in sinking their own kind, accounting for one French, 15 German, 17 Italian, two Japanese and—in an error—one British submarine.

Patrols into the North Sea or in the Mediterranean were shorter than those in the Atlantic or Pacific deeps, but not without numerous hazards. Apart from the enemy, the waters in these two regions are treacherous and shallow: only 80-90 feet off the Low Countries, 105 in the Helgoland Bight and no deeper than 150 feet in the Kattegat. In deeper areas the varying seasonal salinity densities off Norway and in the Mediterranean played havoc with the trim of the submarines and would send them very deep, out of control, or liable to broach and then remain stubbornly afloat. In calm weather the Norway Deep is clear enough to betray submarines down to 90 feet, and the Mediterranean's crystaline waters can display a sub as deep as 100 feet. Most British submarines based in Malta were painted blue in an attempt to counteract just this fact.

Certain, uniquely-British features compounded the dangers and handicaps. Most British submarines had periscopes only about 30 feet long, and this forced them much closer to the surface, increasing the chance of detection. This came about because British designers demanded solid bronze conning towers and periscopes to minimize interference with the magnetic compass and so, being weaker than steel, the periscopes had to be both shorter and better-supported with heavy, distinctive framing. In addition, the commander of a British submarine directed attacks from the control room, not from the more central position in the conning tower (as in American and German boats).

But the true ''Achilles heel'' of all standard British submarines was their slow surface speed and relatively poor range—the excess weight of all that bronze had to be balanced somehow, although economy measures also played a part in the designs. After building three fast, long-range but expensive River-class submarines, production was stopped by the Admiralty in favor of the slower and cheaper

T-class design. Unfortunately, the loss of Singapore as the primary Far East base was not foreseen. The even slower U-class were not designed for wartime service, but for use in training and to act as ''clockwork mice'' for escort vessels. As it was, they became ideal for service in the Mediterranean and North Sea waters, but remained pitifully slow. Nor was diving depth a strong point for British submarine designs, largely because the British fitted elaborate safety devices that increased weight and weakened the pressure hull. Moreover, Anglo-American insistence on a heavy torpedo armament demanded the fitting of a bulbous, and hence weaker, pressure hull than German boats.

But British designs also had some strong points in their favor. British submarines with their distinctive high, narrow casings could dive about 10 seconds faster than most U-boats of a comparable size, and roughly twice as fast as the submarines of most other nationalities. In the North Sea and the Mediterranean this became essential for survival. Diving procedures also helped, for in British (and German) submarines it was the first man down the hatch who pressed the diving alarm, not the last as in American boats. In effect, the British and German boats began their dives with hatches open and the mad scramble to get below brought minor injuries, but the pay-off was a better chance to escape. The little U-class boats could dive in 12-15 seconds, the S-boats in 20-25 seconds, and the T-class in under 30 seconds. (By comparison, a US Gato-class boat took 50-60 seconds to dive.)

Where the British excelled was not, however, in the technical aspects of submarine warfare but in the non-technical, human side—notably in selection and training of captains and in tactical doctrine. Implicit in this was the recognition that there would be few ''easy'' targets to attack, and as result the daylight periscope attack was emphasized to the exclusion of all other methods. Although night surface attacks were a war-time feature, no training was given in this method. Training emphasized minimal use of the periscope against fast-moving, escorted targets sailing on a zig-zag course and the uniquely British feature of a built-in gunnery-type range-finder avoided the need to judge the distance to target on the basis of apparent size (which submariners of all nations tended to overestimate).

No British officer was given command of a submarine unless he had passed an intensive, exhausting training course known with good reason as the ''Perisher''. No matter how good a candidate was in other respects, he had to excel on this course; the mediocre and those unable to keep a rapid mental track of the targets and the escorts were quickly weeded out. All simulated attacks, first with models and then with training vessels, were critically assessed by instructors who themselves were experienced submariners. The British system contrasts sharply with those adopted by other submarine services (except, notably, the German). The British never made the mistake of trying to mass-produce submarine commanders.

Like their fire-control systems, British torpedoes were unsophisticated but effective, due largely to the high number of test firings by trainees before the war. The standard Mk. VIII ''steam'' torpedo was capable of only 45 knots but had a range of about 10000 yards (twice that of its American and German counterpart). As in the U.S. Navy, *torpex*, the best explosive available, was used but the warhead was larger. Much World War II torpedo data is contradictory, but it appears that the Mk. VIII

warheads were 550 (later 660) pounds. By comparison, the German torpedo warheads were all either 604 lbs. (the T5) or 617 lbs., while the first American torpedoes of the war carried 500-507 pounds.

Most of the time, British detonators worked, but being non-magnetic types were of much lower destruction than the reliable American Mk. 14. Britain had already learned about torpedoes running below their set depth during the First World War the hard way, and this aspect of performance was expected. The Admiralty had developed a magnetic-triggered warhead as early as 1924 (which was successfully used at Taranto), but these were issued for use in submarines only in limited numbers comparatively late in the war. Like its foreign sisters, the British magnetic torpedo was extremely unreliable and, being rarer, never caused the late-scale mischief inflicted on other submarine services. Official orders to ban the use of magnetic warheads were issued to British submariners in November 1944. The main fault was the premature explosion of the detonator and but one British commander, Ben Bryant, claimed a sinking by a magnetic warhead (August 1942).

Using contact exploders, it is not surprising that no major capital ships were sunk by British torpedoes (although several were damaged). Too, poor maintenance caused a number of torps to run wild or simply sink, even though the former proved to be effective against enemy shipping on occasions. During 1942, a torpedo "shortage" forced the use of stocks of old Mk. IVs, then twenty years old. These were capable of only 35 knots, and once loaded into the tube could not have the depth settings altered without removal. Long storage made them very unreliable and at least one submarine, the legendary *Upholder*, was issued with warheads so badly swollen that they would not fit into the torpedo tube.

But the real weakness in British torpedo technology lay in the fact that gyroscope settings were limited to either 0 degrees or 90 degrees only. The latter angle was found to be unreliable and its use was quickly abandoned. British submariners tended thereafter to use their torpedoes to fire "hose-pipe" salvos as opposed to fans. The "hose-pipe" can be likened to a stream of bullets, in line ahead. These salvos were achieved by firing the torpedoes at regular intervals in sequence, and a "fan" could be achieved, despite the limitations of the gyros, by firing the torpedoes while the sub was turning. However, this technique was not ideal at close range since the target would be changing rapidly, in large increments, while the submerged sub moved slowly and needed four minutes to complete a 90-degree turn. The advantage of the "hose-pipe" lay solely in the fact that it minimized errors in estimating target course and speed and eliminated the errors common in gyro torpedoes.

Another distinctly British aspect was the enthusiasm for surface gunnery by submarine crews. By comparison, American and German commanders made little use of their guns. In pre-war exercises, the rapid "battle surface" gunnery technique was well-rehearsed, especially in the Far East squadrons. Ben Bryant, serving in the North Sea and Mediterranean, estimated that he sank an average of ten tons of shipping for every 161-pound shell fired from the 3" guns of *Sealion* and *Safari*. Many later-built S-class and all T-class submarines mounted the much more effective 4" gun. As targets decreased in size in the latter stages of the Mediterranean and Pacific campaigns, these guns played an increasingly important role and targets were attacked in waters as shallow as 20 feet. Indeed, prior to the lifting of restrictions, British submarines were forced to use the gun to stop targets before sinking those that could be justified. (Torpedo attacks without warning were not allowed until 9 April 1940

in the north, and not before July in the Mediterranean.)

What of the men themselves? Many of the common seamen and junior officers were pressed into submarine service against their will to replace the heavy losses, and most took to their new job and performed admirably. British captains tended to be very young (the youngest was 22 years old). They were regarded as being at their peak between 25 and 30 years of age, after which it was thought they became too cautious. Only one commander served in submarines from the start of the war to the finish (and he was ashore for an extended eight-month leave for illness). Two of Britain's aces were comparatively old however; Linton was 37 when he was killed, and Bryant commanded *Safari* until he was 38 years old. By November 1940, most of the submarine commanders when war began were gone—either to their graves, to command of surface ships, or to staff appointments.

Such was the British submarine service and submariners. Clearly their story is rather different than the usual tales of disaster, hurried improvisation and "muddling-through" that other British arms suffered. There was much more to the Royal Navy than just the white ensign above the waves. *SUBMARINE* lets us at long last honor these fine sailors and heirs of Nelson.

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SCENARIO B1
FIASCO

I. Introduction

On 13 December 1939, four German destroyers were returning from a minelaying sortie off the Tyne, escorted by a fifth. Three light cruisers under *Konteradmiral* Lutjens were dispatched to accompany them on the last leg from the entrance of the Skaggerak, a tactic often used in the First World War, but a major blunder now. Before the two groups converged, *Z8* suffered a mishap and caught fire and it took over an hour to extinguish the blaze while stopped. Meanwhile, 130 miles away the cruisers were spotted by Lt. Cdr. Bickford's *Salmon* at long range; his slim chance of attacking them improved when they changed course. At 5000 yards six torpedoes were fired, one of which destroyed the *Leipzig*'s forward boiler room and another of which blew off the *Nurnberg*'s bows as she swung to avoid the torpedoes. Over two hours later the destroyers at last arrived to render assistance, much too late to punish *Salmon*.

II. Order of Battle

1. British Player—*Salmon*, Class S, Type 1

2. German Player—*Nurnberg*, see Special Rules
Leipzig, see Special Rules
Koln, see Special Rules

III. Starting Locations

1. *Salmon*—Roll one die: 1/2, place at N26, Bd A, Dir. 1
3/4, place at N31, Bd A, Dir. 1
5/6, place at N42, Bd A, Dir. 1
The die roll is recorded secretly and not revealed to the German player until after the scenario. Initial depth is 25 feet.

2. *Nurnberg*—M42, Bd C, Dir. 6
Leipzig—M49, Bd C, Dir. 6
Koln—M56, Bd C, Dir. 6

IV. Victory Conditions

The British player must inflict at least five damage points on any one cruiser. Any other result is a German victory.

V. Game Length

20 Turns, Day Scenario (or when all German crusiers exit the mapboard)

VI. Special Rules

Salmon has all six torpedo tubes loaded, but has no reloads. *Salmon* may not surface for any reason, since two He 115 patrol aircraft were over the cruisers as air escort.

Specifications for the cruisers are as follows: Def Type 4, Speed 9, Damage 10; Surface Gunnery Fwd 10, Bde 26, Aft 16; Torpedo Detonation Table reads, in sequence, 21 32 56 66 66 66 66 66 41 55 31 16; VP 10 (Avail. F '39). For the *Nurnberg*, raise the Damage Value to "11" and V.P. to "11".

The cruisers begin at speed six, may not increase speed and may decrease speed only as a result of damage sustained. The cruisers must move as plotted, regardless of on-coming torpedoes. Convoy plotting procedures must be followed at all times, except that moves must be plotted five turns in advance. The cruisers may not move more than 60 degrees off course from Direction 6.

SCENARIO B2
TROOPSHIP ATTACK

I. Introduction

On the evening of 10 April 1940, Lt. Cdr. Pizey's *Triton* attacked a 15-ship troopship convoy bound for Norway. Penetrating the escort screen, Pizey fired off six torpedoes and sank the *Friedenau*, *Wighert* and the trawler *Rau 6*. After dropping some 78 depth charges on the *Triton*, the enraged escorts detected the British submarine *Spearfish* in the adjacent patrol area and shifted their attack. *Triton* slunk away.

II. Order of Battle

1. British Player—*Triton*, Class T, Type 1

2. German Player—Ten C-2 Merchantmen
Five C3 Merchantmen
Six escorts, Class R17

III. Starting Locations

1. *Triton*—as per rule 20.4

2. Merchantmen—use convoy 20.2.8, slow, Dir. 6
Escorts may be positioned as the German player desires, Dir. 6

IV. Victory Conditions

The British player must gain at least 45 V.P. more than the German player. Any other result is a German victory.

V. Game Length

15 Turns, Day Scenario

VI. Special Rules

Only *Triton*'s internal torpedo tubes are loaded, and no reloads are available.

All merchantmen are loaded with either troops or military stores; victory points are as follows: C2—30 or 15 V.P. respectively, C3—40 or 20 V.P. respectively. Before play commences, the German player must secretly decide and record the cargo of each merchantship; however, no more and no less than five ships must carry troops. The five C3 merchantships must be placed in the center of the convoy (i.e., as the middle ship in columns 1 and 3, and the middle three ships in column 2). The convoy is moved as usual, except that it may turn only once every three turns and may never turn more than 60 degrees off course from Direction 6.

SCENARIO B3
A TOUGH CUSTOMER

I. Introduction

At the height of a gale on 2 April 1941, Cdr. Bone's *Tigris* came upon the Axis tanker *Thorn* 70 miles off St. Nazaire in the Bay of Biscay. The tanker altered course moments after the first torpedoes were fired, and another salvo fired three minutes later also missed. Falling behind, Bone decided to give chase on the surface, opening fire with the deck gun at 1000 yards. Although hit quickly and often, *Thorn* fought back with its own guns for nearly four hours. Her valiant captain tried to ram his assailant four times. It was nearly midnight by the time that *Thorn*'s guns were silenced, and then it took another ten waterline hits to bring her to a stop. Only after still more shells and a torpedo amid ships did the tough tanker sink.

II. Order of Battle

1. British Player—*Tigris*, Class T, Type 1

2. German Player—*Thorn*, T2 Tanker

III. Starting Locations

1. *Tigris*—M44, Bd C, Dir. 6

2. *Thorn*—M29, Bd B, Dir. 6

IV. Victory Conditions

The British player must sink the German tanker, without being so damaged as to be unable to submerge. Any other result is a German victory.

V. Game Length

20 Turns, Night Scenario

VI. Special Rules

Tigris begins the scenario at 0 ft. depth, and may not submerge at any time. *Tigris* has one unloaded torpedo available which must be loaded as per rule 59., for which the crew is professional.

Thorn has gunnery factors as follows: Fwd 1, Bde 2, Aft 1. These are reduced after 60 hit points have been inflicted to 0/1/0, and to zero after a further 60 hit points is inflicted. *Thorn* is carrying oil, increasing her bouyancy; as a result double the damage needed to sink the tanker but *not* to stop her "dead in the water".

Thorn must move at a speed of two hexes until fired upon by the *Tigris*. The tanker may not, at this stage, move more than 60 degrees off course from Direction 6. Once fired upon, all restrictions on speed and movement are lifted.

SCENARIO B4
A BOLT FROM THE BLUE

I. Introduction

The *Capitano Tarantini* was one of 32 Italian submarines which,

at one time or another, operated in the Atlantic from Bordeaux under German direction. Exactly half of these were lost, but they sank some 101 merchant ships and several escorts. The *Tarantini*'s first patrol was also her last. Arriving off Bordeaux on 15 December 1940 after a futile patrol, she was met by Lt. Cdr. Crouch in the *Thunderbolt*, also on his first patrol. Crouch fired from 5000 yards. One of the torpedoes surfaced in the swell but was not seen. *Tarantini* was hit in the stern and sank immediately.

II. Order of Battle

1. British Player—*Thunderbolt*, Class T, Type 1

2. Italian Player—*Capitano Tarantini*, Class Calvi

III. Starting Locations

1. *Thunderbolt*—as per rule 20.4

2. *Capitano Tarantini*—T57, Bd A, Dir. 6

IV. Victory Conditions

The British Player must sink the *Capitano Tarantini*. Any other result is an Italian victory.

V. Game Length

10 Turns, Day Scenario

VI. Special Rules

Thunderbolt begins play at 25 ft. depth; *Tarantini* begins at 0 ft. depth. The Italian submarine may not dive.

Thunderbolt has six bow tubes loaded; no reloads are available.

SCENARIO B5
AN AUSPICIOUS START

I. Introduction

Lt. Cdr. Tompkinson was to become one of the greatest British aces of the submarine service while in the Mediterranean, but he began his career while on passage to Malta in his brand new command, the *Urge*. Making a meandering passage through the Bay of Biscay to Gibraltar, he was rewarded on 18 April 1941 when he intercepted the Axis blockade runner *Franco Martello*, a tanker homeward-bound from Brazil on the last leg of her long journey. Tompkinson made sure she never arrived.

II. Order of Battle

1. British Player—*Urge*, U Class

2. German Player—*Franco Martello*, T2 Tanker

III. Starting Locations

1. *Urge*—as per rule 20.4

2. *Franco Martello*—M44, Bd B, Dir. 6

IV. Victory Conditions

The British Player must sink the German tanker. Any other result is a German victory.

V. Game Length

15 Turns, Day Scenario

VI. Special Rules

All of *Urge*'s four torpedo tubes are loaded; no reloads are available. *Urge* begins the scenario at 50 ft. depth and may not surface.

SCENARIO B6
A HELPING HAND

I. Introduction

At Russia's request, British submarines moved operations to the lanes between Tromso and Kirkenes to attack German troopships. Having already sunk one ship, Cdr. Sladen in the *Trident* used his last two torpedoes against another convoy on 30 August 1941. In what the German convoy commander would describe as a "skilled and cold-blooded attack", the *Trident* put one torpedo into the *Donau II* and another into the ammunition ship *Bahai Laura*. German destroyers homed in, but *Tigris* suffered only minor damage from the depth charging.

II. Order of Battle

1. British Player—*Trident*, Class T, Type 1

2. German Player—C3 Merchantman
  Three C2 Merchantmen
  Z10, Class Z
  Z20, Class Z

III. Starting Locations

1. *Trident*—as per rule 20.4

2. C2 Merchant—X29, Bd B, Dir. 6
  C2 Merchant—X43, Bd B, Dir. 6
  C2 Merchant—X50, Bd B, Dir. 6
  C3 Merchant—X36, Bd B, Dir. 6
  Z10—P29, Bd B, Dir. 6
  Z20—P43, Bd B, Dir. 6

IV. Victory Conditions

The British Player must accumulate more V.P. than the German player. Any other result is a German victory.

V. Game Length

15 Turns, Day Scenario

VI. Special Rules

Trident has only two torpedoes loaded; there are no reloads. All German merchantmen are carrying troops, munitions and military supplies. Add 10 V.P. to the worth of each merchantman and double the amount of damage inflicted when hit.

SCENARIO B7
THE HALF-SPRUNG TRAP

I. Introduction

Forewarned by intelligence that German warships were being sent northwards for use against the Russian-bound convoys, Cdr. Sladen's *Trident* was one of five Allied submarines deployed across the expected path of the German ships. While surfaced on 23 February 1942, her lookouts spotted the *Admiral Scheer*, *Prinz Eugen* and two destroyers off Kristiansand. A salvo of torpedoes was hastily prepared, but the target speed was underestimated. *Trident* dived as the third torpedo was fired. Two collided and exploded, but the third hit *Prinz Eugen* and blew off twenty feet of her stern, including her rudder but leaving her screws intact. Thinking it a mine or errant depth charge, the other ships departed to leave the cruiser limping erratically towards Trondheim. *Prinz Eugen* was not repaired until May.

II. Order of Battle

1. British Player—*Trident*, Class T, Type 1

2. German Player—*Admiral Scheer*
  Prinz Eugen
  Z7, Class Z
  Z25, Class Z

III. Starting Locations

1. *Trident*—as per rule 20.4

2. Z7—F57, Bd B, Dir. 6
  Z25—V57, Bd B, Dir. 6
  Prinz Eugen—J57, Bd B, Dir. 6
  Admiral Scheer—R 57, Bd B, Dir. 6

IV. Victory Conditions

The British Player must force one of the German capital ships to become "dead in the water" or to sink. Any other result is a German victory.

V. Game Length

15 Turns, Night Scenario

VI. Special Rules

Trident begins the scenario on the surface at 0 ft. depth, but may change depth as desired.

All German ships commence play at a speed of six hexes, and may not alter this until and unless a German ship is struck by a torpedo or the enemy submarine is detected by sonar or visual search. German ships, excepting the escorting destroyers, may not turn more than 60 degrees off course from Direction 6.

SCENARIO B8
UNCLE SAM LENDS A HAND

I. Introduction

In August 1942, the Admiralty asked the U.S. Navy to send some submarines to support operations in the western Mediterranean. Aware of British reverses due to deployment of large subs in these shallow waters, the American commanders dispatched the five Gato-class boats that had covered the Atlantic "Torch" landings. Lt. Cdr. MacGregor, in command of the USS *Shad*, detected the heavily-escorted Italian blockade runner *Pietro Orseolo* in the Bay of Biscay by radar on 1 April 1943. Handling his boat expertly, MacGregor fired three torpedoes and claimed the *Orseolo* and two destroyers sunk. In reality, a torpedo in the forehold blew *Orseolo*'s cargo of Japanese rubber into the sea, while a hit on *Z23* proved to be a dud and the other torpedo missed. The *Orseolo* was towed into the Gironde the next day.

II. Order of Battle

1. American Player—*Shad*, Class Gato

2. German/Italian Player—*Pietro Orseolo*, C3 Merchantman
  Z23, Class Z
  Z24, Class Z
  Z32, Class Z
  Z37, Class Z

III. Starting Locations

1. *Shad*—as per rule 20.4

2. *Pietro Orseolo*—N40, Bd B, Dir. 6
  Z23—N33, Bd B, Dir. 6
  Z24—F40, Bd B, Dir. 6
  Z32—V41, Bd B, Dir. 6
  Z37—B47, Bd B, Dir. 6

IV. Victory Conditions

The American Player must sink the *Pietro Orseolo*, or any two destroyers. Any other result is an Axis victory.

V. Game Length

20 Turns, Night Scenario

VI. Special Rules

Shad has three bow tubes loaded with Mk. 14 torpedoes, but has no reloads available. *Shad* commences the scenario on the surface at 0 ft. depth, but may change at any time. Further, *Shad* is radar-fitted and so has unlimited visibility while on the surface or at 25 ft. depth.

Pietro Orseolo is outfitted with guns as per the *Thorn* in Scenario B3. The Italian ship may never alter course by more than 60 degrees from Direction 6. The German destroyers may not depart their formation until the American submarine is detected or a torpedo (including duds) hits any ship.

SCENARIO B9
THINGS TO COME

I. Introduction

Lt. Cdr. Launders already had one enemy submarine to his credit. On 9 February 1945, while at periscope depth off Bergen, *Venturer*'s crew heard faint engine noises indicative of a U-boat. Launders tracked his quarry for over an hour without use of ASDIC. Having figured out the target's course and speed, Launders stole away southwards to gain a firing position ahead. One hour later, contact was re-established. Launders waited as the range shrank to about a mile. He fired four torpedoes spaced at 12-second intervals. *U864* had the dubious distinction of being the first submarine to be sunk by another while both were submerged.

II. Order of Battle

1. British Player—*Venturer*, Class V

2. German Player—*U864*, Class IXD2

III. Starting Locations

1. *Venturer*—as per rule 20.4

2. *U864*—as per rule 20.4, but may not be placed on the same location as the *Venturer*.

IV. Victory Conditions

The British player must sink the *U864*. Any other result is a German victory.

V. Game Length

12 Turns, Day Scenario

VI. Special Rules

Venturer has all four bow torpedo tubes loaded; no reloads are available. *U864* has all stern and bow tubes loaded, but no reloads are available.

Both submarines commence play at 25 ft. depth and may not change depth at any point in the scenario.

SCENARIO B10
STEALTH AND PATIENCE

I. Introduction

While on her way to land agents in Malaya, Lt. Cdr. Bennington's *Tally Ho!* spotted the cruiser *Kuma* off Penang Island on 9 January 1944, but the Japanese cruiser escaped into harbor. As the surrounding waters were very restricted, a resumption of the Japanese training exercise was expected, and next day *Kuma* again eluded her hunter. The next morning, this time with a destroyer as escort, the *Kuma* again ventured out along a route indicated by her seaplane aloft. Taking advantage of this observation, Bennington lay in wait and fired seven torpedoes at about 1900 yards range. Two hit. Bennington, now under attack by the destroyer, crept away as the Japanese cruiser sank in a cloud of smoke.

II. Order of Battle

1. British Player—*Tally Ho!*, Class T, Type 2

2. Japanese Player—*Kuma* (use specifications from German *Leipzig* above)
 *Shibunai*. Class Kamikaze

III. Starting Locations

1. *Tally Ho!*—B51, Bd A, Dir. 3

2. *Kuma*—B1, Bd C, Dir. 4
  Shibunai—Enter on Turn 2 on any hex numbered 58 on Bd C

IV. Victory Conditions

The British player must sink or make "dead in the water" the *Kuma* without losing the *Tally Ho!*. Any other result is a Japanese victory.

Squad Leader Clinic

RESERVES

By Jon Mishcon

Reserves are units withheld from battle. As such they can be as small as a platoon in tactical reserve or as big as several divisions held in strategic reserve. Reserves serve the dual function of allowing troops to rest while providing the commander with the strength to decisively influence a battle at a critical moment. The use of reserves is probably the single most important skill a grand tactical commander must master and probably the *least* important for skillful play of *SL* or *ASL* scenarios. Perhaps nothing more pointedly demonstrates the fact that the crop of existing scenarios are "just a game" than their inability to simulate the proper use of reserves. Let us examine why reserves are important in combat.

The following elements should be considered in understanding a commander's reliance on reserves: command control, avoiding disaster, reinforcing success, efficient weapons match-up, fresh troop strength, uncertainty. Each is discussed below.

Command control is the ability to make troops do what you want them to. The harder they are to contact, the more dispersed they are, or the busier they are (being close to the enemy makes one very busy even if not a shot is fired) all reduce your ability to control your troops. The great commanders who led from the front did so because that is one of the few ways you're sure you've got their attention.

Should all hell break loose, and you suddenly find bad guys pouring in where they "ain't supposed to be", then avoiding disaster can be simplified by moving up reserves to block the attackers' progress. It is far easier for troops to move up than it is to

break contact with the enemy and move back to block a thrust. Thus reserves can save your own personal hide.

Of course, the converse is that once in a while you can achieve an unexpected success. Reserves are your best bet for quickly being able to magnify your victory, for the same reasons as above.

"Efficient weapons match-up" refers to the fact that no one ever has all the proper weapons in the right spot. AT gun concentrations are of limited value against mass infantry assaults. By holding key weapons like HMGs and ATGs in reserve, a commander can swing over to the right tools for any particular threat. *ASL* does a nice job of showing just how hard it really is to mount up a big gun when the pressure is on.

Troops get tired. The strain of being on the front line is more than physical. Constant demands on attention make an individual progressively less effective. Combat amplifies these demands and goes beyond this as weapons run out of ammo or breakdown. Reserves are (or should be) rested and well provisioned. Their ability to deal a decisive blow is enhanced because they are usually pitted against men at the end of their tether.

Uncertainty is the key reason, however, that commanders depend on reserves. All of the above factors are really reflections of how a CO copes with the unknown. As much as is possible, reserves give the leader a known quantity to work with. Reserves are also a psychological buffer. I can recommend Johns' *The Clay Pigeons of St. Lo* for an insightful peek at the thoughts of a battalion commander.

Given all the positive aspects to reserves, why not then hold the majority of troops in reserve? I feel two factors diminish the value of reserves. The first is the psychological reluctance of any commander to commit his reserves. While their potential strength, so long as they are held in reserve, may be great, once committed, their value markedly diminishes. Thus you have to be fairly sure that *this* is the optimum moment for going for broke. Given the uncertainty element noted above, little wonder that commanders hold onto reserves as long as possible.

The second negative feature of reserves are obvious to all *SL/ASL* buffs. Strength in reserve is worth little at the front. Units defending a piece of terrain may be dug in and bore-sighted, adding to their resistance. Attackers need enough power and adequate numbers to break through defending lines. If you must hold onto or break into an objective, you have to maximize your strength at that point (remember "Concentration of Force" from a previous clinic installment). Therefore the actual strength and numbers of reserve units will depend on the given tactical situation. The best analogy I can think of is a football game where goal line plunges require everything up front and mid-field defenses are usually held in considerable depth. So it is on the battlefield.

Why are *SL/ASL* scenarios usually so poor at reflecting the need for reserves? On the whole, *SL/ASL* is probably the wrong scale to deal with the problems noted above. We've not found a good, simple solution to the issue of command control. Players never have to worry about breakthrough,

other than in the context of winning or losing the scenario. Unit stamina could be reflected by having the ELR of a unit slowly drop while it is on the board, but the value of such a rule is questionable. We pay lip service to uncertainty but only one scenario has ever had the attacker uncertain of the make-up of the defender (''In Rommel's Wake''). A case can be made that this is not the failure of the scenarios but rather a side-effect of their intent to focus on the squad level of combat. Yet, given the comprehensive nature of the *ASL* rules, it should be possible to recreate the conditions which call for the use of reserves.

It is the intent of the accompanying scenario (see insert) to force the German player to make some key choices. How many troops will act as delaying forces? Putting the AT gun on the board will give you HIP and bore-sighting; but what if the tanks arrive on another board? We freely admit that this may be the simplest demonstration possible of the use of reserves. The Russian player is fairly well committed from the first turn and the German player has a perfect knowledge of what is coming down the pike. Nevertheless, we have chosen to start with this as an introduction. If readers like the idea, we would hope to expand on this concept in later scenarios.

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After Action Report—The Hedgehog of Piepsk

These notes continue the series of commentaries in the Clinic pertaining to the scenarios published with the previous installment of the column (Vol. 23, No. 2 in this case). The intent is to provide the *ASL* player with one of numerous possibilities for defensive setup, attacker initial placement, and basic tactical approaches for both. Having had several months to examine your own approaches to our Clinic scenarios, the reader can now compare his findings with our summation.

GERMAN: A 9-1 leader, two 4-6-7 squads, one HMG and one MMG in the second floor of 3N2. Another 9-1, three 4-6-7s and two LMGs in the second floor of 3N1. The 8-1 leader and two squads with LMG in 3R6. Use the 8-0 with the radio as a spotter in 3N1. Boresight the HMG on hex 3U7 and the MMG on 3U8.

RUSSIAN: Six 4-2-6 squads enter spread out on the edge of Board 4 and filter up along the north edge. One 8-0 leader plus five 4-4-7s enter between 3GG6 and 3GG10 and advance along the axis of 3W8 to 3T6 tp 3Q6. The remaining 21 squads enter behind Hill 498 and filter up along the edge of Boards 3/4.

ATTACKER'S TACTICS: You should plan to jump off the first assault against building 3N1 no later than Turn 6. Your best shot is to try to draw fire with your flanking ''cheapies'' while the main assault groups try to move completely in cover. take a Commissar along the main axis of advance to rally any unit that breaks in the advance. Expose the MMG at eight hexes range in the woods with the 9-1 leader just as you deploy for your assault. You never know when that lousy pop can pin the defenders and suddenly end multiple shots from the MGs. Pray for the intervention of Fate.

DEFENDER'S TACTICS: Shoot when you must, but don't be drawn into long-range shots against lousy targets. Don't forget that sniper fire as well as a broken MG can cripple you. Try to use the artillery against the units advancing into 3U7. The chance of calling in a totally blind FFE is about 40%, so if the Russian player is being very cagey—go for it. The Russians do not have time to recover from eight or so broken squads *and* fight their way up the stairwell of 3M2; so try for broken squads rather than kills. Naturally, using a defensive FFE on 3R1 at about Turn 5 can really crimp the Russian style.

Hill 621

RUSSIAN: 9-1 leader with 5-2-7 and MMG in the second floor of 3N1. An 8-0 leader with 5-2-7 and MMG in second floor of 3M2. Sniper bait 5-2-7s in 3O2 and 3M3. Rest of squads spread out along the entire width of edge of Board 3. Try placing the remaining 8-0 leader in 3C1. Put stacks of 4-4-7s next to 5-2-7s so you'll have both long-range fire and assault fire when needed.

GERMAN: 8-1 leader with radio, three squads, one LMG in hex 4FF1. The 9-2 with three squads, MMG and HMG in 4W1. Two squads with two LMGs go in 4G1.

ATTACKER'S TACTICS: Spread out. Run like crazy on Turn 1. Run cautiously on Turn 2. Bring the T-34s on at 3Y10 and drive for Hill 538 unless the German player brings the ATG onto the third level of 621. Then you must enter at 3Q10 and drive down the center. Plan that your infantry will have to make its final assault based from hexes 2S6, 2N9 and 2J6. Consider having your tanks swing around the flanks of Hill 621 on the next-to-last turn. If for no other reason than to divert those German ATGs.

DEFENDER'S TACTICS: Do *not* try to stand up to the Russians. Everybody pulls back. Your goal is to try and move someplace where you can lay down some inhibiting Defensive Fire during Russian Turn 2. The radio 2CC8 is very nice. I also like the 9-2 on 3S7 and the 75L ATG on 3R2. (Check out that LOS before you scoff.) The key to holding Hill 621 is actually holding Hill 538. So plan to bring your Turn 2 tanks onto 2DD4 through 2DD7 inclusive. Then on Turn 3, the lead MkIV can move to 2T3 while the rest go for hulldown positions on 538. Remember that you can stop and start again, so go for Level 2 positions that are close by. Final defense of 621 should be *on* the crest of 621 (advance there on the last turn). ☆

STALIN'S WAR
A Variant Scenario for HITLER'S WAR

By James E. Meldrum

During the years immediately following the end of the Second World War, the Soviet Union — under the leadership of the infamous Josef Stalin — aggressively expanded its power and influence in both Europe and the Middle East. As the Soviets expanded, a number of disturbing events took place. Both Czechoslovakia and Hungary fell to the Communists and Russian troops repeatedly massed on the Greek and Turkish borders. Communist Party activity increased in both France and Italy. A number of other crises (including the Berlin Crisis of 1948) generated a tremendous amount of friction between what were to be the NATO Powers and the Warsaw Pact.

After the end of the Second World War, the United States emerged as the leader of the free world. In response to the malevolence displayed by Stalin and Soviet Russia, the U.S. began the development of war plans as a contingency for war with the Soviet Union. These plans were known under a variety of codenames, including "Dropshot", "Broiler", "Trojan" and "Pincher". All these plans had many of the same features and objectives in common.

During the time period in which these war plans were developed, military experts for the U.S. Joint Chiefs of Staff assumed that the U.S. and Britain — among others — could do little to halt the advance of invading Soviet hordes in Europe This was because that, while the Western Allies (later to become NATO) demobilized their military machines after the war to a great degree, the Soviet Union and its allies upgraded and expanded their armed forces. As a result, the Joint Chiefs decided to fight delaying actions initially. Then, NATO forces could withdraw to selected fortified areas and defend them until reinforcements arrived. These fortified areas would be used not only as bases of operations against the Russians, but also as bridgeheads for the counter-invasion of Western Europe.

After the surviving NATO countries had mobilized, the Allies planned to counterattack. NATO planners looked to counterattack not only from the fortified areas still under their control, but also planned to launch an invasion of the Soviet Union itself. This invasion would have come through the Caucasus and was intended to seize the oil-rich region and drive into the industrial heartland of the Soviet Union around the Black Sea. Such a maneuver would have trapped the main Russian armies in Europe, far from their bases in Russia. At the same time, this invasion would both deprive the Russian army of much of its fuel and spare equipment and strike a blow at Russian industry and agriculture.

The path for the NATO invasion of Russia would have been paved by the heavy and medium bombers of the USAF, RAF and, to a lesser extent, the French Air Force. The NATO airforces would strike at targets in Russia using the limited number of atomic bombs then available. These strikes would have been launched from fortified airfields in England, Europe, the Middle East, the Pacific and Alaska. All of these bases would be defended and held at all costs against ground attack. The targets of the atomic strikes would be Soviet and Soviet-allied military troop concentrations and production centers. American planners intended to conduct these atomic strikes simultaneously in order to maximize the shock effect on the Soviet governments and population. Losses among the attacking aircraft were expected to be high because of the large number of defending Russian jet and conventional fighters.

At sea, the allied navies would first suppress Soviet naval activity and try to keep vital sea lanes open. After this was accomplished, Soviet surface naval units and submarines were to be hunted down and sunk. Finally, with the sea lanes secure, units of the U.S. Navy and other friendly ships would carry units of the U.S. Army to areas in Europe and the Middle East for the invasion.

TAHGC's *HITLER'S WAR* provides players with an experimental vehicle that can be used to determine how such a hypothetical war between NATO and the Soviet Bloc might have been fought in the late 1940s, when both sides were still equipped with WW2 vintage armament, only the U.S. had the atomic bomb, and jet aircraft were just beginning to enter service in large numbers. Such a scenario also allows the players to examine how well U.S. war plans for such a conflict would have worked out.

This scenario, "Stalin's War", simulates a war fought as a consequence of the Berlin Crisis of 1948. The variant rules included here are intended to supercede selected portions of the regular game rules in order to simulate this hypothetical conflict. In any situation where this variant material conflicts with the original rules, the regular game rules will take priority in resolving all rules disputes.

SPECIAL RULES

1. This scenario uses all normal rules of the campaign game scenarios. Rules designated as applying to the Allied player will apply to the NATO player, and all rules specified as applying to the Russian player will apply to the Soviet player.

2. Both sides may build units as in the regular game. All types and kinds of weapons and units may be built. All undestroyed production hexes in player-friendly countries may be used to build units. NATO tech level is "6"; Soviet tech level is "4".

3. *Bombers* NATO bombers may attack all hexes within a ten-hex radius of their assigned base. Air units of all kinds may be used to attack each other. NATO bomber bases have an inherent strength of "1" and may be attacked as though they were production hexes. The US begins the game with 10 atomic bombs available at the start of play.

4. The Soviet player may use both his naval and submarine units to attack NATO trans-Atlantic shipping. In this scenario, both sides should use the following naval strengths

	Ship	Carrier
United States	8	4
Britain	6	2
France	3	1
Italy	1	0
Soviet Union	2	0

Allied fleets base in their home country; American fleets must base in any friendly port. As an alternative to this original deployment, the US may place one point each of ship and carrier units in hexes L8 or J11 or E15 at the start of the scenario.

5. The Soviet player uses the German submarine units and is bound by all rules governing use of submarines.

6. Neither player may build fortifications other than those which begin the scenario in place.

7. The Suez Canal rule is applied to the Soviet player should he capture it.

8. If the players wish to use the optional Leaders Rule, the Soviet player receives one and the NATO player two.

9. Sweden, Saudi Arabia and Switzerland are neutral throughout the scenario and may never be attacked by either player.

10. Soviet sea transport may take place between French and British ports in addition to other areas where Russia may normally conduct sea transport as listed on the Sea Transport Table.

11. NATO strategic bombers appear at bases on Turn 2 and may commence bombing that turn. Bomber strength points may be allocated between these bases as the NATO player desires.

12. The NATO player may begin using atomic bombs at the start of Turn 2. All atomic bomb attacks against enemy army or fleet units are resolved in a different manner than those made against production hexes. All atomic bombs against an army or fleet are conducted on the *Firepower Table*, with all die rolls modified by −1 and all losses mandatory. Players are reminded that the NATO player may make only 10 atomic bomb attacks through the course of the scenario's 12 turns.

13. Partisan warfare may be used against the Soviets, but only outside Soviet Russia.

14. The NATO player has reserves in both the United States and Canada. The US Army reserve has 12 TacAir, 2 Para, 5 Mech, 10 Inf and 3 Amphib available for transport; Canada has 1 Inf. All reserve strength points must be sent to Europe by sea.

OPTIONAL RULES

If players feel that the scenario is unbalanced after playing it through, they may mutually agree to reduce the length of the game to eight or ten turns. Yet another method of balancing the scenario is to let the Soviets begin the game at tech level "6" and with one atomic bomb. In this case, allow the Russian player to place one bomber and one bomber base at the start of the game; the Soviets may deliver one atomic bomb attack through the course of the game. Yet another option would give the Soviets the advantage of *strategic surprise* (although that is historically debatable); in this case, double all NATO losses on the first turn only. Any of these will have a radical effect on play of the scenario. This situation lends itself to experimentation, and players should make the most of it for further enjoyment.

Players are cautioned not to go overboard in trying to balance the scenario, since at the beginning of any such conflict each side would have unknown strengths and weaknesses. Initially, the Soviet forces would be very difficult to halt. Only after the US and NATO forces mobilized their mothballed armies and navies could they seriously contend with Russia for domination of Europe and the Middle East. And, of course, the atomic bomb would have affected all decisions made by both sides.

Sources consulted in devising this variant include:

Braken, Paul. *The Command and Control of Nuclear Forces* (New Haven: Yale University Press, 1983).

Brown, Anthony — Ed. *Dropshot — The American Plan for World War against Russia in 1957* (New York: Dial Press, 1978).

STALIN'S WAR
SET-UP AND SPECIAL RULES

WARSAW PACT FORCES IN PLAY

Unit	Location	Inf	Mech	Para	Tac Air
Leningrad	T15	40	20	3	20
Moscow	Q17				
Kiev	N14				
Caucasus	K19				
Southwest	K13				
Northwest	P10				
West	O11				
White Russia	N11				
1st Ukrainian	M12				
2nd Ukrainian	L11**				
Siberia	Siberia*				

Place at least one strength point in each Soviet Army indicated.

Fleets in Port — 2 strength points (one each in T15 and K17)

U-boat in Port — 8 strength points (use German submarine counters)

* — See special rules for use of the Siberian Army.

** — The 2nd Ukrainian Army represents the Yugoslavian Army; it may only enter Yugoslavia, Italy, Greece, Hungary, Bulgaria, Rumania and European Turkey.

NATO FORCES IN PLAY

Unit	Location	Inf	Mech	Para	Tac Air
1st Canadian	N9	1			
7th US	N10	5	2		4
1st French	N7	2	2		
4th French	F6	3		1	
1st British	O10	3	2		2
5th Allied	P9	2	2		2
Italian	L10	1	1		
2nd British	H20	2	2		3
8th British	E17	1	1		3

Fort	Location	Fort Strength
No. 1	O6	5
No. 2	K10	5

Fleets in Port — See special rules for NATO Fleet strength and basing. NATO has 3 ASW available.

NATO has *Bombers* available.

Place bomber bases in following hexes (use British/German forts to represent): D11, D15, D19, F3, G17, J11, L10, O6, P7 and Q8.

SOVIET-FRIENDLY AREAS AT START

Soviet Union
East Germany (all hexes of Germany east of and including Q11-P10-N11)
Poland (including hex Q13)
Baltic States
Hungary
Rumania
Bulgaria
Yugoslavia
Albania

SOVIET PRODUCTION AT START

34 points (Siberian production is fixed at 8 points per turn)

FIRST TURN-LAST TURN

Summer 1948 — Summer 1950
Soviets move first, then NATO.

NATO-FRIENDLY AREAS AT START

USA
Britain and all possessions
France and all possessions
Canada
Low Countries
Italy
Denmark
Norway
Portugal
Egypt
Sardinia
Corsica
Cyprus
West Germany (all hexes of Germany west of Q11-P10-N11)

NATO PRODUCTION AT START

54 points

NEUTRAL COUNTRIES

All other countries are assumed to begin play neutral. Both Turkey and Greece are pro-NATO and will join NATO if attacked by Soviet forces. All countries, including Turkey and Greece, are governed by the *Unaligned Forces* rules and use the army strengths found in those rules. India is also considered neutral, and may not be attacked.

VICTORY CONDITIONS

1. NATO player wins by capturing or eliminating (by atomic bombing) all three Soviet capitol hexes by the end of the game *and* eliminating all Soviet armies.

2. Soviet player wins by capturing *all* production hexes in Norway, Finland, Germany, France, Italy, Spain, Greece and Turkey *and* eliminating at least seven NATO bomber bases.

3. If neither player is able to achieve both his victory conditions above, the scenario ends in a draw.

☆

V. Game Length

30 Turns, Day Scenario

VI. Special Rules

The *Tally Ho!* has seven torpedoes loaded in the bow; no reloads are available. The British submarine may commence play at any depth. The water depth on Bd A is 125 feet, on Bd B 100 feet, and on Bd C 75 feet. *Tally Ho!* may rest on the bottom, but must be at least 25 feet above the bottom if any movement is plotted.

Kuma's moves are plotted as usual, with the except that the CL must move in a straight line until it enters any hex on Bd B, whereupon a 60-degree left turn must be made at some point so that the ship remains on Bd B for the remainder of the scenario.

SCENARIO B11
STILL ON PATROL

I. Introduction

Only three British submarines were lost in the Far East. One of these, Lt. Cdr. Pelly's *Stratagem* was caught in shallow water in the Malaccan Straits by Japanese destroyers on 22 November 1944. Damaged in the initial attack, her position was given away by leaking oil from her external fuel tanks (fitted as an economy measure). Finally forced to the surface, only eight men escaped from the wreck. Service in the beautiful Pacific had its dangers as well.

II. Order of Battle

1. British Player—*Stratagem*, Class S, Type 2

2. Japanese Player—*Hama*, Class Matsu
   Ukuronawa, Class Matsu

III. Starting Locations

1. *Stratagem*—within ten hexes inclusive of M29, Bd B, any direction

2. *Hama*—M29, Bd A, any direction
   Ukuronawa—M29, Bd C, any direction

IV. Victory Conditions

The Japanese player must sink the *Stratagem*, regardless of his own losses. Any other result is a British victory.

V. Game Length

12 Turns, Day Scenario

VI. Special Rules

The *Stratagem* has all bow torpedo tubes loaded; no reloads are available. The British submarine must commence play at 25 ft. depth, and may change depth freely after the first turn. Note that water depth on Bd A and on Bd B is 100 feet, on Bd C 125 feet.

SCENARIO B12
A BLOODY NOSE

I. Introduction

Before leaving the Mediterranean, *Shakespeare*, under Lt. Ainslie, had had a good run and sunk the Italian sub *Velella* only minutes before the Italian surrender in 1943. In action against the Japanese, however, she got rather more than she bargained for. On 3 January 1945, an unescorted 700 ton merchant was sight-ed off the Andaman Islands. Having missed with torpedoes, the stubborn British decided to surface and attack with the 3″ gun. The freighter fired back but was getting the worst of it when a Japanese sub chaser answered her call for help. Just as *Shakespeare* was readying to dive to safety, a 12-lber. shell penetrated the pressure hull and they were forced to fight it out. The freighter was soon left burning, and a hit on the sub chaser's engine room brought it to a standstill. But *Shakespeare* had taken four hits and was unable to dive. The battered British made their escape while they could. As she limped towards Ceylon, the submarine fought off some 25 air attacks, none of which sent her to the bottom.

II. Order of Battle

1. British Player—*Shakespeare*, Class S, Type 2

2. Japanese Player—C2 Merchantman
   Sub Chaser, Class 28

III. Starting Locations

1. *Shakespeare*—N50, Bd B, Dir. 6

2. C2 Merchant—N30, Bd B, Dir. 6
   Sub Chaser—Enter on Turn 6 from any mapboard edge

IV. Victory Conditions

The British player must sink the Japanese merchant ship, or make both Japanese vessels "dead in the water", without losing the British submarine. Any other result is a Japanese victory.

V. Game Length

20 Turns, Day Scenario

☆

Dear Editor,

This is my first letter to the Avalon Hill Game Company, and the praise for your wargames contained herein is long overdue. From my first purchase of the *BATTLE OF THE BULGE* about eighteen years ago to my most recent purchase of *ADVANCED SQUAD LEADER*, I've spent countless hours enjoying your games as well as informally learning much military history. The quality of your game components, mapboards, and rulebooks makes me reluctant to purchase wargames by other manufacturers; their products never measure up.

Specifically, my most recent purchase of the *ASL* system is extra special; the attention to details, the many aspects of WWII tactical infantry/armored combat covered, the flow of play, and the organization of the rulebook make this system my most enjoyable gaming experience time after time. This game is a bona-fide homewrecker! I hope in the future detailed unit compositions are published, as well as additional *Deluxe ADVANCED SQUAD LEADER* modules; the larger boxes are fantastic. However, I do object to Avalon Hill's insistence on *SQUAD LEADER* as a pre-requisite to *ASL* since I consider the *ASL Rulebook* clearly written and I never played *ASL*. In fact, a friend of mine who has spent many dollars and hours on the *SL* system, and owns *ASL*, cannot play *ASL* as well as I can.

Finally, I would like to make several comments regarding Robert Medrow's article "First Impressions" about *ASL* in Volume 22, Number 6 of The *GENERAL*. Firstly, anyone requiring the "probability" course contained therein is going to have a heck of a time calculating final FP and DR modifiers considering the numerous modifiers which exist as well as their simultaneity. This section of the article seems like a page filler to me.

Secondly, I protest the wimpish recommendations for leader usage in the "Leaders and Followers" section of the article. The statement regarding leaders of 9-1 quality and lower as having little effect on the survivability of other units is ridiculous; a unit unable to double-time but stacked with an 8-1 leader is better off than a similar unit without the 8-1 leader, when during the Movement Phase the fomer continues its advance into the distant stone building and the latter must lag behind in the woods due to lack of MF. Also, pity the player who by timid use of his 9-1 or lower leaders finds his squads numerous hexes short of their objective at the end of the scenario (keeping in mind a squad stacked with a leader can move further than a squad without a leader, even when double-timing). Having all your squads survive a scenario is little consolation when the enemy still controls your objective at the end.

Thirdly, although readers of the article must surely appreciate Bob's efforts in creating the numerous tables, how many readers gave them more than a glance? Why not read the Manahattan phone book? By merely examining the IFT, even novices can realize that negative net DR modifiers and low original IFT dice rolls are always effective, and a large FP attack has a greater chance of causing harm than a small FP attack. These obvious IFT characteristics are easily stated in a sentence or two; the tables seem unnecessary.

In conclusion, I feel Bob Medrow's article does not help *ASL* players at all. In fact, players should be wary of the article's recommendations. Instead of the article subtitle, "Infantry Training", "Useless Computer Data Dump" would have been more appropriate. In the future, I hope The *GENERAL* will refrain from such self-indulgence by its staff, and publish more informative articles regarding the finest of WWII tactical combat game systems.

Ken Kloby
Hackensack, New Jersey

★ ★ ★ ★ ★

Dear Mr. Martin:

I would like to share some thoughts on *ASL*. Firstly, as to whether or not the game should have been made, I'd say yes. I own *SL* and its gamettes, but just recently started learning the game system using Bob Medrow's article "Getting It Together". Being halfway through the scenarios and rules, I've already seen some of the flaws that *ASL* rectifies. I've only read *ASL*, not played it, but it looks like it will work better. Mr. Greenwood mentioned in an AH Philosophy that *SL* and its gamettes were based on a "flawed foundation".

Secondly, on the physical aspects of the *ASL* manual, it's beautiful; but I have a couple of sug-

gestions. I have a lot of experience in using manuals because I work in the data processing business. The *ASL* manual needs something that I call "paper-pushers" (because I don't know the technical term). These are plastic or stiff cardboard pieces inserted at the front and rear of the binder, on the rings, just like a page. They are as long as a page, but only four inches wide or so, and slightly curved. Whenever the binder is closed, the paper-pushers lift the pages with them, thus preventing the pages from being pinched between the rings and the binder cover. This pinching is the main cause of hole destruction.

Speaking of hole destruction, it is my opinion that all the pages should be reinforced. Before I did, I found hole distortion occurring even on the center pages. I heartily recommend spending time searching for the extra thin reinforcement rings. It took me calls to three office supply stores before I found them in the right size (I suspect that *ASL* holes are not standard punch size). If it helps anyone, I used Avery transparent, gummed (no licking) reinforcement rings (#CM909, 600 for $5.95 Canadian). These do not noticeably increase the thickness of the pages. I'm curious to know if TAHGC considered manufacturing the pages with the holes already reinforced. I've seen this done, but I have no idea of the cost. It does take an awful long time to reinforce all those holes.

Thanks for your time.

Michael Rodgers
Pierrefonds, Quebec

★ ★ ★ ★ ★

Dear Mr. Martin:

I applaud and wholeheartedly commend your staff with their *best* issue of The GENERAL ever (Vol. 23, No. 1). This issue covered a vast area of titles and interests, by far more than any issue I can recall (I've read each article three times).

I was extremely pleased with Mr. Porter's article, "This is no Drill", and am overjoyed that someone finally acknowledged the presence of anti-aircraft fire in a naval game such as *VITP*. To me nothing—and I mean nothing—upset me more than to have to flee a sea area with a five-ship battleline just because a stupid little 2-4-* air force was present. Two points not brought out: The presence of a CAP (Combat Air Patrol) that was found over every carrier, even while conducting attacks. The second was that carriers also conducted joint operations where all or a portion of the aircraft from one carrier attacked targets along with those of another.

One last comment. I would've rated your 23-1 issue as perfect; however, I feel that you could've had the logs and map for the 15th AF variant to *B-17* as inserts. I still haven't been able to bring myself to cut up this marvelous issue.

Nick Minford
Grand Forks AFB, North Dakota

The insert of Vol. 23, No. 1 was one of those instances where I had to make a tough decision. Unfortunately I couldn't crowd both the B-17 variant material and the DAUNTLESS variant material on one insert. And I was loathe to leave out either article, given the theme of the whole. So, since the new aircraft cards so nicely fit, I placed the 15th Air Force charts and map in the magazine proper. Sorry for the inconvenience; perhaps a second copy would serve for Mr. Minford to "cut up".

★ ★ ★ ★ ★

Dear Editor:

I enclose my review rating for the *ASL Rulebook*. I have given it the highest rating for each category.

When I first received the rulebook and began attempting to digest the rules, it appeared to be a truly monumental task. However, once I set up the first scenario and began playing it, it moved along fairly quickly when I only had to check specific rules where I had questions. As I play, with each repetition, the new rules become more mechanical and second-nature.

The excellent index to the rules makes locating the specific rule very simple. These rules are

far more complex than the *SQUAD LEADER* rules and have very few ambiguities. The charts and player aids are the most remarkable new addition, however. They are so complete and contain so much information that they answer most of my questions during the course of play, so that I now only rarely need to check the rulebook itself.

The change in the armor rules has created far more realism. It is harder to eliminate enemy AFVs using the new rules. The better-armored AFVs are now practically, and realistically, invulnerable to lower caliber weapons. The Germans' 37mm AT gun has been relegated to its true "doorknocker" status.

Hats off to all those who have contributed to this outstanding set of rules.

J.B. Reelie
Tacoma, Washington

★ ★ ★ ★ ★

Dear Sirs,

Thank you very much for a great magazine, and a great issue [*Vol. 23, No. 1*]. Keep up the good work.

Now to a small complaint. I was very pleased to see the inclusion of the variant map for *B-17*. However, why didn't you make it an insert or print it on the opposite side of an advertisement?

Also, I wonder why you only accept the coupon included in The *GENERAL* for purchases of complete games. I have some $40.00 worth of coupons but can't use them towards purchases of parts and accessories that are hard to obtain here. Complete games I can buy as cheap from my "local" store in Sweden as if I ordered directly from you.

Lars Hellsten
Abo, Finland

At one time, we did allow application of the postage coupons toward shipping for parts and accessories. But, many times orders for such were considerably less than $10.00, yet folks kept deducting the full amount from their order—or demanded that we "keep track" of the surplus. This attitude created many problems for our shipping staff. Some time ago, the policy was changed to avoid these hassles. It is unfortunate that the coupons now only apply toward purchase of complete games, but this seemed the only reasonable solution to our quandry.

★ ★ ★ ★ ★

Dear Rex:

I'm writing to express my concern over the direction that some of the *GENERAL*'s articles have taken, and their impact on the hobby. My specific beef is that many of the articles stifle imagination and experimentation while promoting the "perfect" or "textbook" style of play.

I go back to the year 1960; little Lindsey is nine years old and gets his first wargame, *D-DAY*, for Christmas. Over the next eight years, before buying *WATERLOO*, *ANZIO*, *BULGE* and *1914*, this game gets played about 300 times. Every beach is invaded six ways from Sunday; campaigns are fought with and without a second invasion; "house rules" for command control were developed, so that HQ units had something to do besides get in the way; armies were formed and reformed in literally hundreds of variable combinations; etc., etc.

Now I ask you. What would little Lindsey do today? Well, he would look up an article in The *GENERAL* in which he would find the Allies' chances of victory for each invasion site calculated out to four decimal places, along with a diagram showing how each German unit should be set up in the defense, and step-by-step instructions on how to conduct the first three turns of the game. So, now the game is played twice, and then put on the shelf to collect dust because it has now been conclusively proven, beyond a shadow of a doubt, that one side or the other cannot possibly win unless 28 straight "1's" are rolled (and this probability has been calculated out to *six* decimal places)! Gee, some fun, huh?

This problem has always existed, but the reality of it has been intensified for me recently

because of my situation. I live in the "outback" (as they say), and the number of live (relatively speaking) opponents can be counted on the thumb and forefinger of one hand. Unfortunately for me, they are also magazine subscribers. It seemed that every time I played a game, they would say, "I read the article in The *GENERAL*." Naturally, no one enjoys getting drubbed all the time, and it is the spirit of competition that makes us play these games in the first place, right? So, what have I done? The *exact same thing*! As a case in point, I am scheduled to play *RUSSIAN FRONT* in the near future, for the first time. No sooner did I have the counters punched, than I had that *GENERAL* article out and I was setting up the Russian defense and the German attack "by the numbers", as shown in the marvelous three- and four-color illustrations. After three turns of solitaire play, the "magic" was gone already.

The point I'm trying to make is that I feel cheated. Gone are the hours of experimentation —and enjoyment—that I experienced with *D-DAY*. It is now, "Everything you need to know condensed into six pages". But, if I ever hope to win another game, I must, of necessity, resort to the same tactics. Some of the worst gaming experiences of my life were against "Third Reichies", who came armed with calculators and looseleaf binders full of turn-by-turn analyses of factor allocations and BRP expenditures. Those games were about as enjoyable as poison ivy. I know you will say, in your defense, that you cannot control the individual gamer's style or habits, and that you are engaged solely in a most noble endeavor to promote greater understanding of your products, and to expand the consciousness of players in general. That's fine, but can you guys *honestly* say that you are "proud" of the style of play that some of your articles promote? Can you deny that such articles propagate the population of nerds, rules lawyers and calculator kooks? Can you deny that those articles may, in many cases, result in reduced playing time for your games, because what used to be learned in hours is now read in minutes?

Be honest now, and 'fess up. You know as well as I do that some games just don't offer many possibilities. For example, are you old enough to remember the last time the Union lost *CHANCELLORSVILLE*, the Germans lost *FRANCE '40* or the Skinnies won a scenario in *STARSHIP TROOPERS*? Probably not. The point is that some games aren't too well balanced to begin with, and then you guys make matters worse by printing the "perfect" setup and strategy. It's no fun playing a game when you know that you can't win. I just finished playing *BULL RUN* for example. That is a perfect exemplification of a "use the defense printed in The *GENERAL* and you can't lose" game. Result: it was probably the first and last time that game will ever come off my shelf, unless I dump it at ORIGINS next year.

I've spent so much time on the negative, I should now devote some to telling you what I *do* like. I do like tactical and strategic advice in general terms (no pun intended)—e.g., "the main thrust should be in the north" or "the terrain in the center is not well suited to mechanized operations". I do like Series Replays, historical data, questions and answers, and anything else that will enhance my understanding of a game. But gimme a break! Now that you've given me the perfect defense, the perfect assault, *pictures* showing me where to place my units, and all such, you might as well stop by the house and roll the dice for me too.

You are much more knowledgeable than I when it comes to the magazine business. Even though The *GENERAL* is a house organ with a critical audience, I imagine that there are a lot of things you can do with it. I don't know— maybe those are the kinds of articles it takes to sell more magazines; maybe those articles are what the public *is* clamoring for. I, for one, would rather see less specific articles that may offer some advice and examples of play, but would stop short of holding all the way to the bathroom.

Lindsey Murillo
Nuremberg, Pennsylvania

Over the past five years, I have striven to give each of our many types of readers some articles of interest. There are those who do enjoy the "perfect plan" articles, studying them for flaws and analyzing the strengths of each aspect. So, if a solid "perfect plan" article is submitted, it will likely see print at some point in these pages. Of course, I should note that I don't believe in "perfect plans"—for every perfect plan, there is a perfect counter-plan!

TOTAL KRIEG
NBC IN BLITZKRIEG
By Robert D. Harmon

As complete as it is, some aspects of modern warfare have been omitted from *BLITZKRIEG '75* (and its revision as "BLITZKRIEG '85" in Vol. 21, No. 6 of The *GENERAL*). The current game offers an accurate overview of European-type, conventional warfare in the last third of the 20th Century. Yet, however, another European war may very well feature an added dimension — *NBC* (Nuclear-Biological-Chemical warfare).

The rules that follow, like their real-life phenomena, are optional. A game scenario of the 80's technology is assumed.

54. NUCLEAR WEAPONS:

Both NATO and the Warsaw Pact have made no secret of their stockpiling, not only of strategic nuclear weapons, but of a newer generation of tactical warheads. These tend to have yields of a half-kiloton (KT) or less and appear in sizes down to 155mm. The temptation to resort to low-KT weapons may prove irresistible, especially with the advent of neutron (low-fallout) weapons.

Nuclear weapons have three major effects: thermal (that is, the visible light and heat emitted from the fireball), blast and radiation. Since tactical weapons will probably be set for air rather than ground-level burst, residual radiation will be minimal. Air bursts would still produce, and even maximize, the effects of blast, heat and initial radiation.

Electromagnetic Pulse (EMP) is the fourth effect of a nuclear explosion. An atomic bomb emits a wide spectrum of "radiation" — visible light, heat, nuclear radiation, and in this case radio and electromagnetic impulses at random. An EMP is usually sufficient to scramble or damage most radio, TV, microwave, computer and transistorized equipment over a vast area. Armored units, for instance, though best able to withstand blast, heat and radiation, would still be debilitated by EMP.

Nuclear effects on the *BLITZKRIEG* mapboard are planned for a standard area — the "hex". Since a Soviet motorized rifle division currently attacks on a 10-16 kilometer frontage, and can defend up to 45 kilometers, the mapboard (and units) are presumably geared to 30-kilometer hexes. Thus, nuclear effects on the *BLITZKRIEG* map are less than you'd think, given such large areas.

As to general nuclear effects, given a weapon equal to 1000 tons of TNT (or 1KT), some radiation fatalities would occur out to 800 meters. Thermal and blast effects would be more significant, and personnel in the open, even at a kilometer from "ground zero", would still experience burns and a blast wave equating to 100 mph winds. Personnel in buildings and armored vehicles would be protected from much of this, given reasonable distances from ground zero. Communications would be disrupted, and ground zero itself would remain "hot" even if no fallout was released.

Incidentally, those wondering about "vaporization" would be disappointed. The fireball would be only .04 mile in radius (or 420 feet in diameter) and would be well off the ground anyway. So, in a 30-kilometer hex, the fireball would not be as important as the four effects just described.

American and Soviet policy alike is in that initial use must be authorized at the highest political level (i.e., the White House or the Politburo). The United States would grant this permission as authority to use a "package" — numerous weapons — in a set time-frame and area, usually a corps sector. Soviet doctrine may well parallel this, but is unclear at the moment.

Nuclear weapons in "Total Krieg" are tactical. Strategic (thermo-nuclear) weapons are separate, with unique delivery systems. The two major nations in this game can be assumed to possess a number of thermo-nuclear warheads on ICBMs; these would be strictly controlled by the political leadership. The players, as field commanders, will not control these as they are outside the purview of the game.

54.1 Delivery systems and effects are as described in the accompanying *NBC Effects Table*.

54.2 When any nuclear attack occurs, the *NBC Repercussions Table* must also be rolled, once for each attack, using two dice. The effects and repercussions are implimented immediately.

54.3 All nuclear attacks must be written one turn in advance, during the friendly Movement Phase for the player. Attacks occur on the following turn, during the opponent's Combat Phase. Written attacks must specify, for each attack:

54.31 *The weapon desired* as shown on the NBC Effects Table.

54.32 *The number of packages* requested that turn, for each attack. No more than six packages per turn, total per player, are allowed. Thus, in effect, 12 packages can be dropped in one full game turn, with no limit on the number of turns that this can continue.

54.33 *Target areas*, written as a single-hex coordinate. That hex, and a radius of two hexes around it, constitute the "target area". The number of packages in the area, up to two maximum, must be specified. No more than four target areas may be designated for a given turn, and these areas may *not* overlap.

54.34 *The turn of attack*, for attacks may be plotted more than one turn in advance (although the limit of six packages in any single turn is still enforced).

54.4 When attacks are made, they must be delivered exactly as written. Particular attacks may be partially or wholly aborted at the time of the attack, and is the only deviation allowed from the written instructions. Attacks may occur anywhere within the target area, as declared by the player at the time of attack.

54.5 If a delivery system — SAC, for instance — assigns more factors than needed to deliver the package, then the last factor destroyed can be assumed to have the nuclear weapons (e.g., a SAC half-unit out of an original two units on the mission). The escort rule (32.4) continues to apply, except that unescorted bombers *never* employ nuclear weapons at half-effectiveness (contrary to the ACT notes). If they get through, too bad.

54.6 If a bomber force is whittled down to less than the minimum number of units (as cited on the NBC Effects Table), the mission is aborted. This is on a weapon-by-weapon basis, and applies mainly to chemical missions. One bomber factor is sufficient to drop a nuclear warhead.

54.7 All nuclear weapons assigned to a target area can be dropped in any of that area's hexes. *Each* nuclear weapon must be used on no more than one hex; however, all weapons in the package can be concentrated on a single hex.

54.8 The player receiving a nuclear attack may himself request one package or more for the next turn. Failure to complete a "retaliatory" nuclear strike of not less than one package will require the player to roll on the NBC Repercussions Table on the *Failure* line at the end of the second friendly Combat Phase after the nuclear attack.

54.9 The Night Bombing mission may *not* be used for nuclear attacks. (All-weather radar and fighters would certainly react, as effectively as in daylight given the '80s technology.)

54.10 No NBC attacks are allowed in sea or lake hexes! Also, only delivery systems named by the NBC Effects Table may ever be used.

55. CHEMICAL WEAPONS:

Chemical weapons are a reality on today's battlefield. First used in 1915, toxic gases have appeared as recently as 1980 in Afghanistan. Over 100,000 full-time chemical personnel serve in the Soviet forces; the Warsaw Pact regards chemical weapons as an integral part of conventional warfare.

Chemical weapons — specifically toxic chemicals used in battle — can be delivered by aerial spray, airdropped aerosol containers, or, more likely, in shells and barrage rockets. These are local in effect (within a single *BLITZKRIEG* hex) but can be used wholesale to support (or stop) a general offensive.

Chemical warfare is more cumbersome than nuclear warfare, even given the potency of certain nerve gases. Given one of the most deadly — "Sarin" (nerve agent GB) — and ideal weather conditions, the results of a sample attack would be surprising. Under such conditions (little or no wind, an inversion layer, 50 degrees F, no rain, open country), 1150 rounds of 155mm shells would be needed for 50% casualties. And that's in a 100-hectare area (a *BLITZKRIEG* hex encompasses about 600 hectares). An entire artillery division would have to be dedicated, and that's under ideal conditions. Other agents or other chemical weapons would require even greater concentrations.

Chemical weapons appear in the following varieties:

a) *Nerve Agents*, which attack the nervous system, usually kill by paralysis of the lungs. Nerve agents require only one drop to kill, whether breathed in or absorbed through the skin. Symptoms, often slow to appear, may not begin until after the damage is done.

b) *Blister Agents* are mustard-type gases which inflame and burn the skin, eyes, lungs (and can be fatal in the latter case). Blister agents cause fewer fatalities, but cause many casualties nonetheless, burdening the medical services heavily. Recovery will be slow, and the mustard-gas victims may be out of the war for good. These gases, and the choking agents, accounted for one-quarter of all World War I casualties.

c) *Choking Agents*, such as phosgene and chlorine, damage and flood the lungs when breathed and are potentially lethal.

d) *Blood Agents*, cyanide-type gases, interfere with oxygen absorption in the blood stream. These enter the body through the lungs and kill rapidly. Blood agents also attack gas mask filters, rendering them ineffective.

Non-fatal agents occasionally appear on the battlefield, as tearing, incapacitating, or vomiting gases.

NBC EFFECTS TABLE

WEAPON/ PACKAGING	TABLE	DELIVERY SYSTEM(s)	MIN # OF UNITS	CITY EFFECT	GENERAL EFFECTS
Chemical — Persistent	BBT (AF×2)	MDM/BA	1	SRIX, RCX, PX	No friendly unit may enter on turn of attack. Surviving enemy (other than 2 DF decon) MUST leave. Target hex is contaminated. All effects lift upon decontamination.
Chemical — Nonpersistent	BBT AF×2) — MDM/BA or TGAT+1 — TAC/BA		1 1	SRIX one turn.	Friendly/enemy units may enter hex freely. No contamination.
Neutron (1 package)	BBT (AF×2)	MDM/BA	1	SRIX perm.	Friendly units may advance through hex. No contamination.
Tactical Nuclear (½ package) .5-50 KT	n/a	SAC/MDM/BA	½	SRIX, RCX or PX perm.	Eliminate one ground unit OR all air units in hex (attacker's choice). Attacking ground units may not enter that turn; surviving defender units must retreat 2 hexes. Contamination is present; no units may enter till attacker's next movement phase; contamination lifts automatically.
Theater Nuclear (2 packages) 100-500 KT	BBT (24)	SAC	½	SRIX, RCX & PX	Friendlies may not be adjacent during attack. Surviving enemy retreat 4 hexes. Same contamination effect as Tactical Nuclear above.
Thermonuclear 1-25 MT		NOT USED BY PLAYERS.			
Biological	n/a	n/a	0	SRIX perm.	Affects target hex and all hexes two or less away. All units in affected hexes eliminated. Contamination last four full turns or till rain; contaminated cities are RCX during contamination.
Chemical Decontamination		Persists indefinitely. Removable by placing 2 DF in hex for one full turn (invert unit). Decon unit removes contamination unless attacked or eliminated; decontamination is complete at end of friendly movement phase when decon unit spent ENTIRE phase without moving. Any other ground units entering or failing to evacuate hex rolls 16 column on BBT upon ending movement. Air units in a contaminated hex must leave and may not fly any combat missions that turn. Air units may fly over, but not land, in contaminated hexes.			
Nuclear Decontamination		None, contamination lifts at start of attacker's next movement phase. Any unit entering before then rolls the 20 column on the BBT (once per stack, or unit, as they move through).			

NOTES TO NBC EFFECTS TABLE

ABBREVIATIONS:

BA — Breakthrough Artillery
AF — Attack Factors
TGAT+1 — Shift TGAT one column in attacker's favor
Package — This is PER ATTACK.
KT/MT — Provided for scale. No effect in game.
Neutron — Each package represents several warheads. Necessary on a map of this scale. Each *attack*=1 package.

SRIX, RCX, PX — See Rule 33
DF — Defense Factors
AF×2 — Multiply AF by 2, including BA AF (1 BA Div×2=16)

These are rarely found in military hands and are generally left to the civil police, outside the *BLITZKRIEG* player's consideration. "Chemical" weapons, as termed, don't usually include flame weapons. Such weapons as napalm, white phosphorus, flamethrowers and starshells are integral to conventional operations and are not classed with the more "uncivilized" poison gases. The distinction is moot.

The varied toxic agents fall into two tactical classes. *Persistent* agents are those which contaminate an area for days or weeks; these include all blistering, and some nerve, agents. *Nonpersistent* agents are those which disperse or lose potency quickly (but need very little time to kill); these number some nerve agents, and all blood and choking agents.

Military planning hinges on these two classes in an NBC environment. Areas that friendly forces might enter would get non-persistent agents, so that an offensive would not be impeded. Enemy rear area targets, such as road junctions, munitions dumps, airbases or missile sites would face contamination from persistent agents.

These two categories are shown on the NBC Effects Table. Persistent attacks, on the chart, include combinations of persistent and non-persistent agents. All varieties of chemical weapons are narrowed down to these two classes, for simplicity's sake. On the *BLITZKRIEG* game scale, effects on units would not only include casualties, but the attendant disruption and manpower diversion as well. Clean-up after persistent agents would be as damaging as losses, for the decontamination of equipment, personnel, and buildings would require

much of the survivors' time and much specialized equipment as well.

Some units would be more resilient. Tanks, armored personnel carriers, and self-propelled artillery would be able to button up and avoid some of the hazard (especially with internal mask systems for the occupants). Vehicles in artillery, infantry and airborne divisions would be mostly wheeled and lack NBC protection.

Forces in a chemical environment, including many untouched by direct attack, would have to don protective masks and clothing and have to work and fight in them. Fatigue and heat exhaustion would be rife within hours, and soldiers would find usual activity (eating and other acts of nature) to be personal crises. Civilian populations would not be so

protected, and occupying armies will thus have a further drain on medical resources, not to mention the loss of war production or the roads clogged with desperate, panicky refugees.

55.1 For delivery systems and effects, see the NBC Effects Table.

55.2 Players may use chemical weapons during any attack, including AVs during the Movement Phase (non-persistent agents *only*). Any use of chemical weapons will require a roll on the NBC Repercussions Table for each attack. Effects and repercussions are immediate.

55.3 Rule 25.3 still applies — only one BBT attack of any sort may be made against a single hex on

BIOLOGICAL ATTACK TABLE

DIE ROLL	RESULT
1-4	EPIDEMIC. Attack succeeds; results are as determined by NBC Effects Table. Defender must remove four infantry or airborne units from board immediately (equivalent substitute units are acceptable), to be returned as reinforcements on the defender's turn AFTER contamination ends. Defender also forfeits air transport on the first turn of contamination.
5	BOOMERANG. Infection spreads to attacker's forces: nearest attacker-occupied city is contaminated. Same results to attacker as above and as found on NBC Effects Table. Defender suffers same effect as EPIDEMIC result above.
6	PANDEMIC. Epidemic breaks out of control and spreads throughout Continent. Five percent of human population survives, none of it as an organized society. The game is over.

a given turn. If the BBT attack was with non-persistent agents, units may advance more than one hex, up to the maximum allowed by the TGAT.

55.4 Players are each permitted *four* chemical attacks per turn. No advance notation is required. Only one attack is permitted per hex, or per city, per turn. Chemical attacks only affect one hex (or one city) each.

55.5 Failure to retaliate to chemical attack is punishable with a roll on the "Failure" line of the NBC Repercussions Table. The attacked player must roll at the end of the next friendly Combat Phase if he has failed to make at least one chemical attack. Retaliation need not occur in the same locality.

55.6 Persistent agents (only) may be employed against a vacant hex, with contamination being automatic. This still constitutes one attack, but there are no defending casualties unless units enter the hex later.

55.7 In a target hex, armored units take chemical losses *last*, after other units are eliminated (air assault units are considered armored). When armored units are eliminated, they suffer losses equal to *half* the remaining BBT/TGAT losses (fractions rounded up).

55.8 Rule 54.6 applies to bomber chemical missions.

55.9 Weather rules, if used, do affect chemical attacks as described below:

55.91 *Fog:* Non-persistent agents now roll at +3 columns on the TGAT. BBT losses are doubled.

55.92 *Rain:* Negates all contamination.

55.93 *Gale, Ice, Snow:* No chemical attacks are allowed.

56. BIOLOGICAL WEAPONS:

Biological agents (i.e., "germ warfare") would hit war-weary populations very hard. Diseases employed against troops and civilians would be highly contagious and include ordinary and mutated strains of anthrax, Q-fever, encephalomyelitis, or worse. Detection would be difficult initially, and authorities would be slow to move to stop an epidemic which, once rampant, could attain the scale of the "Black Death". Even if a ready cure were available (usually not), distributing it in time under war conditions may not be possible.

Biological agents can be employed by one of three methods: aerosol or spray involving aerial disper-

sion; vector dissemination, which utilizes insect carriers (mosquitoes, lice, ticks, etc.); or covert dissemination, using espionage forces to introduce biological agents into water or food supplies. Beyond the obvious losses, the attacked nation would be forced to divert manpower to containment and decontamination attempts. However, the diseases could spread to the attacker's own forces, boomeranging through POWs and refugees.

Even the technical units would not be immune. To be sure, aircraft, artillery, and armor would be intact. But the crews would not be, nor the service and support personnel; and the equipment itself would require decontamination. There would be no rapid replacement of these units — even with reclaimed equipment. Biological warfare is the nightmare of every service, the single greatest threat that hangs over the modern battlefield.

56.1 One biological attack may be made per game, per player. Retaliation is manditory within two turns, but may be made with nuclear weapons (two packages minimum) rather than "in kind". Failure repercussions are rolled at the end of the second friendly Combat Phase after attack, if not.

56.2 A biological attack may be made against any hex on the map, and affects the target hex and all others within two hexes (except lake/sea hexes). If any part of a city lies within the affected region, all adjacent city hexes are affected.

56.3 Biological agents are rolled on the NBC Repercussions Table, and then on the Biological Attack Table, with results applied immediately. Biological agents are made during a player's Combat Phase, and do not require pre-notation.

56.4 Entry of a contaminated site of city results in immediate elimination.

56.5 Biological attacks may not be made during Rain. Rain also is considered to remove any biological contamination immediately.

56.7 Any hexes affected by a biological attack remain contaminated for four full turns after the attack, or until a Rain turn.

"Total Krieg" was written to show the effects and constraints of NBC, using the *BLITZKRIEG* game as a format. With nuclear and chemical weapons rife among the superpowers, and with nuclear proliferation even among the minor nations, the subject is timely. It remains a simulation, in the sense that player's options have been deliberately limited. NBC represents a global "Pandora's Box"; even if belligerents strive to limit NBC to tactical levels; and so, political authorities have kept these weapons under tight control. Indeed, the time delays and limits on employment of these weapons represents the only saving grace. But the artillery and bomber units of the superpowers will certainly have nuclear warheads and chemical weapons nearby in the next war.

The Repercussions Table is a part of the simulation mode. Though field commanders may profess to be apolitical, their decisions will not be. The chemical and biological agents are so potent, in fact, that simplification becomes necessary. It really doesn't matter which gas or microbe gets you, for they will all kill you just as dead. Thus, I discarded the fine distinctions between specific weapons in this variant.

These rules are intended to be used as a complete variant (i.e., if one rule or one NBC weapon is employed, then all are in effect or use). When any part of the unthinkable is possible, then nothing is too horrible.

So, if the Biological Attack Table, or the NBC Repercussions Table, represents a hideous risk, you'll have some concept of NBC. Pray that our heads of state think likewise.

NBC REPERCUSSIONS TABLE

ATTACK METHOD/ HEX	ROLL TWO DICE:										
	2	3	4	5	6	7	8	9	10	11	12
Nuclear/Country	N	N	M	M	A	A	M	M	N	N	U
Nuclear/City	U	U	N	N	N	M	M	N	N	T	T
Chem-NP/Country	E	N	M	M	A	A	A	M	N	U
Chem-NP/City	U	U	N	N	M	M	M	N	U	U
Chem-P/Country	N	N	N	N	M	A	M	M	U	U	E
Chem-P/City	U	U	N	N	M	M	N	N	U	T
Biological/Any Hex	T	F	E	N	O	O	O	N	E	F	T
Failure to Retaliate	T	Y	C	S	U	N	M	S	C	Y	T

NOTES:

Biological: Case "M" applies in all cases.

Failure: Cases "M" and "N" apply IN FAVOR of the player who failed to retaliate. Case "U" applies against the failing player.

Roll: This table is rolled by the attacking player, or the failing player, if that line is rolled. Respective player rolls once per attack; all effects immediate.

NBC REPERCUSSIONS TABLE COMMENTARY

A *Attack proceeds* as shown on NBC Effects Table; no other effect.

C *Coup.* Five units must be moved to the capital of the player rolling this, on his/her next movement phase. All surviving airborne and air assault units must be included toward this total. These units must then stay in the capital one complete movement phase after that. Failure to perform this requirement means immediate surrender by the new government.

E *Enemy army mutinies.* It may not attack during next enemy turn; all engaged units are eliminated immediately from enemy army.

F *Failed attack*; your agents caught in act. Attack has no biological effect, ignore NBC effects table. Enemy receives four inactive divisions (*or eight substitutes*), all of them infantry, on next enemy movement phase, over and above replacement rate. No more biological attacks allowed by either side; enemy need not retaliate.

M *Minor country* that is site of attack recognizes attacking player as "aggressor," other player as "liberator," regardless of previous status. If a player reverts to aggressor status in a particular country for the SECOND time on this table, country becomes permanently unfriendly to both players, regrading both as aggressors.

N *Nearest neutral country* to site of attack recognizes attacking player as "aggressor," the other as "liberator," without violation occurring physically. Does not apply if no neutral country bordered attacked country. Case M above applies automatically.

O *Political leadership overrules and cancels attack.* No effect; enemy need not retaliate; another attack can be made by player rolling this. Ignore NBCET.

S *Separatist movement.* Player rolling this regards following cities as unfriendly under rule 5: Blue player — D7, G4, I12; Red player — NN48, ZZ48, YY43. Rule 23 does not apply. Cities remain supply and critical-resource sources for owning player.

T *Thermonuclear attack* ordered by political leadership in both major powers. All cities in Red and Blue are no longer supply sources; all units therein are destroyed; no units may enter them, or the hexes adjoining them, permanently. Cities are permanently RCX, SRIX, PX (see rules 33 and 36). All supply and critical-resources rules take effect; all scheduled replacements and reinforcements are forfeited by both sides. The game continues under the usual victory conditions.

U *General uprising.* All cities in country being NBC-attacked (held by player rolling this) revert to "unreduced" status under rule 29.4, and must be reduced all over again. All garrisons lose one defense factor per city and must retreat two hexes. This roll not applicable if attack was against country not held by attacker; roll again, if so.

Y *Your army mutinies.* See case E above and apply it to yourself.

☆

SERIES REPLAY
BEYOND VALOR, Scenario 8

German Player—Don Chappell
Russian Player—Jim Blick
Neutral Commentator—Charles Kibler

Don Chappell and James Blick, both ex-Marine officers and both long-time ASL playtesters, chose Scenario 8 to highlight the best tactical game system on the market. Charlie Kibler, our artist and expert ASL player, was drafted to look over their shoulders and provide neutral commentary. In the last issue, the first four turns saw the German plan to mount a feint toward one bridge and rush toward another slowly unfold. In an exciting fourth turn, the Russian ATG crew—heroes of the Union all—dispatched the German PzIVJ and PSW. But the Germans seem poised on the brink of victory nevertheless. We resume the commentary with the Turn 5 actions.

TURN 5

German Player Turn

Serial	Event	Final DRM	DR	Result
	Rally Phase			
235	Wind Change Attempt		4	NE
236	R.G. (DM) rally with Eastonov	−1	8	Remove DM
	Prep Fire Phase			
237	SPW #EE, Metzler, G.Q. w/LMG fire on ATG crew—10 IFT		7	1MC
238	ATG crew—NMC		11	Breaks (DM)
	Movement Phase			
239	SPW #DD, G.P. w/LMG from 23U4 to 23P7			
240	R.K. fires on SPW #DD crew, G.P.—4 IFT	+2	12	NE
239A	SPW #DD, G.P. w/LMG conducts overrun on ATG crew	−1	4	1KIA
241	SW random destruction (C11.6)		6	ATG remains
239B	SPW #DD remains in motion in 23P8, VCA P9/O9			
242	StuG, G.O. from 20M2 to 23Q5, stops with VCA Q8/P5			
243	G.M. assault move from 20P5 to 20P4			
244	Halle, G.L. assault move from 20P5 to 20O6			
245	Truck #D from 20J2 to 23Y2, stops with VCA Y3/X2			
246	Blick, G.E., G.H., G.G. from 23V2 (BPM U3) to 23Q5			
247	Urban, G.I. w/MMG, G.J., G.K. from 23W2 (BPM V1 and T2) to 23S4			
248	Peopl, G.C., G.D. from 23U3 (BPM T2 and S3) to 23R4			
249	Oettl, G.R., G.N. use CX movement from 23S1 to 23P6			
250	Kindel from 23V1 (BPM T2 and S3) to 23P4			
251	Behr assault move from 23AA3 to 23Z2			
252	G.A. assault move from 23BB3 to 23AA3			
253	G.B. assault move from 23BB3 to 23AA3			
254	G.F. w/prisoners from 20J1 to 20L0			
	Defensive Fire Phase			
255	R.B. fires on G.M.—4 IFT	+1	8	NE
256	R.C. fires on G.M.—8 IFT		2	G.M. KIA
257	German Sniper Activation		4	NE
258	R.E. fires on G.A., G.B.—4 IFT	+3	7	NE
259	R.K. fires on SPW #DD crew, G.P. w/LMG—4 IFT	+2	4	NMC
260	SPW crew—NMC		6	Pass
261	G.P. w/LMG—NMC		5	Pass
262	HMG fires on Peopl, G.C., G.D.—6 IFT	+1	9	NE
262A	HMG fires on Peopl, G.C., G.D.—6 IFT	+1	11	NE

Serial	Event	Final DRM	DR	Result
	Advancing Fire Phase			
263	Peopl, G.C., G.D., Blick, G.E., G.H., G.G. fire on R.K.—5 IFT		11	NE
264	Urban, G.I., G.J., G.K. fire on R.G.—3 IFT	+3	11	NE (DM)
265	G.A., G.B. fire on R.E.—4 IFT	+3	7	NE
266	Halle, G.L. fire on R.C.—4 IFT	+3	8	NE
	Advance Phase			
267	Oettl, G.R., G.N. into 23P7			
268	Halle, G.L. into 20O5			
269	G.F. w/prisoners into 23U1			
270	Behr into 23Z1			
271	G.A., G.B. into 23Z2			
272	G.G. into 23P5			
273	Blick, G.H. into 23Q6			
274	Peopl, G.C., G.D. into 23Q5			
275	G.K. into 23S5			
277	Urban, G.I. w/MMG, G.J. into 23R4			
278	Kindel into 23P5			
	Close Combat Phase			
279	Halle, G.L. vs. R.C.		7	NE
280	R.C. vs. Halle, G.L.		7	NE

Russian Player Turn

Serial	Event	Final DRM	DR	Result
	Rally Phase			
281	Wind Change Attempt		6	NE
282	R.G. (DM) rally with Eastonov	−1	12	Casualty Reduction
	Replace R.G. with r.Z.			
	Prep Fire Phase			
283	R.L. w/HMG fires on SPW #DD crew, G.P.—8 IFT	+2	8	NE
284	R.K. fires on Oettl, G.N., G.R.—4 IFT	+1	8	Cowers, NE
	[Place Board 22 with hex 22I10 adjacent to hex 23Y10.]			
	Movement Phase			
285	T34 (BU) from 22R9 to 23P9, stops with VCA P8/Q9			
286	StuG fires main gun on T34	+4	7	Miss, G.O. dismount
287	G.N. makes PF check		6	Pinned
288	G.R. makes PF check		6	Pinned
289	Oettl makes PF check	+2	6	Pinned
286A	StuG intensive fires on T34	+5	10	Gun malf
290	T34 bounding fires main gun on SPW #DD	+7	7	Miss
291	T34 fires BMG/CMG on SPW #DD crew, G.P. w/LMG—6 IFT	+2	6	PTC
292	SPW #DD crew—PTC		4	Pass
293	G.P. w/LMG—PTC		7	Pass
294	R.B. from 20R6 (BPM R4 and R3) to 20Q3			
295	C.E. assault move from 20S6 to 20R6			
296	R.A. w/LMG use CX movement from 20T4 to 20U1			
	Remove Concealment counters E and F as useless.			
297	R.E. from 23DD2 to 23BB3			
298	R.I. w/LMG use CX movement from 23CC7 to 23Y10			
299	R.O. assault move from 22S10 to 23O10			
300	R.N. from 22T9 to 23N9			
301	Chernova assault move from 22U10 to 23N10			
302	R.M. w/LMG from 22U10 to 23N9			
303	Blick, G.E., G.K., G.H. fire on R.M.—6 IFT	+3	2	1MC
304	R.M. w/LMG—IMC		7	Pinned
305	R.J. from 23H9 to 23K10			
306	C.Z. assault move from 23X6 to 23W6			
307	C.DD. assault move from 23Y6 to 23X6			
	Defensive Fire Phase			
308	SPW #DD, G.P. w/LMG fire on R.K.—10 IFT		12	NE

Serial	Event	Final DRM	DR	Result
309	Random selection of SW		10	both LMG and AAMG malf
	G.P. reduced to 4-4-7 (A19.131).			
310	Urban, G.I. w/MMG, G.J. fire on R.K.—9 IFT	+1	3	2MC
311	R.K.—2MC		7	Breaks (DM)
312	Russian Sniper Activation		3	NE
310A	MMG fires on R.K.—5 IFT	+1	4	1MC
313	R.K.—1MC		7	Pass
310B	MMG fires on R.K.—5 IFT	+1	8	NE
310C	MMG fires on R.K.—5 IFT	+1	12	MMG eliminated
314	Kindel, G.G. fire on R.K.—4 IFT	+2	6	NE
315	G.A., G.B. area fire on 23W6—2 IFT	+2	4	Cowers, NE
316	SPW #EE, Metzler, G.Q. w/LMG area fire on 23W6—5 IFT	+2	8	NE
	Advancing Fire Phase			
317	R.M., R.O., R.N. fire on SPW #DD crew, G.P.—8 IFT	+2	8	NE
	Rout Phase			
318	R.K. routs to 23O10			
	Advance Phase			
319	R.J. into 23L9			
320	Chernova into 23O10			
321	R.I. w/LMG into 23X9			
322	C.Z. into 23V6			
323	C.DD. into 23W6			
324	R.E. into 23BB4			
325	R.B. into 20P2			
326	R.A. into 23N0			
	Close Combat Phase			
327	R.C. vs. Halle, G.L.		5	NE
328	Halle, G.L. vs. R.C.		6	NE

German: I also should explain the little firefight on Board 20 to all of you experts. This little tactic is called a "mistake". Unfortunately it is not a good example of Dickson's "Tactics of Mistake" (see *Three for Dorsai*). The truth is that after the first Prep Fire attack on the ATG, I got so excited about the possibility of overrunning the beast that after looking up all the appropriate rules and counting up factors, I simply forgot the rest of my Prep Fire Phase. So, when I remembered in the MPh, Jim quite properly laughed his head off. I advanced squad M to 20P4 to take away his opportunity to gain encircled fire. Turned out to make no difference. Going into melee may be a little desperate, but Halle's boys are beginning to feel left behind.

I finally decided on the overrun because even if unsuccessful, the ATG crew will have to rout away and anyone wanting to shoot the gun would first have to be successful in Close Combat. I reduce the

EVENT LISTING LEGEND

NE	No Effect
w/	with or possessing
(2nd)	Second Level
G.—.	German Squad
R.—.	Russian Squad
C.—.	Concealment Counter
g.—.	German HS
r.—.	Russian HS
malf	Malfunction

(All other abbreviations are ASL standard.)

Russian probability of success in CCPh by leaving the SPW 251 in Motion.

All the squads are deployed in extended order along the canal bank to make a large, dispersed fire group with good Panzerfaust opportunities. Bring on the T-34! We ain't afraid of no tanks!

It's really rather unusual for it to have so much effect, but this ammo shortage rules is killing me. I've lost five machine guns totaling 19FP (24 factors per turn if you consider ROF). Now a marginally effective StuG III has become useless.

Jim was startled when I started to shoot Panzerfausts at him. I volley fired the PFs and the StuG III to try and get a quick kill. (I am using the term ''volley fire'' because that is a technique used where everyone shoots at the same time, in this case at the same movement point; you lose a little in fire control but you gain in surprise.) It would be nice to get a kill to go with this tactic. I guess I'm lucky I don't have an immolated halftrack and squad to shoot around.

My plan has been to shoot up the T-34 before it really starts to hurt me, prevent Russian reinforcement of the crossing site, and start suppressing the Guard's fire so I can cross the bridge. No sweat!

Russian: Well, unfortunately the ATG crew couldn't hang in there. It is quite clear that Don has shifted his attack to bridge P7. Hopefully my Guards can stop this crossing. It is going to be close.

All right! ALL RIGHT!! Which one of you *ASL* second-guessers hasn't ever forgotten that just because there are no Panzerfaust counters doesn't mean there are no Panzerfausts? You may have noted that Don and I are playing with a +1 DRM to the PF availability check. Although not required by the rules, we felt a DRM was appropriate to reflect the ammo shortage.

A couple of other thoughts. I believe 23Q5 has a blocked LOS from my HMG. It takes a little getting use to, these varying size blind zones behind obstacles. With the woods in 23O4 and O5 more than five hexes away, they cast a two-hex ''shadow''; we'll see when I can spare a shot.

He has lost one squad and I have lost two squads (equivalents). We both still have a heavy AFV. I have no doubt that he has the strength to force his way over the bridge; the question is how much of a toll can I make him pay. It would be nice to have a duel between the StuG III and my T34/85—but somehow I don't believe his Panzerfaust-toting teenagers are going to let that happen.

Neutral Commentator: *The Russian has finally realized the schwerpunkt of the attack—namely, the bridge at 23P7. It will certainly be interesting to see whether or not the reinforcements will be able to reduce the German bridgehead. Note that Event 256 (the one that KIA'd G.M.) should have been a Cower, reducing the column from 8FP to 6FP, but the result would have been the same. Another minor point overlooked by our players: the contestants in the new Melee once again forgot to roll for Ambush (A11.4).*

I was really surprised at the bravery of that T34/85 crew. You'd think that this late in the war, they'd want to live and would have learned some respect for the Panzerfaust. A better spot to park this '85 would've been 23P10, not out of PF range but a bit safer. Or perhaps at even 23K9—safe from all German fire but still able to easily interdict all Germans with guts enough to run for it. Nevertheless, it is beginning to look tough for the krauts, or will that T34 be 'fausted in PFPh? Also, I think I would have sent some of those Russian Guards to 23O10 (1st level) so to disperse them (the fire group would still be maintained).

In Event 286, the German rider squad O dismounted when the StuG fired. This is not required (or even allowed, for that matter; a Rider must Bail Out, however, if a AFV it's riding changes its TCA).

ORGANIZATIONAL COMMENTS

In the past, we have found some Series Replays to be difficult to follow. We decided to chronicle each player action as it took place in the exact order it takes place; you will find the Event List before player comments for each turn in the text. As you can see, movement was often interrupted by Defensive First Fire and then continued. Each and every die/dice roll is also recorded.

The tables below show all the non-bookkeeping counters that a reader will need to follow along with this Series Replay. He will need the full compliment of Prep Fire, First Fire, blaze, DM and Malfunction counters at hand. If the reader does try to follow along exactly, looking for mistakes (I am sure we have some left) or analyzing strategy, it may even be useful to set the dice up as they were. We believe you will find that your enjoyment of this replay is greatly enhanced if you take the time to sort through your countermix to duplicate the counters listed in Table 1.

The Event Listings that accompany each turn record each event sequentially, with continuing actions by units lettered with the same event number. For example: Event 1 is the initial movement of a squad, Event 2 is the First Fire attack of a HMG, Event 3 might be a morale check. If the squad continues its move, it would be listed not as Event 4, but as Event 1A; the HMG continuing to fire as 2A; any new morale check as 3A.

The first table below shows the set-up forces and their Event Listing designation. Units such as the T34 or PzKw IVJ which are the sole unit of their type do not have any special designation. Some of the leader counters are hold-overs from *SL* and *COI* (for many reasons; the only improvement on the latest is the art work). [*Commentator's Note: not true; ASL leaders have a boxed morale number on the broken side to indicate self-rally capability.*]

Table 2 shows the conventional abbreviations we adopted in recording the actions and events during play. There is no indicator for the condition of units while in play (broken, ELR reduced, malfunctioning, etc.) so readers will have to keep track with such status changes on your board as you follow the Event Listings.

Jim and I had a lot of fun playing this scenario for you, but it is not without errors—both tactical and rules violations. We left all these in. Obviously, tactical errors are what make any wargame what it is. And, *ASL* is a difficult game to master, and experienced players have an edge because of their mastery of the rules. We played this game some three weeks after the release of *ASL*. Whenever we made a mistake and caught it, we comment on it ourselves. In other words, we did not retroactively correct errors even though we would look stupid in print. No one (not even Don Greenwood) gets through a game of *ASL* without a rule boo-boo or two. It's no big thing, and arguably is part of the game. Remember A.2.

RUSSIAN UNITS

Board 20		Board 23		After Set-Up	
Type Unit	Designation	Type Unit	Designation	Type Unit	Designation
4-4-7	R.A.	4-4-7	R.F.	?	C.L.
4-4-7	R.B.	4-4-7	R.G.	?	C.N.
4-4-7	R.C.	4-4-7	R.H.	?	C.Q.
4-4-7	R.D.	4-4-7	R.I.	?	C.R.
4-4-7	R.E.	4-5-8	R.J.	?	C.S.
8-1 Leader	Changar	4-5-8	R.K.	?	C.X.
?	C.A.	4-5-8	R.L.	?	C.Y.
?	C.B.	2-2-8	crew	?	C.Z.
?	C.C.	8-0 Leader	Eastonov	?	C.DD.
?	C.D.	7-0	Knezevich		
?	C.E.				
?	C.F.				

Turn 5 Reinforcements	
Type Unit	Designation
6-2-8	R.M.
6-2-8	R.N.
6-2-8	R.P.
9-1 Leader	Chernova

GERMAN UNITS

Group One		Group Two		Group Three	
Type Unit	Designation	Type Unit	Designation	Type Unit	Designation
4-6-7	G.N.	4-4-7	G.I.	4-3-6	G.A.
4-6-7	G.O.	4-4-7	G.J.	4-3-6	G.B.
4-6-7	G.P.	4-4-7	G.K.	4-3-6	G.C.
4-6-7	G.Q.	4-4-7	G.L.	4-3-6	G.D.
4-6-7	G.R.	4-4-7	G.M.	4-4-7	G.E.
8-1 Leader	Metzler	9-1 Leader	Urban	4-4-7	G.F.
8-0 Leader	Oettl	8-0 Leader	Halle	4-4-7	G.G.
SPW 251	SPW #DD	Opel Blitz	Truck D	4-4-7	G.H.
SPW 251	SPW #EE	Opel Blitz	Truck E	9-2 Leader	Peopl
		Opel Blitz	Truck F	8-1 Leader	Blick
				8-0 Leader	Behr
				7-0 Leader	Kindel

ADDITIONAL UNITS

Russian		German	
Type Unit	Designation	Type Unit	Designation
1-4-9	Hero	4-4-7	G.P.
2-3-7	r.Z.	4-4-7	G.R.
4-5-8	R.Z.	2-4-7	g.N.
(1)-0-6	prisoners	2-3-7	g.F.
		2-3-7	g.G.
		2-3-7	g.I.
		2-3-7	g.O.
		2-3-7	g.P.
		2-3-6	g.C.
		2-3-6	g.D.
		2-3-6	g.R.
		(1)-0-6	prisoners

Figure 4: Positions at the end of Turn 5.

TURN 6

German Player Turn

Serial	Event	Final DRM	DR	Result
Rally Phase				
329	Wind Change Attempt		6	NE
330	German StuG main gun repair		4	NE
331	r.Z. rally with Eastonov	−1	6	Rally
332	R.K. (DM) rally with Chernova	−2	5	Rally
Prep Fire Phase				
333	G.R. makes PF check		3	Possesses
334	G.R. fires PF at T34	+4	5	Turret Hit
	To Kill armor class 11		11	T34 KIA
335	T34 crew survival		10	KIA
336	Oettl, G.R., G.N. fire on R.N., R.M. w/LMG—8 IFT	+3	7	NE
Movement Phase				
337	SPW #DD, G.P. in 23P8 change VCA to Q9/P9			

Serial	Event	Final DRM	DR	Result
338	R.N., R.O., R.K., R.M. w/LMG fire on SPW #DD crew, G.P. —24 IFT	+2	7	2MC
339	SPW #DD crew—2MC		7	Stunned
340	G.P.—2MC		7	Breaks (DM)
337A	SPW #DD (BU) stops in 23P8			
341	SPW #EE, Metzler, G.Q. w/LMG in 23T4 starts and change VCA to U4/U5			
342	R.F. fires on SPW #EE crew, Metzler, G.Q. w/LMG—4 IFT	+2	2	1MC
343	Metzler—1MC		4	Pass
344	SPW #EE crew—1MC		7	Pinned (BU)
345	G.Q.—1MC	−1	7	Pinned (BU)
346	German Sniper Activation		5	NE
341A	SPW #EE (BU) stops in 23T4			
347	G.A., G.B. from 23Z2 to 23BB3			
348	R.E. fires on G.A., G.B.—8 IFT	+2	9	NE
349	Behr from 23Z1 to 23AA3			
350	Truck #D from 23Y2 to 23Z3, stops with VCA AA4/Z4			

Serial	Event	Final DRM	DR	Result
351	G.F. w/prisoners use CX movement from 23U1 (BPM V1 and W2) to 23Z3			
352	StuG, Peopl, G.O. armor assault move from 23Q5 to 23P7			
338A	LMG continues fire on Peopl, G.O.—2 IFT	+1	6	Cowers, NE
353	Blick, G.H. from 23R4 to 23M6			
354	Urban, G.I., G.J. from 23R4 to 23N6			
355	R.L. w/HMG fires on Urban, G.I., G.J.—8 IFT	−2	3	2KIA
356	Urban and G.J. randomly selected and G.I. breaks			Urban KIA G.J. KIA
356A	G.I.—LLMC	+1	9	Casualty Reduction
Squad G.I. replaced with g.i. half-squad.				
357	Immediate German Integrity Check	−1	7	NE
358	G.E. from 23R5 to 23Q6			
359	R.H. fires on G.E.—2 IFT		4	1MC
360	G.E.—1MC		8	Breaks (DM)
361	G.K. from 23S5 to 23P6			
362	G.C. from 23Q5 to 23P6			
363	G.D. from 23Q5 to 23P6			
364	G.G. assault move from 23P5 to 23O6			
365	Kindel from 23P5 to 23Q4			
366	Truck #F from 20P6 to 23X3, VCA Y3/X3			
367	Truck #E from 20P5 to 23Y2, stops with VCA Y3/X2			
Defensive Fire Phase				
368	HMG continues fire on Blick, G.H.—6 IFT		8	PTC
369	Blick—PTC		6	Pass
370	G.H.—PTC	−1	9	Pinned
371	R.J. fires on Peopl, Oettl, G.O., G.N., G.R.—4 IFT	+2,+1	4	Cowers, PTC and NMC
372	Peopl—PTC		7	Pass
373	Oettl—NMC		5	Pass
374	G.O.—PTC	−2	6	Pass
375	G.N.—NMC	−2	10	Breaks (DM)
376	G.R.—NMC	−2	6	Pass
377	R.E. fires on G.A., G.B.—4 IFT	+3	9	NE
Advancing Fire Phase				
378	G.A., G.B. fire on R.E.—8 IFT		7	1MC
379	R.E.—1MC		5	Pass
380	G.C., G.D., G.K. fire on R.N., R.M. w/LMG—4 IFT	+5	10	NE
381	Peopl, G.O. fire on R.N., R.M. w/LMG—2 IFT	+1	7	NE
Rout Phase				
382	G.E. routs to 23R4			
383	g.I routs to 23N5			
384	G.N. routs to 23R4			
385	G.N. subject to interdiction by HMG in 23P5		10	Fails
G.N. reduced to g.N. half-squad.				
Advance Phase				
386	G.A., G.B. into 23BB4			
387	Behr into 23AA4			
388	G.F. w/prisoners into 23AA4			
389	Kindel into 23R4			
390	Blick into 23N5			
391	Peopl, G.O., G.R. into 23P8			
392	G.C., G.D., G.K. into 23P7			
393	G.G. into 23N6			
Close Combat Phase				
394	G.R. destroys ATG			
395	G.A., G.B. vs. R.E.		9	NE
396	R.E. vs. G.A., G.B.		7	NE
397	Halle, G.L. vs. R.C.		6	NE
398	R.C. vs. Halle, G.L.		11	NE

Russian Player Turn

Serial	Event	Final DRM	DR	Result
Rally Phase				
399	Wind Change Attempt		7	NE
400	G.E. (DM) rally with Kindel	−1	5	Remove DM
401	g.N. (DM) rally with Kindel	−1	7	Remove DM
402	g.I. (DM) rally with Blick	−2	10	Remove DM
403	German StuG main gun repair		5	NE
Prep Fire Phase				
404	R.L. w/HMG fires on Peopl, G.R., G.O.—8 IFT	+1	7	NMC
405	Peopl—NMC		8	Pass
406	G.R.—NMC	−2	3	Pass
407	G.O.—NMC	−2	9	Pinned
408	R.O., R.N., R.M. w/LMG fire on Peopl, G.R., G.O.—20IFT	+1	7	2MC
409	Peopl—2MC		8	Break (DM)

		Final DRM	DR	Result
410	G.R.—2MC		10	Break (DM)
411	G.O.—2MC		7	Break (DM)

Movement Phase

412	R.K. assault moves from 23O10 to 23P9			
413	R.J. from 23L9 to 23N10			
414	R.B. from 20P2 to 23R2			
415	R.A. w/LMG from 23N0 to 23O2			
416	R.I. w/LMG from 23X9 to 23T9			
417	R.F. from 23V6 to BPM 23U8			
418	G.F. fires on R.F. in Bypass —2 IFT		5	NMC
419	R.F.—NMC		6	Pass
417A	R.F. continues to 23T8			
420	r.Z. from 23X7 to 23Z7			
421	R.H. from 23W6 (BPM Y6 and Z6) to 23A6			
417B	G.F. fires on R.H.—2 IFT	−1	7	PTC
422	R.H.—PTC		4	Pass

Defensive Fire Phase

423	Oettl, G.C., G.D., G.K. fire on R.K.—12 IFT	+2	7	NMC
424	R.K.—NMC		8	Pinned
425	G.G., G.H. fire on R.N., R.M. w/LMG—8 IFT	+3	4	1MC
426	R.M. w/LMG—1MC		4	Pass
427	R.N.—1MC		6	Pass

Advancing Fire Phase

428	R.K. fires on Peopl, G.R., G.O.—1 IFT	+2	8	NE
429	R.B. fires on Kindel, g.N., G.E.—2 IFT	+1	11	NE (DM)
430	R.A. fires on Kindel, g.N., G.E.—2 IFT	+1	6	NE
431	R.H. fires on G.F. w/prisoners, Behr—2 IFT		8	NE

Rout Phase

432	Kindel, g.N., G.E. rout to 23Q5			
433	Peopl, G.R., G.O. rout to 23R8			

Advance Phase

434	r.Z. into 23AA7			
435	R.B. into 23S3			
436	R.A. w/LMG into 23P2			
437	R.F. into 23S8			
438	R.I. w/LMG into 23S9			
439	R.J. into 23O10			
440	Chernova to 23N10			

Close Combat Phase

441	R.C. vs. Halle, G.L.		5	NE
442	Halle, G.L. vs. R.C.		8	NE
443	R.E. vs. G.A., G.B.		7	NE
444	G.A., G.B. vs. R.E.		8	NE

German: Well, in every critical battle there comes the moment when both sides think they've had it. Victory usually goes at that point to the side which perseveres. Lee's comment at Chancellorsville is appropriate, "I was too weak to defend, so I attacked."

My movement might not seem to make any sense at first, but here is the logic behind it. After polishing off the T-34, I figured that overrunning Russian squad I (23X9) with the SPW 251/1 would be a cute maneuver and would have three collateral benefits: 1) it would surprise Jim and make him think I was crazy; 2) it would attract bullets from the Guards' large fire group with a +2 DRM versus the −2 DRM everyone else would suffer; and 3) it would take over the duty of isolating Russian squads F and H from the battle area.

After that didn't work, I planned to overrun Russian squad E in BB4 and then jump the canal there to divide his attention. Once the SPW 251 and squad Q were pinned, it seemed better to leave well enough alone and not move any further.

My last great idea was to build up a large fire group in 23M6 and 23N6 with −1 leadership and drive away the Guards by fire. Lt. Urban told everybody that the HMG in the church steeple (23F3) was out of effective range. Now poor Urban doesn't get to see the end of the war. *C'est la guerre!*

My only good hope now is to get enough people through his Prep Fire Phase to lay down a serious Panzerfaust barrage during the Defensive Fire Phase. It would also be really nice to win these melees.

I had a really effective Rally Phase during the Russian turn. My small crossing force got beat by his Guards, and I was lucky to just pin down his

close assault squad (Russian K). I have to make money *this* next turn or his defense will gel and I'll never get across.

Russian: I was surprised to get such a clear shot with my HMG. It really paid off by killing a 9-1 leader and a squad and a half. Combined with the very effective fire against both halftracks, Don wasn't able to accomplish very much. I'll use this respite in his attack to get as ready for his final assault as I can.

Don still has 51 victory points on the mapboard, so the next turn should tell the tale. Squad K maneuvered to try and take out five points worth of halftracks and passengers, but didn't make it.

The Guards were able to lay down some serious sub-machinegun fire on the bridge's exit hex, during both the Defensive and Prep Fire Phases. So, I started to think that the far south bridge might need a little additional protection. If I can continue to bottle up the center bridge, the two squads coming from Board 20 will be able to put him under encircling fire. At that point, his already poor ELR will bcome much more of a factor.

Psychologically I feel much better now, but I should continue to remember that Don is a crafty veteran, and he might trade those 51 points into some kind of an advantage. Now is the time to watch for a trick.

Neutral Commentator: *I couldn't believe that both halftracks sported about CE. As we can see, the price was paid. Note that the halftrack crew in 23T4 that became pinned did not prevent the vehicle itself from continuing movement. Maybe Don didn't know this (A7.8).*

One error committed in the German turn: the Russian ATG would have to be "possessed" first (A4.44) before being spiked; this could have been done in the MPh (by expending a MF) or in the Rally Phase; both would require a dr less than "6". Then, the gun could be spiked in any Fire Phase in which the possessing unit could otherwise fire it (A9.73).

Those Guards in 23O10 may be a very tough nut for the German to crack. But, in the Russian turn, they still refuse to climb the stairs. Chernova should have prompted them a bit more before taking the back door out.

The German bridgehead is becoming more hemmed-in by the minute. It's amazing that these melees have been going on as long as they have. I guess the Russians are struggling to survive as much as the Germans are trying to escape.

I was also surprised to see that the battlefield Integrity rules were being employed (A16), being Optional as they are (I myself am definitely one of those that "record keeping is offensive to").

TURN 7

German Player Turn

Serial Event	Final DRM	DR	Result
Rally Phase			
445 Wind Change Attempt		7	NE
446 G.P. (DM) self-rally		8	NE
447 Peopl (DM) self-rally	−1	5	Rally
448 G.R. (DM) rally with Peopl	−3	7	NE
449 G.O. (DM) rally with Peopl	−3	7	NE
450 g.N. (DM) rally with Kindel		8	Remove DM
451 G.E. (DM) rally with Kindel		4	Remove DM
452 g.I. rally with Blick	−2	4	Rally
453 German StuG main gun repair		6	Broken
Prep Fire Phase			
454 G.C., G.D., G.K. fire on R.N., R.M. w/LMG—12 IFT		11	NE
455 Oettl marked with Opportunity Fire			
456 SPW #EE, G.Q. w/LMG,			
256 Metzler marked with Opportunity Fire			
Movement Phase			
457 Truck #F from 23X2 to offboard			

		Final DRM	DR	Result
458	g.I. uses CX movement from 23N5 (BPM M5) to 23H4			
459	R.L. fires on g.I.—4 IFT	−1	9	NE
460	G.H. uses CX movement from 23M6 to 23I4			
461	G.G. uses CX movement from 23N6 to 23H4			
462	Residual FP attack on G.G.	−1	10	NE
463	Behr, G.F. w/prisoners assult move from 23AA4 to 23BB3			
464	SPW #EE crew, G.Q. w/LMG, Metzler become CE			
465	StuG from 23P7 to 23Q5, stops with VCA R4/Q4			
466	SPW #DD (BU) from 23Q9 (VBM Q9) to 23W10, VCA X9/X10			
467	Blick from 23N5 (BPM K4) to 23J3			

Defensive Fire Phase

468	HMG fires on g.I., G.G.—6 IFT	+1	7	PTC
469	g.I.—PTC		7	Pass
470	G.G.—PTC		11	Pinned
468A	HMG fires on g.I., G.G.—6 IFT	+1	6	NMC
471	g.I.—NMC		5	Pass
472	G.G.—NMC		9	Breaks (DM)
468B	HMG fires on g.I., G.G.—6 IFT	+1	10	NE
473	R.B. fires on SPW #EE crew, Metzler, G.Q.—4 IFT	+2	10	Cowers, NE
474	R.A. w/LMG fires on Kindel, g.N., G.E.—6 IFT		6	1MC
475	Kindel—1MC		8	Breaks (DM)
476	g.N.—1MC		8	g.N. KIA
477	G.E.—1MC		5	Pass (DM)
478	German Battlefield Integrity Check		8	NE
479	R.K., R.J., R.O., R.N., R.M. w/LMG fire on Oettl, G.K., G.C., G.D.—19 IFT	+1	8	1MC
480	Oettl—1MC		4	Pass
481	G.K.—1MC		7	Breaks (DM)
482	G.C.—1MC		7	Breaks (DM)
483	G.D.—1MC		8	Breaks (DM)
484	R.F., R.I. w/LMG fire on Peopl, G.O., G.R.—20 IFT	+2	5	2MC
485	Peopl—2MC		5	Pass
486	G.R.—2MC	−2	10	Breaks (DM)

Replace G.R. with g.R. half-squad.

487	G.O.—2MC	−2	6	Pass (DM)
484A	LMG fires on Peopl, g.R., G.O.—4 IFT	+2	5	PTC
488	Peopl—PTC		6	Pass
484B	LMG fires on Peopl, g.R., G.O.—4 IFT	+2	6	NE
489	R.H. fires on Behr, F. w/prisoners—4 IFT	+3	7	NE

Advancing Fire Phase

490	SPW #EE, Metzler, G.Q. w/LMG fire R.A. w/LMG—10 IFT	−1	5	2MC
491	R.A. w/LMG—2MC		2	Heat of Battle
491A	R.A. Heat of Battle	+2	3	Hero, Fanatic
490A	SPW #EE AAMG, LMG fires on Hero, R.A. w/LMG—6 IFT		11	NE
492	Random selection of malf SW			AAMG malf
493	Oettl makes PF check	+2	1	Possesses
494	Oettl fires PF at R.K.	+5	6	Miss

Rout Phase

495	Kindel, G.E. rout to 23O5			
496	Kindel interdicted in 23P5 by R.K.		7	Pass
497	G.E. interdicted in 23P5 by R.K.		6	Pass
498	Oettl, G.C., G.D., G.K. rout to 23N5			
499	G.C. interdicted in 23P6 by R.K		6	Fails

Replace G.C. with g.C.

500	G.D. interdicted in 23P6 by R.K.		7	Fails

Replace G.D. with g.D.

501	G.K. interdicted in 23P6 by R.K.		7	Pass
502	German Battlefield Integrity Check	+1	7	NE
503	G.G. routs to 23J3			
504	G.G. interdicted in 23I4		8	Fails

Replace G.G. with g.G. half-squad.

505	Peopl, g.R., G.O. rout to 23Q8			

Advance Phase

506	g.I. into 23G5			
507	G.H. into 23H4			
508	Behr takes prisoners			
509	G.F. into 23BB4			

Close Combat Phase

510	Halle, G.L. vs. R.C.		9	NE
511	R.C. vs. Halle, G.L.		11	NE
512	G.F., G.A., G.B. vs. R.E.		7	R.E. KIA
513	R.E. vs. G.F.		5	Casualty Reduction

Replace G.F. with g.F. half-squad.

|				
514	Russian Battlefield Integrity Check	+1	8	NE
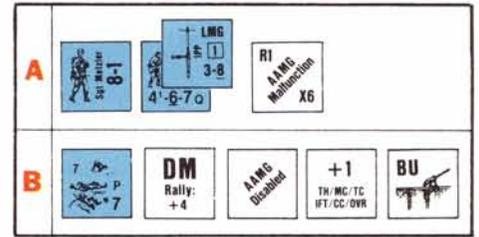
Figure 5: Positions at the end of Turn 7. Above are shown the contents of the two German SPW 251/1 (as marked on the illustration).

529C	HMG fires on G.H.—6 IFT	+1	8	Cowers, NE

Movement Phase

532	r.Z. assault move from 23AA7 to 23BB7			
533	G.A., G.B. fires on r.Z.—8 IFT	−1	6	2MC
534	r.Z.—2MC		5	Pinned
535	R.B. from 23S3 to 23U3			
536	R.F. assault move from 23S8 to 23R7			
537	R.K. assault move from 23P9 to 23P8			
538	Metzler, G.Q. w/LMG fire on R.K.—7 IFT		8	PTC
539	R.K.—PTC		4	Pass
540	R.I. w/LMG from 23S9 to 23V10			
541	Hero, R.A. w/LMG from 23P2 to 23O3			
542	Metzler, G.Q. fire on Hero, R.A. w/LMG—2 IFT	−3	8	NMC
543	Hero—NMC		6	Pass
544	R.A. w/LMG—NMC		8	Pinned
541A	Hero continues to 23N4			
545	R.J. from 23O10 to 23P8			
546	Residual fire on R.J.	−2	8	NE
542A	LMG intensive fires on R.J. —3 IFT		11	LMG malf
545A	R.J. continues to 23P6			
547	R.O. from 23O10 (BPM Q9) to 23R8			
548	R.N. use CX movement from 23N9 (BPM I7) to 23H6			
549	R.M. w/LMG from 23N9 to 23Q9			
550	Chernova assault move from 23N10 to 23O10			
551	Eastonov assault move from 23X7 to 23Y7			
552	C.Y. assault move from 23D4 (2nd) to 23E4 (2nd)			

Defensive Fire Phase

553	G.H. fires on R.L. w/HMG —4 IFT	+3	10	NE

Advancing Fire Phase

554	Hero fires on Kindel, G.E. —1 IFT		6	NE
555	R.A. fires on SPW #EE crew, Metzler, G.Q.—1 IFT	+2	9	NE
556	R.B. fires on SPW #EE crew, Metzler, G.Q.—2 IFT	+2	9	NE
557	R.J. fires on Kindel, G.E.—2 IFT	+1	9	NE
558	R.F., R.O., R.K., R.M. w/LMG fire Peopl, G.O., g.R.— 24 IFT		9	2MC
559	Peopl—2MC		10	Breaks (DM)
560	g.R.—2MC		9	g.R. KIA
561	G.O.—2MC		8	Casualty Reduction

Replace squad G.O. with g.O. half-squad.

562	German Battlefield Integrity Check	+3	11	ELR=1

Rout Phase

563	Peopl, g.O. surrender to R.F.			
564	Oettl, g.C., g.D., G.K. low crawl to 23M6			
565	Kindel, G.E. rout to 23P4			
566	g.I. routs to 23D7			

Advance Phase

567	R.L. w/HMG into 23F4 (2nd)			
568	C.Y. into 23F4 (2nd)			
569	R.N. into 23H5			
570	R.J. into 23O6			
571	Hero into 23M5			
572	R.K. into 23P7			
573	R.F. w/prisoners into 23S7			
574	R.O. into 23R7			
575	R.M. w/LMG into 23Q8			
576	R.B. into 23T3			
577	R.H. into 23BB6			
578	Eastanov into 23Z6			
579	Chernova into 23P9			
580	R.I. w/LMG makes PAATC		12	Fails

Close Combat Phase

581	R.C. vs. Halle, G.L.		11	NE
582	Halle, G.L. vs. R.C.		3	R.C. KIA

Russian Player Turn

Serial	Event	Final DRM	DR	Result
	(DM) rally with Peopl	−2	5	Remove DM
	(DM) rally with Peopl	−2	8	Remove DM

Rally Phase

Serial	Event	Final DRM	DR	Result
515	Wind Change Attempt		7	NE
516	German SPW AAMG repair		3	NE
517	Kindel (DM) self-rally	−1	7	Remove DM
518	G.D. (DM) rally with Oettl	−1	5	Remove DM
519	G.C. (DM) rally with Oettl	−1	9	Remove DM
520	G.K. (DM) rally with Oettl	−1	9	Remove DM
521	G.G. (DM) rally with Blick	−2	7	Remove DM

Prep Fire Phase

524	R.H. fires on G.F., G.A., G.B.—4 IFT		7	PTC
525	G.F.—PTC		5	Pass
526	G.A.—PTC		5	Pass
527	G.B.—PTC		9	Pinned
528	R.L. fires on G.H.—4 IFT	+1	9	NE
529	HMG fires on G.I.—6 IFT	+1	4	1MC
530	G.I.—1MC		7	Breaks (DM)
529A	HMG fires on G.H.—6 IFT	+1	8	NE
529B	HMG fires on G.H.—6 IFT	+1	3	2MC
531	G.H.—2MC		4	Pass

German: Who says TAHGC doesn't engineer their games well? If I'd had any more squads, I would have run out of DM counters. It has become abundantly clear that we aren't going to cross the canal at P7. My German forces are getting panicky, so we are trying to flood across all the bridges at the same time and dilute the defense a little.

I brought the impotent StuG III back to hex Q5 for a few seconds worth of cover, from which I ended up routing away anyway. I figured that it was worth risking in a potential Close Combat. Unfortunately, its chances were reduced considerably by my shooting at his squad A and giving them a Hero to go along with a battle-hardened squad. Hey guys, for Russians it is just as easy to surrender on the Heat of Battle Table!

I also want to point out one of my favorite tricks. In Event 459, I declared CX movement. When I got to hex 23I4 with the unit, I asked Jim if he was going to shoot. He undoubtably figured I was going to cross 23H4 (why use CX movement elsewise) so he replied "No" hoping to get a residual fire attack and then another fire attack. Instead I declared the end of its movement. I view this as a legal way not to be shot up with FFNAM/FFMO attacks, but there does seem to be a question as to its legitimacy. I recommend using it only against your friends; it can really frustrate your opponents.

In my mind's eye, I see my squad L on Board 20 groveling in the cellar while Russian squad C is drinking up all the schnapps and vodka upstairs. Halle figures his only chance is to overcome them, one or two at a time, as they come downstairs for more booze.

Behr took over prisoner guard duties so that a decent 3-1 attack could be mounted and break up the melee in 23BB4. This cost me half a squad and the potential future embarrassment of a prisoner escape while on "National TV".

After the Russian turn, it really looks dim. All depends on the upcoming Rally Phase. If you look over the last three Rally Phases, you'll see that I have rallied exactly one leader and one half-squad. This is due more to Jim's ability to keep everyone under DM than just bad luck on my part.

Generally speaking, all the *BEYOND VALOR* scenarios end this way—in confusion. This is the natural result of combat in urban areas; this is the *ASL* equivalent of the deterioration experienced in *STORM OVER ARNHEM*.

Russian: Don is obviously giving up the main attack, so now I must parallel his rush to the other bridges. Although there are two German Movement Phases left, I don't believe he can reorganize enough strength to fight his way over another bridge.

Two technical comments to begin my turn with. First, the Assault Fire capability of the Guards adds just enough firepower to kick the AFPh attack (Event 558) up to the next column (24FP). So, for old *SL* players following along, you've just seen another one of the improvements. Secondly, all of the same old *SL* players see nothing wrong with leaving Knezevich concealed and away from the critical HMG position. New *ASL* players probably have recognized this as one of the common mistakes. If I'd had that leader in the hex with the HMG, I would have been spared at least two Cowering attacks and still would not have chanced a LLMC/LLTC because the leader's morale is too low to affect the squad. I lost the advantage of having another Concealment counter on the board a long time ago, and have just been remiss in making the link-up.

My Movement Phase was used to start taking the initiative away from Don. I don't want to give him the chance to rally any units and organize a last-ditch attempt.

I was a bit sad to see squad C get so caught up in the spoils of victory that they blew it. Don told me his interpretation of that Close Combat—I guess

drinking and hand grenades don't mix. At least I was able to capture some Germans and so relieve my earlier embarrassment.

Neutral Commentator: *It appears as if the Germans have just about fizzled out. What was once a fairly concentrated and organized attack is now spread out ineffectively over the length of Board 23. Noted errors:*

Event 486—Already broken units do not suffer ELR reduction (A19.13).

Event 491—German Sniper activation attempt missed.

Event 494—Panzerfaust can't be used here (C8.31).

Event 495—These units are routing toward a known enemy unit (in 23F3) within that unit's range; they would have to stay in place instead.

Event 498—These units are also routing closer to a known enemy unit (23F3); should low crawl to 23P6 instead. Then, in the next Rout Phase, with the HMG out of LOS, they could get to 23N5.

Event 542—A unit may not Subsequent First Fire (A8.3) at a "target at a range > that to the closest known enemy unit". Observe R.B. in 23U3.

Event 542A—As 542 above. Additionally, Sustained Fire (A9.3) cannot be used by a unit marked with Final Fire, as G.Q. would be after his illegal Subsequent First First Fire attack.

Event 553—Again our players have forgotten to add the +1 for a CX unit firing (A4.51).

Event 561—Already broken units are not subject to ELR reduction.

Event 565—The Germans here are routing closer to R.B. in 23U3, a known enemy unit in their LOS.

Event 567—This Advance would require the placement of a CX counter on R.L., according to A4.72—"vs. Difficult Terrain".

At the end of all this, things do look dim indeed for the German. The German had little to cheer for during this turn, save only the end of the standoff in 2O5. As Jim pointed out, a better place for the 7-0 leader is stacked with the HMG. All such heavy SWs should now have leader direction (especially with the upcoming revision of the Cower rule.)

TURN 8

German Player Turn

Serial	Event	Final DRM	DR	Result
Rally Phase				
583	Wind Change Attempt		11	NE
584	G.P. self-rally		12	Casualty Reduction
585	Kindel self-rally		11	NE
586	G.D. (DM) rally with Oettl		7	Remove DM
587	G.C. (DM) rally with Oettl		9	Remove DM
588	G.K. (DM) rally with Oettl		4	Remove DM
589	G.C. rally with Blick	−2	7	Rally
590	Repair SPW #EE AAMG		3	NE
591	Repair German LMG in 23T4		6	Eliminated
Prep Fire Phase				
592	Chappell abandons his command to change into civilian clothes and and escape to the West			

German: I have conceded to Jim. This is a great personal embarrassment and my chagrin knows no bounds. Whupped in a fair fight on "National TV" by my own protege.

At this point, if you write off the units in P4 and M6 (which is a very safe assumption), then the total possible German points which exist are 33. If you consider the string of luck which would be required to get everybody off, it is clear why I concede. By the way, it is still possible to get Halle and squad L off by using a "magic truck". A magic truck is one that all of a sudden knows you need it even though this one is over 400 meters away at the time. Halle and squad L move to 23Y1 using double time;

truck E slips back one hex. On Turn 9 they load (costing 7MP from the truck's allowance) and then move offboard. Trucks may move through enemy units like an overrun, but TPBF by even one squad gets the truck with a TK# of "8" on the IFT. Not a good chance, but still mathematically possible. In any case, the odds of being this lucky across the board do not seem worth the effort involved in continuing to chronicle my downfall for this distinguished audience.

CLOSING COMMENTS

German: We will continue these final comments the way Jim and I always do after a game. A friendly "why did you . . ." question-and-answer session. Jim, what was your overall impression of the game?

Russian: In defeat as in victory, Don, you are so humble. I don't think either of us played our best game on the whole. I had a multitude of little errors in the mechanics—like forgetting Panzerfausts or keeping leaders with SW. You played a more technically proficient game, but lacked the aggressiveness I think the German player needs in order to win. The key to this scenario is getting an early bridgehead and then bulling past the defenders in the first five turns. What I don't understand is why you did not cross at bridge X3 during Turn 4 when you had the chance? That's when you turned north and charged the anti-tank gun.

German: Well, I am happy to hear that you were convinced that X3 was the crossing site. Actually, if you read my initial comments, you'll see that it was a feint and not the main attack. As to charging the anti-tank gun, that is kind of hard to defend right now. The only thing I can say is that the single AT Gun was a lot weaker defense than the four squads covering the northern bridges. Don't you think so?

Russian: No, I don't. Manhandling an ATG out into the street was a desperation move on my part. You had two squads in halftracks which could cross with immunity and then become CE during your Advance Phase; the StuG III and the armored car would have provided a lot of additional close support. Lastly, I thought you'd place that gigantic fire group along the hedge under "Opportunity Fire" counters and then cross with one squad at a time until I had to break Concealment before you built up too big a force as a bridgehead for me to cope with. In fact, that seemed to be what was happening when I took that long-range shot at your armored car with the ATG.

German: Well, that might have worked, and I certainly still had all my strength. Even though I couldn't cross at P7 until after your Guards arrived, it seemed to me that the original plan was still viable. Assuming I could inhibit your Board 23 movement with fire lanes from those halftracks, I would only face the ATG and three short-range squads. (The T-34 would be a problem anywhere you put it.) The only thing I think I should have done differently was not make the move on P7 so soon. If I'd waited until after your Turn 5 movement, would the Guards have come on to reinforce the X3 crossing?

Russian: I might have done that; it's hard to tell now. You should have avoided the question of the Guards effectiveness by attacking immediately in Turn 4, defeating first the Board 23 forces and then the reinforcements in detail. You also moved into range of the HMG, which would have been no factor at such long range—especially with a three-hex blind zone behind every obstacle. What about your luck? It seemed pretty bad to me.

German: I've already averaged up the dice rolls to see if I could cop a plea. *No mas!* Not only were we even overall, but we both were better than average. Still, it is clear that the ammo shortage rule had more effect in this playing than usual. I did not have a functioning ordnance or SW by the end of

Turn 7.

Russian: Well, that's true, and it did help me. You need that extra firepower where it can be concentrated into one hex so a leader can ameliorate the effects of the building DRMs. We can also see what an effect your low ELR had on the game. Slowly but surely, under constant pressure, your force disintegrated. You played a good game with what you had.

German: On the whole, I am not particularly happy with my play. I don't believe that I adapted fast enough to the situation. As you know, I expected to keep my forces together enough to fight through any opposition. As I suffered gaps under normal attrition and from the effects of the ammo shortage, I failed to realize I was no longer capable of fighting a stand-up battle. Certainly, part of this was caused by my rush to engage the ATG instead of waiting until my infantry had the chance to supress the crew. At least I got the T-34 with the Panzerfausts.

Russian: OK, I guess you can take *one* cheap shot. Just don't make a habit of it or I'll never let the Chappell counter out of the Gulag.

Neutral Commentator: *The one thing that stands out to me in this match is that, despite all the number of errors committed, none had a serious effect on determining the victor. This just goes to show that even YOU can play ASL, not worry too much about getting everything perfect, and still have a good time and a fair game.*

Looking over the players' final comments, I too think that the German should have abandoned his fancy plans, and taken advantage of his local superiority on his Turn 5 by forcing a bridgehead over the 23X3 and 23BB5 bridges. Sure, there's a lot to be said about formulating a solid plan and sticking to it "through thick and thin", but there's even more to be said (in my humble opinion) about being flexible to the situation at hand. I just wonder what might have transpired had this route been taken. Do I detect a strong streak of stubbornness in Don.

All in all though, a fairly well-played game tactically by both players, considering the undertaking involved in producing a Series Replay. ☆

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AH Philosophy . . . *Cont'd from Page 2*

a simple yet challenging game, well liked by everyone who has played it so far. An original from Gibsons Games (the British publisher), The Avalon Hill Game Company is pleased to offer the American version.

Bruce Shelley

Back in those golden school days, it was an expected yearly chore to write about what we did last summer under the vigilant eye of a kindly teacher. Here, under the bloodshot eye of a nagging and brutal—editor (Rex, I know that you're going to edit this out—feel free to substitute "gruff but loveable editor") [*I am neither gruff nor loveable.*], the yearly chore is to write up what we're working on.

My current major project is to develop *FEBA* ("Forward Edge of the Battle Area"), likely to be retitled *Tac Air*. This is a battalion level game of future European conflict designed by Major (he's been promoted) Gary Morgan of *FLIGHT LEADER* fame. This is a highly innovative game system that does an excellent job of displaying the interaction of various combat arms, command and control and logistics. Air operations are far less abstract than in most games on this scale. The game is very playable, and the smaller scenarios can be completed in a couple of hours. The rules are currently being rewritten as this game, like *FLIGHT LEADER*, was originally devised for the USAF.

The other major game project is developing *West Front*. This is the companion game to the popular *RUSSIAN FRONT* using the same scale and game system to simulate the fighting in Western Europe. This is still under evaluation but, as projected, should provide not only a game in itself but also a "mate" to *RUSSIAN FRONT* to produce a combined monster game that covers the entire war in Europe.

S. Craig Taylor

Finally, *KNIGHTS OF THE AIR* is about finished, with just the paste-up of the rules to go. A great deal of the design effort was devoted to developing a system whereby an airplane would respond to a player's manipulations of the flight controls exactly as it should if it were actually flying. This required many involved calculations as altitudes, the vagaries of engine performance, and the effect of gravity all had to be considered. The result is a simple yet very realistic recreation of aircraft response.

The mapboard presents a full-color painted reproduction of an aerial photograph taken of the exact section of front lines where Richthofen, the "Red Baron", was shot down. Our resident graphics artist, Charlie Kibler, did another great job, applying the same techniques he used for the *FLIGHT LEADER* mapboard. There are two solitaire scenarios included—one involving a Frank Luke style attack on an observation balloon, the other recreates an attack on a Zeppelin airship over England. Of course, the requisite number of dogfight scenarios, recon missions, and raids are also provided for buffs of WWI in the skies.

Mick Uhl

YANKS! No, this isn't about Sherman's march through Georgia or a baseball team, but rather the next step in *ASL*. The third *ASL* module was tentatively titled "Taking Fire", but we've decided to change the name to prevent confusion with our computer game *UNDER FIRE*. Although to Anglicized for my taste, it nonetheless aptly describes the contents of a module that brings the complete U.S. order of battle to the game system. The module itself appears to be developing better than our attempts to give it a name. My last four scenario playtests have come down to the final dice rolls of the final game turn. I can personally attest to the excitement level thereof.

For some, the best news about *YANKS!* will be that all the rules are optional. This is the module that contains Chapter E—so disdainfully dubbed "Miscellaneous" in the *ASL* Table of Contents. Those who are not up to more rules can gleefully tuck them into the binder and forget about them while they apply the standard rules of the four chapters to the new American TO&E. Certainly none of the twelve rule sections in Chapter E need to be learned until playing a scenario specifically calling for a particular operation. The subjects covered in Chapter E include Night, Interrogation, Weather, Ski Troops, Boats, Swimming, Air Support, Gliders, Paratroops, Ammo Vehicles, Conoy/ Columns and Barrage. The veteran *ASL* player can dive into the new scenarios without learning a single new rule, and when you do come to a scenario calling for use of one of the new sections, that's all you'll need.

YANKS! will contain four relatively open terrain boards (16-19), two section dividers (Chapter K's Training Manual divider will be included herein), eight scenarios, five counter sheets and a revised index for the entire system to date. Although we are cutting the scenarios to eight as an economy measure to lower the price, four others were tested and will be included in a future issue of The *GENERAL*. Players will need the boards and counters of *BEYOND VALOR*, plus Board 2, Board 12 and Board 7 to play all eight scenarios in *YANKS!*

By the time you read this, many of you will have already sent in your 1987 Errata Coupon. Don't be surprised if you don't get anything back for several months as we could well be late publishing the revised pages. Due to the great expense of revising these full-color pages for your binder, we have to be extra careful about doing the job right. We've had an astonishingly light amount of questions on *ASL* so our ability to come through with much in the way of corrections would have been greatly curtailed were it not for the effort of one player who seemingly has made *ASL* his life's work. We are greatly indebted to Simon Ellberger, without whose concern the promised errata would have been minimal. We think you'll be pleased with the changes in the revised pages to be issued for your Errata Coupon—both the significant and the trivial.

At the risk of gaining the ire of some of our wargaming audience, I'd like to take a paragraph to mention our new television game—*PRIME TIME*. Each player "owns" a television network and competes to offer the strongest prime time line-up of shows. Not a trivia game, *PRIME TIME* is more along the lines of a traditional "slide and pursuit" game ala *Monopoly*—but much more intriguing. While it has a high level of excitement, there is definitely a skill factor involved (as is our desire) which is more pronounced than in most family games. The innovation that makes this game so different is the "Ratings War" concept in which networks must cancel poor programs and develop new ones. The game is intriguing in itself, but is especially entertaining to television fans who will enjoy the parodies on programming past and present. If you are looking for a simple game you can play with the entire family, look no further. I hope those of you who have come to share my taste in games over the years will give this one some consideration. It has my highest personal endorsement.

On my next project—*QUEST FOR THE IDEAL MATE*—I can hear the hoots and howls of laughter already from our wargaming readers. Say what you will, if it were not for the success of non-battle games like *Dr. Ruth's Game of Good Sex* and *Baseball Strategy*, we wouldn't be in business today. Wargame sales don't pay the bills any more, so we have to branch out if we are to survive. Games like this subsidize our real interest—games of strategy. Actually, this one isn't as syrupy as the title suggests. *QUEST* is a party game for mixed sexes which uses a traditional format and cards containing nine different categories of provocative questions which must be answered truthfully to advance in the game. In the course of all this, the conversation can become very enlightening as people reveal their true personalities, or where they stand on the various issues of the day (be they of national importance or trivial). Unlike many theme games, this one actually does go a long way towards letting people judge their compatibility in a fun setting. Besides, what better way is there to ask a young lady how many times a month she wants to make love?

All three of these projects are scheduled for Spring release.

Don Greenwood

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KAMPFGRUPPE PEIPER
Towards a More Realistic BATTLE OF THE BULGE
By Danny S. Parker

BATTLE OF THE BULGE (1981) is a fine game. It has the advantages of easy to understand and complete rules, an excellent order of battle and a high excitement level in play. However, research conducted over the intervening five years since its publication has revealed a number of improvements that can be made to help this game live up to its true potential. This advanced version of the game is designed to impart even greater historical realism to *BB '81* while also improving play balance.

First, let's examine the problems that exist with the historical "realism" of the game:

1. It is not possible for units (both US and German) to hold positions as they actually did in the battle.

2. There is no reason in the game for players to keep divisions organized in any fashion. In fact there are incentives to separate divisions and create "killer" stacks of high-point armored regiments.

3. Infantry units switch defensive positions too easily in the game, allowing the Allied player to plug holes with greater ease than was the case.

4. A breakout of a German armored *kampfgruppe* — like that of Kampfgruppe Pieper in the actual battle — is nearly impossible since game players are blessed with unlimited knowledge of enemy positions and capabilities.

5. There are disparities between the armored strengths of German units in the game and the actual recorded operational tank strength from available German sources.

6. There are a few omissions in the Order of Battle and corrections to be made in the Order of Appearance. This includes inclusion of the German 89th Infantry and 340th Volksgrenadier divisions and the American 29th and 118th Infantry Regiments (separate). In addition, research has determined that several German divisions arrived earlier than shown in the game's OB.

7. The chronic German problem with maintaining fuel supply to their motorized units is not reflected in the game.

8. There is no historical rationale for the 20+ factor artillery die roll modifier for the German player. The German artillery was plagued by fuel and ammunition shortages that made movement and concentration extremely difficult.

9. Some U.S. units that actually began the battle in improved positions are not shown in them in the game.

10. Units advance across rivers easier when faced with an enemy on the other side than they would unopposed.

An even more significant problem with the 1981 version is the play balance of the game. While it is almost universally recognized that the 1965 version was clearly balanced in favor of the German side, the 1981 version is imbalanced in the opposite direction. In short, it is difficult for the German player to win. We may safely assume that German chances for the capture of Antwerp were historically quite slim. However, if we key a game's victory conditions to performance exceeding that of the Germans in the actual battle, we can reach victory conditions that give both players a chance to "win" while still keeping the outcome uncertain. This is essential to continuing interest in the game and greater excitement in the play level.

ZONES OF CONTROL

The zones of control (ZOC) rules in *BULGE '81* are not realistic. As structured now, attacks are mandatory when units are closer to each other than about two miles. Thus, if an aggressor advances as a result of combat to within two miles to a defender, the defender will have to counterattack the aggressor or withdraw. If this was true in the actual campaign, many of the epic actions would have been quite different. For instance, in the action around (not in) St. Vith known as the "fortified goose egg", the defending Americans were in almost constant contact with the enemy. Although there were limited American counterthrusts, the U.S. units stood their ground — forcing the Germans to root them out of their positions. In the game as it now stands, the Americans would have had to flee simply due to the fact that stronger German forces advanced adjacent to them or received a "Contact" result in combat. Then too, the epic German defense against the Third Army south of Bastogne could not have held for four days in Avalon Hill's battle.

Often in the game, a surrounded American unit is required to attack a superior force and literally commits suicide. This ridiculous tactic won't be found in any historical account. When surrounded and beset by a superior enemy force, it was common in World War II combat for the defenders to consolidate their positions, take whatever cover they could find and prepare to destroy the aggressor by direct fire when they closed. In more peaceful periods, it was common for two enemy forces to co-exist on a quiet front within a mile of each other with little combat. This is precisely the case on the Elsenborn Ridge during the later part of the battle, as well as along the northern front from the Ourthe to the Salm (December 27 through New Year's Day). Mandatory attack rules might be realistic in a WWII game with a scale of a mile or less per hex since this is the effective range of direct fire weapons, but it has no place at this level. As currently stated, the rule seriously distorts how the battle was fought. Probably one of the most realistic games on World War II operational-level combat is *THE LONGEST DAY*. Note that with a scale of 1.2 miles per hex, combat between enemy units adjacent to each other is completely voluntary.

At the same time, when in contact with the enemy in World War II, withdrawal became a tricky procedure which is not well reflected in the game. This gives the American player an unrealistic ability to flit from one defensive position to the next. In actuality, moving from enemy contact could take most of the day. This is reflected in *LONGEST DAY* in the fact that strategic movement is not possible if units begin their turn adjacent to enemy units.

My recommendations:

7.4 Combat is completely voluntary for units in enemy ZOCs; that is, a unit may enter an enemy ZOC and attack *any or none* of the units which he is adjacent to. Units that begin their turn in an enemy ZOC are not required to attack the adjacent enemy units.

7.5 Infantry or paratroop type units that begin their turn in an enemy ZOC use a road movement rate of one (1) Movement Point per hex.

DIVISIONAL COMBAT COORDINATION

This rule induces players to maintain the organization of their divisions. The effect is made punative since playtesting discovered that the Germans run roughshod over the Americans if it is made a negative DRM (a "reward"). The recommended rule has the desired effect — a winning player will keep his divisions organized, particularly when attacking.

17.3.7 In any attack where there is *not* at least two units of a single division participating in the attack, the die roll of the combat resolution is increased by one (+1 drm). There is no additional

effect from having more than one division in the attack. Most divisions consist of three units, and some have only two units (3rd and 15th Panzergrenadier Divisions); the Fuhrer Escort and Fuhrer Grenadier Brigades are considered to be divisions for the purposes of this rule, although they only have a single unit.

17.3.8 In any attack where two or more defending units of a division are in the defending hex or are adjacent to each other, one is added to the resulting die roll in the combat resolution (+1 drm). Thus, it is possible for two die roll modifiers to be added to an attack where there are not two units in a single division involved in an attack against two units of the same division defending either in the same hex (or adjacent to each other).

CORPS AREA CONGESTION

The designer of the Avalon Hill Game version, Bruno Sinigaglio, has already incorporated this rule (see The *GENERAL*, Vol. 21, No. 3) into plans for the next edition. It appropriately reflects the traffic jams that the Germans experienced from the opening of the battle.

1. On the 16 AM and 16 PM turns, all German units have a reduced movement allowance of "2".

2. On the 16 AM turn, all German units move along roads at a cost of *one* movement point per hex.

3. On the 16 PM turn, all German units move along roads at a cost of *one-half* movement point per hex.

KAMPFGRUPPE PEIPER

The exploits of *Kampfgruppe Peiper* are legend. The unit was lavishly equipped, well-trained and ruthlessly led. According to Hitler's own instructions, Peiper's lead role in the 6th Panzer Army attack was to be conducted with a "wave of terror and fright without humane inhibitions". The confusion in the Allied camp in the early morning hours of December 17th set the stage for the breakout of the German armor and the massacre that was to follow.

Peiper's force was exceptionally strong with 5000 men, 100 tanks (including 30 Tigers), a battalion each of panzergrenadiers and self-propelled artillery, a motorized flak battalion (including five "Wirbelwind" flak tanks), a combat engineer battalion and panzer recon battalion. Later a battalion of the 9th Fallshirmjager Regiment would join the combat force. Peiper's men were accustomed to the intense and barbaric conflict that prevailed on the Eastern Front and had been used there to blast through enemy lines to strike deep into enemy territory. Peiper's brutal type of warfare had earned his unit the epithet "blowtorch battalion" in Russia.

On the night of December 16th and the early morning hours of the next day, confusion was rampant at all levels of the Allied command structure. There was little knowledge of the German intentions or locations, but the front had been ruptured in numerous points and some American units experienced the panic of the *blitzkrieg* that had enveloped Europe four years earlier. Portions of the front were undefended, especially in the Losheim Gap. The situation was ripe for German armored exploitation.

1. The *Kampfgruppe Peiper* unit has a combat and movement allowance of "15-5".

2. On the 17 AM turn, the KG Peiper unit may ignore enemy ZOCs in its movement and advance after its combat.

3. Any attack on the 17 AM turn involving the KG Peiper unit has one subtracted from the resolution die roll (−1 drm).

SURRENDER

Surrounded and isolated units in hopeless situations would often surrender rather than face total annihilation. Inexperienced troops such as those of the U.S. 106th Division were particularly prone to surrender. Others, like the paratroopers of both sides or the Waffen SS, would as soon fight to the last man.

1. In any turn that a "Green" unit is isolated, surrounded by enemy ZOCs, and is more than four hexes from the nearest friendly supplied unit, it must roll to determine if it *surrenders*. It surrenders on a die roll of "1" or "2". Other non-paratrooper and non-SS units surrender under such circumstances on a die roll of "1". Units that surrender are considered to be eliminated from play and are removed from the board. Paratroop and SS units never surrender. If there is a stack of units, roll only once for the hex with results applied to all therein; the least likely (including SS and paratroop) unit in the stack is used to determine whether the entire group surrenders.

2. "Green" units are those that were inexperienced at the time of the campaign. They are any units of the following divisions:

American	German
75th INF	352nd VG
87th INF	62nd VG
99th INF	276th VG
106th INF	560th VG
11th ARM	

VICTORY CONDITIONS

24.2 For the *Outbreak Scenario*, points are awarded at the end of play to the player controlling:

Leige and Namur hexes: 15 points each
Meuse River city hexes: 6 points each
Any other of the 50 towns: 1 point each

25.3 For the *Campaign Scenario*, the time requirement for the various victory conditions is changed from four consecutive turns to *two* consecutive turns. The *German Victory, Meuse River* is now attained if there are supplied German combat units in at least five of the following eight towns for two consecutive turns: Givet, Dinant, Namur, Andenne, Huy, Bastogne, St. Vith, Spa.

GERMAN ARMORED STRENGTH

The formula for determining the German armored strengths appears to have been as follows: total tank strength divided by ten and then one support strength point was added to Wehrmacht units and two support strength points were added to SS armored units. *Jdpz* and *StuG* strengths are alloted to the panzergrenadier units. Using this formula basis and the very best available information on German tank strengths (Microfilm T-311, Roll 18 and the *Lage Frankreich* maps for 16-24 Dec 1944) yields the following:

German Tank Strengths

Division	Tank (IV,V,VI)	Jgdz/ StuG	Total AFV	Strength
Lehr	63	55	118	7
1 SS	117	22	139	14
2 SS	86	48	134	11
9 SS	74	49	123	9
10 SS	69 (59)	32	101	8
12 SS	83	47	130	10
2nd	79	48	127	9
9th	89	11	100	10
11th	95	19	114	10
116th	71	25	96	8
FBB	23	48	71	3
FGB	46	34	77	6
3 PzG	—	46 (41)	46	0
15 PzG	15	58	73	0

(59): 59 of the 69 tanks in 10th SS were in short-term repair as of 10 December.

(41): 41 additional assault guns were in shipment in December. However, most seem not to have arrived in time for the campaign.

There are a number of implications for the units in the game to be drawn from the chart and sources:

1. Lehr/903 did not exist. The single reference by Bayerlein in A-941 on page 26 is contradicted by all other sources which indicate that the group to which Bayerlein was referring to as near Tellin on December 24th was the s. Panzerjager Abt. 559 and 243rd StuG Battalion (also referred to as the I/130). It is also noteworthy that the map in the same document covering this period indicates that elements of the 902nd (KG von Porschinger) were covering the flank, so that this is likely a mere typo. Describing the same operation a translation of Ritgen reads:

" . . . the division continued its march later than planned because it had to wait for a supply convoy of fuel trucks. Both of the kampfgruppes were assigned to seize Rochefort that day. Kampfgruppe von Fallois (Lehr Aufklarungs Abt.) took the route Masbourg-Fourrieres; Kampfgruppe von Porschinger approached Rochefort via Grupont-Wavreilles.

Note that Grupont is within one kilometer of Tellin and that KG von Porschinger consisted of Lehr/902, most of II/130, s. Pzjgr 559 and StuG 243. Thus, it is reasonable to replace "Lehr/903" with a "KG von Fallois" — a reconnaissance kampfgruppe of regimental strength with the designation *Lehr/130 ALA* and a combat and movement strength of "4-6" and with two 7-4 panzergrenadier regiments.

2. The strength of the Fuhrer Grenadier Brigade should be increased to "10-4" due to the considerable AFV strength available. It also would be more correctly depicted as a panzer brigade than a panzergrenadier unit since it had more and better AFVs than did the Fuhrer Begleit Brigade. The organization of the brigade is described in *Die Geschichte des Panzerkorps Grossdeutschland*. Its panzer strength at the time of commitment can be taken from the *Lage Frankreich* maps that cover the Ardennes period.

3. The strength of the panzer regiments of the other divisions should be adjusted as shown in the chart. These are taken from Microfilm T-311, Roll 18 - which was the source for Jung and is probably the best original source available for the German forces.

4. 1SS/1 KG Peiper should be made a "15-5" since the unit had considerable initiative, a highly-trained and motivated cadre and included the 45 MkVI IIs of 501st SS which were worth more in combat tank-for-tank than any other AFV in World War 2.

CHANGES TO REINFORCEMENT SCHEDULES

Based on German troop movements gleaned from the *Lage Frankreich* maps, the reinforcement schedules are altered as follows:

79th VG Division arrives 21 PM turn.
9th VG Division arrives 26 AM turn.
Fuhrer Grenadier Brigade arrives on 21 PM turn.

Unless 11th Panzer Division arrives by crossing of the Meuse River, it arrives at hex XX26 on the 24 AM turn, but may not cross west of the Our River until the Allied player captures any of the following: Wiltz, Vianden, Houffalize, Echternach or Clerf.

New German Units. Again based on the *Lage Frankreich* maps of the later stages of the battle:

89th Infantry Division (two rgts) arrives 29 AM turn at hex XX3:
89/1055 (4-3) and 89/1056 (4-3)
340th Volksgrenadier Division arrives 30 AM turn at hex XX3: 340/694,
340/695 and 340/696 (4-3 each)

EVALUATION OF COMBAT STRENGTHS IN BULGE '81

The purpose of this study is to determine, as objectively as possible, the relative combat strength of the divisions fighting in the Ardennes in the winter of 1944. This task is accomplished through the use of a uniform numerical accounting methodology. The analysis involves "counting rifles" as well as trying to evaluate less tangible factors such as training, morale and motivation of combat formations.

The basic unit of "firepower scores" is the infantry battalion which is allotted a strength of "1.0". Other weapons were evaluated to determine their effectiveness relative to this standard:

German	Score	U.S.	Score
Inf Bn	1.0	Inf Bn	1.0
Lt Artillery Bn (105s)	1.0	Lt Art Bn (75mm)	0.5
Med Art Bn (150mm)	1.5	Med Art Bn (105mm)	1.0
Hvy Art Bn (170mm+)	2.0	Hvy Art Bn (155+)	2.0
Werfer Bn	1.0	Recon Bn	1.5
Recon Bn	2.0	AA Bn	0.5
Flak Bn	1.0	76mm AT—Towed	.3
Pionere Bn	1.0	Engineer	1.0
7.5cm Pak	0.5	M-5 Tank	1/45
Mk IV Pz	1/15	M-4 Tank	1/16
Mk V Pz	1/10	M-10 TD	1/20
Mk VI Pz	1/7	M-18 TD	1/19
Jg38t	1/20	M-36 TD	1/17
JgIV	1/18		
JgV	1/15		
JgVI	1/10		
StuGIII	1/18		

These categories are described in a spreadsheet to facilitate the calculation. Another characteristic is given called "Adjustment" that allows alteration to the firepower score based on quantitative or qualitative information. AFV totals are based on "on hand" amounts rather than the TO&E establishment, which was seldom realized for either combatant. German mortar battalions are considered as medium artillery for the scores. The American score for the 155mm piece is greater than the German 150mm due to the superior U.S. fire control and observation.

Note that German reconnaissance battalions are considered to be more effective than the U.S. counterparts. This is due to the fact that tactically, the German reconnaissance battalion had a better defined role and was typically equipped as a fast attack force rather than as a light reconnaissance team.

The German 7.5cm PAK was a dual purpose weapon with an anti-tank capability as well as an infantry support artillery piece. On the other hand, the U.S. 76mm piece was solely designed as a towed anti-tank weapon. Finally, the tactical employment of German towed anti-tank weapons was generally superior (they had a lot more experience with it), further increasing their effectiveness. The same is true of the German flak versus the U.S. AA battalions. The Germans used these guns to great service in ground support and as an extremely effective anti-tank piece, whereas the U.S. weapon often spent time guarding bridges and watching for the scarce German aircraft.

The tank strengths were evaluated with consideration of gun effectiveness, armor, range and mobility (in that order of importance). Other considerations included gun transverse (or the lack of it in German panzerjagers) and the lack of overhead protection in the case of the U.S. tank destroyers.

Other quantitative and qualitative factors in the "adjustment" must include:

1. Casualties or understrength units
2. Missing equipment
3. Training
4. Motivation
5. Morale

These are best described on a division by division basis. This is given below for both the German and U.S. forces.

1SS: Superior equipment, training and morale, 501SS Pz Abt attached and organic werfer abt. Over strength in personnel.

2SS: Well equipped. Up to strength with better than average replacements.

9SS: Poor replacements and lack of transport. AFV totals does not include 519 s.Pzjgr abt. as was attached to 3FJ on arrival in the Ardennes (Dec. 21).

10SS: Understrength in equipment and men. Assumes all AFV were in operation by time of commitment. Includes 655 s. Pzjgr.

12SS: Up to strength but poor transport and weak recon abt. Organic werfer battalion, 560 s. Pzjgr attached.

Lehr Pz: Includes s. 559 Pzjgr and 243 StuG. Short rifle strength in PzGr bns but superior experience and morale.

2 Pz: Rested, well equipped and trained. One of the best German divisons. Up to strength.

116 Pz: Experienced with good morale but short transport and armor.

9 Pz: A very good German division with the attached 301 s. Pz Abt. (Tigers) but missing its artillery reg until after Christmas.

Fuh Begleit Brigade: Manteuffel considered these troops superior to any in the Ardennes (MS B-151). Received additional StuGs while in the battle (Lage Frankreich for Christmas Eve shows 60 StuG on hand with the brigade). The pz abt. (MkIV longs) was from Gross Deutschland and was very well trained.

Fuh Gr Brigade: Not fully refitted from recent combat. Good replacements but too little training as a coordinated force. 6,000 men with one abt each on halftracks, trucks and bicycles; attached 911 StuG Brig. Piecemeal commitment due to fuel troubles.

3 Pz Gr Div: Missing 20% of rifle strength and 40% of equipment—transport and the recon abt was weak. Many AFV in shipment; no evidence that any appeared. Not completely rested.

15 Pz Gr. Div: As above, but with better recon abt and more StuG.

150 Pz Brig: Miscellany of units and equipment. One adjustment point allotted due to the capabilities of the commando units, the elite status of KG 200 and the deception potential.

3 FJ: Poor training, questionable tactical capability. Little motivation for aggressive offense after initital reverses (commander lacked any experience with infantry operations). No AFV although 519 s. Pzjgr attached on 21st. Reconnaissance company and mortar battalion. The 8th regiment did not arrive until the evening of the 16th.

5 FJ: Short on training but more veteran cadre and good morale. 15 FJ Reg was partially motorized. Missing mortar battalion. 11th StuG Brigade attached with 30 AFV (18 operational on 16 Dec). Two replacement battalions. Missing divisional pzjgr battalion.

9 VG: 7th Army considered a good division. Experienced officers and NCOs. Suffered scattered commitment. Fusiler company is shown as a recon entry.

12 VG: Extra fusiler battalion, excellent morale and experience. Best infantry division in 6 Pz Army.

18 VG: Up to strength and familiar with terrain. Attached 244 StuG Brigade. 506 s. Pz Abt. (8 Tigers) fought in its sector from 17 Dec to 21 Dec. Little experience but good training.

26 VG: This was only a 6 battalion division, but each battalion had the equivalent of 6 companies (many extra heavy weapons companies). Also, strong reconnaissance abt. and superior experience. Best infantry division in Army Group B.

62 VG: Regulation equipment but completely inexperienced.

79 VG: Missing pzjgr company and other equipment. Scattered commitment. Uneven performance.

89 Inf: Two regiments with three battalions each and fusiler battalion—all seriously understrength.

167 VG: Better experienced division with fusilier battalion. Pzjgr abt arrived late.

212 VG: Good NCOs and better training. Fusilier battalion. Best division in 7th Army.

246 VG: Understrength from recent fighting.

272 VG: Seriously depleted rifle strength from current fighting.

276 VG: According to the 7th Army Chief of Staff—"The division was a deception." Defective training, "unqualified commanders" and no assault guns. An armed mob.

277 VG: Originally in the sector. Poor morale in some of the replacements.

326 VG: Depleted strength from recent combat and loans to 272 VG. Poor training and little tactical finesse. No StuG and little transport.

340 VG: Better training than average and experienced NCOs. Fusilier battalion.

352 VG: Overstrength with 13,000 men, but poorly trained. Good morale.

560 VG: Regulation equipment but little training. Good marching performance and morale.

U.S.

2 Arm: Superior training, experience and morale. M-36 90mm TDs in the TD Bn. Rested and fully equipped.

3 Arm: Up to strength with '42 Armored Div. organization. SP TD battalion loaned to 1st Division. Good division.

4 Arm: Missing rifle strength but superior experience. Tanks and half-tracks in poor repair. M-18 TDs.

6 Arm: Fully equipped, veteran division. M-18 TDs.

7 Arm: Good division. Rested and up to strength. M-36 90mm TDs.

9 Arm: Regulation equipment but inexperienced. M-18 TDs.

10 Arm: Up to strength. M-18 TDs.

11 Arm: Completely inexperienced—right off the boat. Missing SP TD bn.

1 Inf: Many green replacements but superior veteran cadre, morale and experience. Equipment in excess of TO&E. Attached tank, and two SP TD battalions including 90mm guns!

2 Inf: Superior experience and morale. Regiments on line down in rifle strength from current engagement. Extra attached tank and M-10 TDs. Overequipped with automatic weapons.

4 Inf: Experienced but short rifle strength from Hurtgen engagements. Attached tank and M-10 TD battalions understrength.

5 Inf: Good division. Up to strength with tank and M-10 TDs.

9 Inf: Slightly low on rifle strength but one of the best infantry divisions in the ETO. Missing SP TD battalion. Not commited as a division.

26 Inf: Up to strength with tank and M-10 TDs. Many inexperienced replacements reluctant to fight without armored support.

28 Inf: Veteran division but with many inexperienced replacements. Recovering from huge November losses. Missing SP TD battalion.

30 Inf: Called "Roosevelt's SS" by the Germans. Superior experience and morale. An excellent division with tank and TD support. 99 Inf and 526 Arm Inf Bns attached.

35 Inf: Understrength with many infantry replacements. Not rested from recent battle. Missing tank battalion.

75 Inf: Completely green. Chaotic tactical ability on first engagement. Tank and M-10 TDs.

78 Inf: Only recently in line and short rifle strength from losses. Tank and two TD battalions (M-10 and M-36). Little experience.

80 Inf: Up to strength, rested and in good condition. Tank and M-36 TD battalions.

82 Abn: Up to strength. Attached parachute infantry battalions. Experienced and incredibly aggressive. Lacked organic artillery support.

83 Inf: Experienced division missing some rifle strength with no tank or SP TD battalions attached.

84 Inf: Good division but missing rifle strength from recent engagements. Tank and M-10 TD Bns attached.

87 Inf: Inexperienced division. Missing tank and TD Bns.

99 Inf: Completely green. Missing tank and SP TD battalions.

101 Abn: Attached glider infantry battalions. Up to strength with considerable eprit de corps. Attached M-18 TD Bn and 155 FA Bn.

17 Abn: Completely inexperienced, but aggressive. Little organic combat support elements.

106 Inf: Completely green and poorly trained. No tank or SP TD Bn. Just arrived in the Ardennes prior to the battle.

Statistical Analysis

The study results were compared to the numerical values in the *BATTLE OF THE BULGE* game. This is shown in the attached spreadsheet. It was obvious that *BULGE* values were smaller than those in the study, so a linear regression was performed to determine a proper scaling value. The origin was forced through the zero intercept with little reduction in the correlation coefficient. R-squared was .81, inferring that the values in the study explained about 81% of the variation in combat values in the *BULGE* game.

The average study firepower value translates into .85 factors in Avalon Hill's game. Based on this relationship, it was possible to adjust the study values (REGRESS EST) to reflect this ratio. Finally, the absolute fractional difference in the scores and those in the game was estimated to locate the formations on which there existed a significant disagreement (CO VAR). Generally, due to the somewhat subjective nature of the process of evaluating combat formations and the limitations of their incorporation in a countermix, it was decided that disagreements of 0%—15% were relatively insignificant. Those greater than 15% were starred—one star for each 5% disparity on the overall strength predicted.

The final spreadsheet reflects the recommended strength changes to the *BULGE* game (described in the body of the text). In this assessment (REVISION), overall agreement is significantly greater with R-squared increased to .94. Generally, the study finds the German strength to be underevaluated relative to that of the Allied forces, particularly for infantry formations.

It is possible to differ with some of the quantitative evaluations made for the competing forces. Unless the conversion values are radically changed, it is unlikely that results will change significantly since only serious disagreements are addressed. Errors in battalion counts are likely to have a more substantial effect. These were double-checked to reduce the likelihood of error.

Division	246VG	272VG	276VG	277VG	326VG	340VG
TOTAL	11.6	10.1	10.7	11.7	11.5	14.5
Inf Bns	6	6	6	6	6	6
Lt Art Bn	3	3	3	3	3	3
Med Art	1	1	1	1	1	1
Hvy Art	0	0	0	0	0	0
Werfer Bn	0	0	0	0	0	0
Recon	0.25	0.25	0.25	0.25	0.25	1
Flak	0	0	0	0	0	0
MkIV	0	0	0	0	0	0
MkV	0	0	0	0	0	0
MkVI	0	0	0	0	0	0
JgIV	0	0	0	0	0	0
JgV	0	0	0	0	0	0
JgVI	0	0	0	0	0	0
Jg38t	2	10	4	4	0	9
StuG	0	0	0	0	0	0
7.5cm Pak	1	1	1	1	1	1
Pioniere	1	1	1	1	1	1
Adjust +/−	−1.0	−3.0	−2.0	−1.0	−1.0	0.0

Division	1SS	2SS	9SS	10SS	12SS	Lehr	2Pz	116Pz	9Pz	11Pz	FBB	FGB	3PzGr	15PzGr	150PzB
TOTAL	33.8	26.5	25.0	23.7	26.7	20.6	22.8	19.7	21.2	21.3	14.4	11.9	15.7	16.4	7.5
Inf Bns	6	6	6	6	6	4	4	4	4	4	3	3	6	6	3
Lt Art Bn	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1
Med Art	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0
Hvy Art	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
Werfer Bn	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Recon	1	1	1	1	1	1	1	1	1	1	0.25	0.25	1	1	0.5
Flak	2	1	1	1	1	1	1	1	1	1	2	1	1	1	0.5
MkIV	34	28	39	34	42	34	28	26	28	39	23	11	0	15	0
MkV	38	58	35	35	41	29	51	45	47	56	0	35	0	0	6
MkVI	45	0	0	0	0	0	0	0	14	0	0	0	0	0	0
JgIV	22	20	21	24	37	24	20	25	11	19	0	0	22	20	0
JgV	0	0	0	8	10	5	0	0	0	0	0	2	0	0	0
JgVI	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
Jg38t	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
StuG	0	28	28	0	0	22	28	0	0	0	48	34	24	38	5
7.5cm Pak	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0.25
Pioniere	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
Adjust +/−	2.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	−1.0	−1.0	−1.0	1.0

Division	3FJ	5FJ	9VG	12VG	18VG	26VG	62VG	79VG	89Inf	167VG	212VG	246VG	272VG	276VG	277VG	326VG
TOTAL	15.0	16.8	13.2	15.3	13.9	18.8	12.3	11.0	11.3	14.7	15.2	11.6	10.1	10.7	11.7	11.5
Inf Bns	9	9	6	6	6	9	6	6	6	6	6	6	6	6	6	6
Lt Art Bn	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Med Art	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hvy Art	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Werfer Bn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recon	0.25	0.25	0.25	1	0.25	1	0.25	0.25	1	1	1	0.25	0.25	0.25	0.25	0.25
Flak	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MkIV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MkV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MkVI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JgIV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JgV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JgVI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jg38t	0	0	12	6	11	14	14	0	5	12	4	2	10	4	4	0
StuG	0	30	0	0	14	0	0	0	0	0	0	0	0	0	0	0
7.5cm Pak	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1
Pioniere	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Adjust +/−	−2.0	0.0	0.0	1.0	0.0	1.0	−1.0	−1.0	−3.0	0.0	1.0	−1.0	−3.0	−2.0	−1.0	−1.0

Division	2Arm	3Arm	4Arm	5Arm	6Arm	7Arm	9Arm	10Arm	11Arm	1 Inf	2 Inf	4 Inf	5 Inf	9th Inf	26 Inf
TOTAL	27.2	22.8	20.0	22.9	23.4	22.6	22.2	21.1	17.7	21.2	19.1	15.0	18.2	17.5	17.2
Inf Bns	3	3	3	3	3	3	3	3	3	9	9	9	9	9	9
Lt Art Bn	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Med Art	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Hvy Art	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
Recon Bn	1	1	1	1	1	1	1	1	1	0.25	0.25	0.25	0.25	0.25	0.25
AA Bn	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M-5 Tank	127	120	57	69	75	69	75	69	69	0	0	0	0	0	0
M-4 Tank	187	176	132	168	180	160	177	156	160	27	47	11	40	37	40
M-10 TD	0	0	0	0	0	0	0	0	0	30	0	15	30	0	30
M-18 TD	0	0	32	32	32	0	32	32	0	0	30	0	0	0	0
M-36 TD	32	0	0	0	0	32	0	0	0	30	0	0	0	0	0
AT-76mm	0	1	0	1	0	1	0	1	1	0	1	1	0	0	0
Engineer	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0
Adjust +/−	2.0	0.0	0.0	0.0	0.0	0.0	−1.0	0.0	−2.0	1.0	0.0	−1.0	0.0	1.0	−1.0

Division	28 Inf	30 Inf	35 Inf	75 Inf	78 Inf	80 Inf	82 Abn	83 Inf	82 Abn	83 Inf	84 Inf	87 Inf	99 Inf	101 Abn	17 Abn	106 Inf
TOTAL	15.1	20.2	14.7	16.5	18.0	18.5	16.3	14.5	16.3	14.5	17.4	13.5	13.5	20.4	12.8	11.5
Inf Bns	9	10	9	9	9	9	11	9	11	9	9	9	9	12	10	9
Lt Art Bn	0	0	0	0	0	0	2	0	2	0	0	0	0	2	1	0
Med Art	3	3	3	3	3	3	2	3	2	3	3	3	3	2	2	3
Hvy Art	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1
Recon Bn	0.25	0.25	0.25	0.25	0.25	0.25	0	0.25	0	0.25	0.25	0.25	0.25	0	0	0.25
AA Bn	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M-5 Tank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
M-4 Tank	25	40	0	40	40	40	0	0	0	0	42	0	0	0	0	0
M-10 TD	0	30	30	30	30	0	0	0	0	0	0	0	0	0	0	0
M-18 TD	0	0	0	0	0	0	0	0	0	0	0	30	0	0	30	0
M-36 TD	0	0	0	0	30	30	0	0	0	0	0	0	0	0	0	0
AT-76mm	1	0	0	1	0	0	0	1	0	1	0	1	1	0	0	1
Engineer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjust +/−	−1.0	1.0	−1.0	−2.0	−2.0	0.0	2.0	0.0	2.0	0.0	−1.0	−1.0	−1.0	2.0	0.0	−3.0

New U.S. Units. The source for these is the *After Action Report* for the Third Army and 29th Infantry Regiment (Separate) for December 1944:

29th Infantry Regiment (3-4) arrives 22 AM at hex I1.

118th Infantry Regiment (3-4) arrives 24 AM at hex A22.

99th DIVISION AND 110th REGIMENT/28th DIVISION

Describing the positions that his men held at the beginning of the battle, General Lauer wrote, "I was extremely proud of my men. I had complete confidence in them. I knew they were entrenched in covered foxholes which I had inspected at various times . . ." (from *Battle Babies: Story of the 99th Infantry Division*).

In the sector of the 110th Infantry Regiment of the 28th Division, the regiment was so spread out that it occupied "village strongpoints each manned in rifle company strength". However, the stubborn American defense at Weiler, Holzthum, Consthum, Hosingen and Marnach was sufficient to deny the Germans access to the Clerf River for 24 hours. Hosinger and Consthum would not fall until the 18th of December! Of their stand, MacDonald writes (*A Time for Trumpets*), "Nowhere on the first day of the German offensive was there a more remarkable achievement by the American soldier."

The 99th Division, and the 110th Regiment of the 28th Division, should begin the game in improved positions on the morning of December 16th. Thus, the Allied player should place improved positions in hexes SS8, SS10 and LL23 at the beginning of the game.

EFFECTS OF FORTS

The effect of forts in the present game design is to not require defending units to attack when adjacent to enemy units. Since this rule has been rescinded in this version of the game, the advantage of forts should simply be that they give the defender a +1 die roll modifier. The towns of Monshau and Echternach should begin the game with forts constructed therein.

"The 38th Cavalry Squadron was aligned from Monshau north to Konzen station holding a continuous position with fifty dismounted machine guns dug in behind barbed wire and trip flares covering the approaches from the east." Cole, *The Ardennes: The Battle of the Bulge*

1. Forts have a +1 DRM on combat, which is their sole advantageous effect.

2. Forts are present at the beginning of play in the towns of Echternach (hex VV33) and Monshau (hex PP4).

ADVANCE ACROSS RIVERS

Penalties for advance across rivers in the game are too lenient. It is possible for units to move onto a river hex and attack adjacent enemy units and then advance across the river (which they would be unable to do otherwise) up to four additional hexes. Combat operations across rivers in December 1944 in the Ardennes were exceedingly difficult. In terms of the attacks across the Our River on the first day, it is useful to examine the depth of the maximum

Final Spreadsheet Analysis

Below are shown the final spreadsheet figures drawn from previous data (see pages 39-41). Explanation of this presentation can be found under the heading "Statistical Analysis" above. As can be noted, after revision, only five divisional strengths deviate significantly from the historical norm. Recommended changes are summarized on the opposite page.

DIV	STUDY	BULGE	REGRESS EST	COEFF VAR	DIV	STUDY	REVISION	REGRESS EST	COEFF VAR
1SS	33.8	26.0	28.7	−0.09	1SS	33.8	29.0	29.1	−0.00
2SS	26.5	25.0	22.5	0.11	2SS	26.5	25.0	22.8	0.09
9SS	25.0	24.0	21.2	0.13	9SS	25.0	23.0	21.5	0.07
10SS	23.7	22.0	20.1	0.09	10SS	23.7	22.0	20.4	0.08
12SS	26.7	25.0	22.6	0.10	12SS	26.7	25.0	23.0	0.09
Lehr	20.6	18.0	17.5	0.03	Lehr	20.6	18.0	17.7	0.01
2Pz	22.8	21.0	19.3	0.09	2Pz	22.8	21.0	19.6	0.07
116Pz	19.7	21.0	16.7	0.26***	116Pz	19.7	19.0	17.0	0.12
9Pz	21.2	16.0	18.0	−0.11	9Pz	21.2	18.0	18.3	−0.01
11Pz	21.3	20.0	18.1	0.11	11Pz	21.3	20.0	18.4	0.09
FBB	14.4	11.0	12.2	−0.10	FBB	14.4	12.0	12.4	−0.03
FGB	11.9	6.0	10.1	−0.41******	FGB	11.9	10.0	10.3	−0.02
3PzGr	15.7	16.0	13.3	0.20*	3PzGr	15.7	14.0	13.5	0.03
15PzGr	16.4	16.0	13.9	0.15	15PzGr	16.4	16.0	14.1	0.13
150PzB	7.5	7.0	6.4	0.10	150PzB	7.5	7.0	6.5	0.08
3FJ	15.0	15.0	12.7	0.18*	3FJ	15.0	15.0	12.9	0.16*
5FJ	16.8	15.0	14.2	0.05	5FJ	16.8	15.0	14.5	0.04
9VG	13.2	9.0	11.2	−0.20*	9VG	13.2	9.0	11.4	−0.21**
12VG	15.3	9.0	13.0	−0.31****	12VG	15.3	12.0	13.2	−0.09
18VG	13.9	11.0	11.8	−0.07	18VG	13.9	11.0	12.0	−0.08
26VG	18.8	15.0	15.9	−0.06	26VG	18.8	15.0	16.2	−0.07
62VG	12.3	9.0	10.4	−0.14	62VG	12.3	9.0	10.6	−0.15
79VG	11.0	9.0	9.3	−0.04	79VG	11.0	9.0	9.5	−0.05
89VG	11.3	10.0	9.6	0.04	89VG	11.3	10.0	9.7	0.03
167VG	14.7	9.0	12.5	−0.28***	167VG	14.7	12.0	12.7	−0.05
212VG	15.2	9.0	12.9	−0.30***	212VG	15.2	12.0	13.1	−0.08
246VG	11.6	9.0	9.8	−0.09	246VG	11.6	9.0	10.0	−0.10
272VG	10.1	9.0	8.6	0.05	272VG	10.1	9.0	8.7	0.03
276VG	10.7	9.0	9.1	−0.01	276VG	10.7	9.0	9.2	−0.02
277VG	11.7	9.0	9.9	−0.09	277VG	11.7	9.0	10.1	−0.11
326VG	11.5	9.0	9.8	−0.08	326VG	11.5	9.0	9.9	−0.09
340VG	14.5	9.0	12.3	−0.27***	340VG	14.5	12.0	12.5	−0.04
352VG	12.8	9.0	10.9	−0.17*	352VG	12.8	9.0	11.0	−0.18*
560VG	12.1	9.0	10.3	−0.12	560VG	12.1	9.0	10.4	−0.14
2Arm	27.2	21.0	23.1	−0.09	2Arm	27.2	23.0	23.4	−0.02
3Arm	22.8	21.0	19.3	0.09	3Arm	22.8	21.0	19.6	0.07
4Arm	20.0	16.0	17.0	−0.06	4Arm	20.0	16.0	17.2	−0.07
5Arm	22.9	18.0	19.4	−0.07	5Arm	22.9	18.0	19.7	−0.09
6Arm	23.4	18.0	19.8	−0.09	6Arm	23.4	18.0	20.2	−0.11
7Arm	22.6	18.0	19.2	−0.06	7Arm	22.6	18.0	19.5	−0.08
9Arm	22.2	18.0	18.8	−0.04	9Arm	22.2	18.0	19.1	−0.06
10Arm	21.1	18.0	17.9	0.01	10Arm	21.1	18.0	18.2	0.01
11Arm	17.7	18.0	15.0	0.20*	11Arm	17.7	16.0	15.3	0.05
1Inf	21.2	18.0	18.0	0.00	1Inf	21.2	18.0	18.3	−0.01
2Inf	19.1	16.0	16.2	−0.01	2Inf	19.1	16.0	16.5	−0.03
4Inf	15.0	12.0	12.7	−0.06	4Inf	15.0	12.0	12.9	−0.07
5Inf	18.2	15.0	15.4	−0.03	5Inf	18.2	15.0	15.7	−0.04
9Inf	17.5	15.0	14.8	0.01	9Inf	17.5	15.0	15.1	−0.01
26Inf	17.2	15.0	14.6	0.03	26Inf	17.2	15.0	14.8	0.01
28Inf	15.1	15.0	12.8	0.17*	28Inf	15.1	15.0	13.0	0.15*
30Inf	20.2	15.0	17.1	−0.12	30Inf	20.2	18.0	17.4	0.03
35Inf	14.7	12.0	12.5	−0.04	35Inf	14.7	12.0	12.7	−0.05
75Inf	16.5	15.0	14.0	0.07	75Inf	16.5	15.0	14.2	0.06
80Inf	18.5	15.0	15.7	−0.04	80Inf	18.5	15.0	15.9	−0.06
82Abn	16.3	16.0	13.8	0.16*	82Abn	16.3	16.0	14.0	0.14*
83Inf	14.5	15.0	12.3	0.22**	83Inf	14.5	12.0	12.5	−0.04
84Inf	17.4	12.0	14.8	−0.19*	84Inf	17.4	15.0	15.0	0.00
87Inf	13.5	15.0	11.4	0.31****	87Inf	13.5	12.0	11.6	0.03
99Inf	13.5	15.0	11.4	0.31****	99Inf	13.5	12.0	11.6	0.03
101Abn	20.4	16.0	17.3	−0.08	101Abn	20.4	16.0	17.6	−0.09
17Abn	12.8	14.0	10.9	0.29***	17Abn	12.8	12.0	11.0	0.09

Regression Output:

Constant	0.000	Constant	−0.422	Constant	0.000	Constant	−0.924
Std Err of Y Est	2.075	Std Err of Y Est	2.089	Std Err of Y Est	1.192	Std Err of Y Est	1.173
R. Squared	0.819	R Squared	0.820	R. Squared	0.937	R Squared	0.940
No. of Observations	61.000	No. of Observations	61.000	No. of Observations	61.000	No. of Observations	61.000
Degrees of Freedom	60.000	Degrees of Freedom	59.000	Degrees of Freedom	60.000	Degrees of Freedom	59.000
X Coefficient(s)	0.848	X Coefficient(s)	0.870	X Coefficient(s)	0.862	X Coefficient(s)	0.911
Std Err of Coef.	0.015	Std Err of Coef.	0.053	Std Err of Coef.	0.008	Std Err of Coef.	0.030

penetration in the first 24 hours. The "maximum penetration" is taken from the narrative in a Luxembourg history (Melchers) based on original sources.

Division	Penetration
2nd Pz	Marnach (2 miles)
26th VG	Holzthum (3 miles)
5th FJ	Merscheid (4 miles)
352nd VG	Tandel (2 miles)
276th VG	Beaufort (1 mile)
212th VG	Osweiler (2 miles)

Since hexes in *BULGE '81* are roughly two miles across, this amounts to a one or two-hex advance in the first two turns! Too, this didn't apply solely to the opening German assault. Refer to the description of the German attempts to cross the Salm River against opposition in MacDonald's book (*A Time for Trumpets*, pp. 453-455). Other designers have noted this tactical reality in World War 2 combat. Units may not advance across river hexsides at all after successful combat in *THE LONGEST DAY*! Without limiting the German player too severely, I offer the following to curb the excess allowed by the current rules:

1. Advances across rivers after successful combat is limited to one hex, except across bridges or town hexes astride the river.

DELETE THE DIE ROLL MODIFIER FOR 20 + ARTILLERY FACTORS

There is no historical basis for the die roll modifiers for large concentrations of artillery for the Germans in the Ardennes Offensive. Although groups of artillery formed centers of gravity for attacks in World War 2, this rule is currently abused in the game. I recommend deleting the rule as it stands now. The sheer mass of attack factors inherent in multiple artillery has its own virtue.

The Germans lacked the basic ammunition and transport necessary to use the "Fire Direction Battery" concept often in the Ardennes (Luttichen, 1957). One was formed temporarily in the Bastogne area for the fighting there, but was countered by a similar organization of III Corps artillery. Never in the Ardennes, even in the fighting around Bastogne, did the German command have sufficient ammunition on hand to engage in continuous massed fire as they had so successfully done on the Eastern Front. According to the *Heeresgruppe B* Artillery Commander:

"A necessity of prime importance was to bring strong artillery units up fast enough with the essential ammunition and motor fuel after a penetration had been achieved, because the enemy would carry out countermeasures on the German forces' flanks. The necessary artillery forces to ensure this, however, were not at hand; there was a shortage of towing mediums, transport space was lacking for ammunition and motor fuel. We did not see far enough ahead to contemplate the difficulties which would later ensue owing to the roads and terrain." (Thoholte, MS B-311)

And, the commander of the 5th Panzer Army artillery . . .

"On the 24th of December, the situation caused the senior artillery commander to dissuade the commander of the Fifth Panzer Army from bringing up the artillery and nebelwerfers which were still left at the line of departure to commit them before Bastogne. Considering the fuel scarcity which had already seriously handicapped the supply of ammunition, we were forced to propose that this idea be dropped for the present in order to supply the artillery and nebelwerfers already committed." (Metz, MS B-393)

If any DRM should be allowed in the game for massed artillery, it should be limited to one DRM subtraction that is allotted to massed Allied fire during clear weather (reflecting the effect of air observation). A number of sources comment on its increased effectiveness when observation planes were aloft.

STATISTICAL STUDY OF UNIT STRENGTHS

Attached to this article is the compilation that estimates divisional firepower scores for all the American and German divisions in the Battle of the Bulge. This was systematically done using a Lotus spreadsheet to — as objectively as possible — evaluate the various formations in the campaign. The description of the evolution methodology is contained in the sidebar. Briefly, the following results were obtained and recommended as changes in *BULGE* unit strengths.

German Division	Change
1 SS	Peiper = 15-5
9 SS	PzR = 9-4
10 SS	PzR = 8-4
12 SS	PzR = 10-4
9th Pz	PzR = 10-4
116th Pz	PzR = 8-4
Fuh Escort	12-4
Fuh Grenadier	10-4
3rd PzGr	Two 7-4 Rgts
12th, 167th, 212th	Three 4-3 Rgts each
340th VG	Three 4-3 Rgts
89th VG	Two 4-3 Rgts

American Division	Change
2nd Armored	Arm Rgts = 9-4 each
11th Armored	CCA and CCB = 6-4
30th Inf	Three 6-4 Rgts
83rd, 87th, 99th	Three 4-4 Rgts each
84th Inf	Three 5-4 Rgts
17th Airborne	Four 3-4 Rgts
29th Inf Regiment	3-4
118th Inf Regiment	3-4

Finally, according to the Second Edition rulebook, all regiments of the 1st US Division are "6-4" and the 2/23 is a "6-4" unit. The net effect of these alterations are to increase German total combat strength by 33 points and increase Allied strength by five points. German infantry receives the most additional credit.

[See opposite page for proposed revisions to divisional combat factors.]

SET-UP CORRECTIONS

The 17th VW and 405th VAK should set up in Area "A" and the 4th VW and the 388th VAK should set up in Area "B". These appear to be mix-ups in the game's production. Microfilm T-314, Roll 1534 gives the identification of the involved artillery units in "Corps Monshau" as well as a detailed fire plan.

GERMAN FUEL PROBLEMS

Ever since the fatal exploits of Colonel Hessler in the film "The Battle of the Bulge" to obtain petrol to renew the Nazi drive, the German problems with fuel in the Ardennes Offensive have received wide recognition. The problems began on the 19th of December but reached a critical point 48 hours later as the first issue of tank fuel began to ebb. In particular trouble was the II SS Panzer Corps, who arrived on the field with virtually no fuel — it having been pirated by the I SS Panzer Corps for their initial supplies (Pallud). It is useful to examine the fuel status of each German panzer division on

December 21-22 to illustrate the scope of this problem:

1SS: "The Peiper group reported that they had no further supplies of fuel and only slight quantities of ammunition and other supplies." (Priess, MS A-877)

2SS: "Due to the lack of fuel, the units of the task force (Der Fuhrer) are not able to leave their current assembly area. The entire division is having the same difficulty. For the time being, part of the panzer regiment, the artillery regiment and the flak battalion have to stay behind in Area E (Reuland-Weiswampach) due to the lack of fuel." (Weidinger, *Das Reich*)

9SS: "The 9th SS Panzer Division was marching on foot from the area of Stadtkyll through Born toward Recht. Its fuel supply was sufficient only to keep the 9th Panzer Reconnaissance battalion mobile. The artillery and panzer regiments were still waiting for fuel." (Lehmann, MS B-779) " . . . on the 21st enough fuel was acquired to mobilize the II battalion of the Panzer Regiment (MkIV), the Panther battalion would not arrive in the Recht-Poteau area until the 24th." (Tieke, *Im Feuersturm Letzer Kriegsjahre*)

12SS: This division had barely moved from the line of scrimmage due to its involvement in a costly fight for Dom Butgenbach. Because of its lack of movement, its fuel situation was not so acute. However, its commander described its fuel situation at the beginning of the campaign: "The division in the assembly area had no more than half an issue (50 km range). One more issue was brought up with considerable delay and difficulty on the day of the attack itself." (Krass, MS B-522)

2nd Panzer: "During the night of the 21st, the first elements of the panzer grenadier regiments arrived at the (Tenneville) bridgehead. The tanks were yet unable to follow as they were still without gasoline." (Weitz, MS B-456)

116th Panzer: "The division's gas supply on the 20th was very critical. The reconnaissance battalion, artillery and panzer grenadier regiment 156 had run out of fuel. Then a present from heaven: into the hands of the Division in Samree fell a large fuel supply. The total contents sufficed to fill the tanks of all the combat units of the division during the night." (Memminger, *Der Windhund*)

Panzer Lehr: On the 22nd, " . . . refueling the forces caused a lot of trouble. West of Moicry for the first time tanks had to be refueled from cans which the panzer grenadiers had available on their Steyr' transport vehicles. The formations had expected to capture fuel stores in St. Hubert, but unfortunately only empty cans were found." (Ritgen, *Die Geschichte der Panzer Lehr Division*)

Fuhrer Begleit Brigade: "My intention was to move to Vielsam and then to Salmchateau so that I could get to the main roads running west; however I was told to move further south. The brigade had been torn apart in this detour around St. Vith and we were short many of our tanks due to the gasoline shortage." (Remer, ETHINT-80)

To reflect this obvious limitation, beginning with the December 21 AM turn, the following goes into effect:

1. The movement allowance of all panzer-grenadier units is reduced by one.

2. The movement allowance of all panzer units is reduced by two.

3. Unless the German player captures fuel, the units of the 9SS and 2SS Panzer Divisions remain in this state from the time they enter the game.

4. If the German player captures a fuel dump, the 1SS and 12SS Panzer Divisions are immune to this rule for the balance of the game, and the 9SS and 2SS Panzer Divisions do not enter play "out of gas". If two fuel dumps are captured, all SS divi-

sions are immune to this rule for the balance of the game.

ADVANCE AFTER COMBAT

Infantry units were not capable of advancing in a general assault as rapidly as mechanized forces. In general, infantry units tended to become much more disorganized in combat than did mechanized forces. As the rules now stand, infantry can often move to the limit of its capacity and then move again (only if opposed) further than it could have otherwise. The rule below brings these excesses more in line with expected results described in *Maneuver Control* (FM-105-5).

1. Infantry and paratroop infantry units may not advance further than two hexes after combat.

REFERENCES

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AREA TOP 50 LIST

Rank	Name	Times On List	Rating	Previous Rank
1.	K. Combs	52	2517XOW	1
2.	J. Noel	5	2216DDI	2
3.	D. Burdick	51	2213GGO	3
4.	B. Sinigaglio	37	2152GIJ	5
5.	E. Mineman	22	2119DFG	6
6.	D. Garbutt	50	2114GIO	7
7.	P. Siragusa	46	2110FHK	8
8.	J. Kreuz	46	2106GGN	4
9.	F. Preissle	49	2104LNX	9
10.	J. Beard	41	2068HIQ	10
11.	P. Gartman	17	2052HGJ	11
12.	H. Newby	17	2033PIK	13
13.	B. Remsburg	35	2014HIP	12
14.	S. Sutton	19	2012FHM	14
15.	P. Flory	28	1999EHK	15
16.	M. Sincavage	41	1988EFK	16
17.	F. Reese	32	1977IDJ	17
18.	C. Corn	1	1974CDD	—
19.	W. Scott	49	1967MJV	21
20.	P. Landry	26	1967HIN	18
21.	F. Freeman	27	1964EFG	19
22.	R. Beyma	27	1944DDF	20
23.	G. Charbonneau	15	1937HGF	22
24.	T. Oleson	61	1931XZZ	23
25.	R. Cox	3	1910LGJ	48
26.	R. Leach	53	1906ILS	24
27.	L. Kelly	45	1889WWZ	25
28.	M. Rogers	12	1880CEH	26
29.	M. Simonitch	22	1874DEH	27
30.	B. Schoose	17	1871IGIM	28
31.	T. Deane	4	1856DDB	29
32.	G. Smith	6	1846FGM	30
33.	E. O'Connor	10	1841FGM	31
34.	N. Cromartie	37	1838GHO	32
35.	R. Berger	1	1833CDE	—
36.	P. DeVolpe	18	1828DED	33
37.	K. McCarthy	6	1825CFI	34
38.	S. Johns	5	1816HFH	36
39.	F. Ornstein	35	1813GHM	37
40.	J. Anderson	9	1809DDF	38
41.	J. Martin	10	1807DFI	39
42.	R. Phelps	33	1806HJQ	40
43.	P. Halfman	2	1803FFN	47
44.	D. Kopp	11	1799GIN	41
45.	M. Miller	38	1795GHO	42
46.	M. Frisk	6	1793CDH	43
47.	B. Salvatore	19	1789HKO	44
48.	R. Shurdut	18	1788DFK	45
49.	L. Barlow	2	1786IJT	49
50.	E. Miller	6	1783HJQ	46

Mr. Robert A. Shurdut is 49, married and father of two, holds a BA in Accounting, and is a Fiscal Support Specialist for the Massachusetts Dept. of Education in West Newton, Massachusetts.

Favorite Game: THIRD REICH
AREA Rated Games: TRC, 3R
AREA W-L Record: 18-2   **% Time PBM:** 100%
Gaming Time/Week: 15 hrs.   **Play Preference:** PBM
Hobbies: Chess, WWII History, Pilately
Pet Peeve: Late moves compounded by no correspondence that the move will be late or not forecoming.

Mr. Shurdut's thoughts on recruiting new hobbyists:

"I believe that wargaming could attract many new players if more people knew the hobby existed. I am in a position to talk to many people in Massachusetts about wargaming. Only a small percentage have heard of this hobby, or of wargaming in general. Chess everyone has heard of, but games that re-create history . . . "Wow! Where do you get them? Tell me more", is the frequent cry from would-be gamers. The industry should advertise their products and the hobby, at least in the same manner that other hobbies do. Occasionally a major newspaper or magazine will run an article or do an editorial on people playing war games and how much fun they are. I believe the wargame industry would be pleasantly surprised if a greater effort was made to attract more new people to the hobby."

OPPONENTS WANTED

AREA rated Prov. 1275 AAA seeks oppo. for WSIM, GSL and AF; pbm only. Mike Morris, 7328 Blue Springs Way, Citrus Heights, CA 95621, (916) 728-5917.

Adult opponents wanted: AK, DD, STAL, TRC, WAT, and others. Keith Powell, 6689 Pasado Rd., Goleta, CA 93117, (805) 968-3410.

Orange County adult gamer seeks individuals or group for ftf games; EIA, DEV, FT, 3R, SON, or . . . You Name It. Jack Sokol, 22 Stanford, Irvine, CA 92715, (714) 854-3348.

Peninsula Association of Wargamers meets every Saturday. Looking for new members. Ryan Schultz, 3968 Ricketts Rd., Monterey, CA 93940, (408) 372-7651.

28-year old seeking ftf opponents for many AH games. Willing to learn games I don't have. Eric Aune, 11456 Rosecrans Ave., Norwalkk, CA 90650, (213) 864-6293.

Any games out there in the Pinole CA area? If so, please contact: John W. Mountjoy, Jr., 1220 Marionola Way, Pinole, CA 94564, 724-3252.

Adult gamer seeks ftf MD, WSIM, PL, AIW. Consider others. Serious, but friendly, Charles Ryder, 1700 Civic Center Dr., #210, Santa Clara, CA 95050, (408) 249-7658.

Adult pbm/ftf opponents welcomed for AL, FP, FT, RW, TR, WSIM. I'm a verteran ftf gamer but want to learn pbm systems badly. Tom J. Obenchain, 8367 W. 71st Pl., Arvada, CO 80004, (303) 421-0972.

Average non-rated gamer seeks pbm for 3R, SL, thru BV. Will use honor or your system. Will join AREA! Chad Tanner, 296 Uvalda, Arvada, CO 80011, (303) 366-0670.

High school student seeks ftf opponents for ASL, AF, 3R and others. Brandon Walts, 3887 Arbol Ct., Boulder, CO 80301, 443-1035.

Colo. Spgs. Gaming Assoc. adult wargamers meet every Tuesday night. All periods, all interests, most AH games played. For more info contact: Steve Wooster, 5476 E. Old Farm Cir., Colo. Spgs., CO 80917, (303) 574-4317.

Adult novice seeks ftf or pbm gamers for AF, AZ, FR, LW, PL, SL, 3R, TB. Good gamer; need experience. George Rabbit, 1910 2nd St., Greeley, CO 80631, (303) 356-5872.

Central Connecticut Wargaming Association meets first and third Friday of each month at the Wilson Volunteers Fire Department. Everyone welcome! We play anything and everything. Jeffrey Martin, 87 Raymond Rd., Windsor Locks, CT 06096, (203) 623-1823.

Looking for pbm opponent for TLD, RF, VG Civil War; Rated or Unrated only. Campaigns only; 1470 Prov. Adam Morrison, 210 S. Cove Terrace Dr., Panama City, FL 32401.

Adult, rated (1500 Prov.) wants pbm opponents for HW, RF, PB. All letters answered. Steve Milanic, P.O. Box 201, Berwyn, IL 60402.

Wanted: reliable players to participate in GM'er pbm FT; no quitters please! First six responses accepted; SASE for info. Paul Worthington, 4512 Garden Quarter Rd., McHenry, IL 60050, (815) 385-1170.

Seek ftf opponents for SL, COI, UF, FP, GI, TRC, play on a regular basis, also DYO. Phil Oftedahl, 2603 Marywood, DuBuQue, IA 52001, (319) 582, 6861.

AREA 1600+ Prov. rated player seeks rated pbm GI game with 1500+ opponent contact: Roger Fowler, 406 Market, Apt. 6, Emporia, KS 66801, (316) 343-6963.

Pbm BB'81 or FE, Now applying for AREA. Will play to finish; age 41. Bob Kelly, 3846 Monticello Blvd., Baton Rouge, LA 70814, (504) 273-3756.

Wanted: New Orleans area ASL opponents for ftf play. ASL'ers show yourselves. Craig A. Champagne, 237 Clara Dr., Slidell, LA 70460, 641-3290.

Play MR by mail with Hamblen's new rules. If you lack a copy, I can update you. Great game! Write to Michael Anchors, 9711 Medical Center Dr., #103, Rockville, MD 20850.

Long time DIP gamesmaster now has openings in DIP and MR (that's right, MR) by mail. A stamp gets you more infor. Don't be shy! Dick Martin, 26 Orchard Way, N., Rockville, MD 20854-6128.

Multi-player gamesters in the Washington-Baltimore area for ftf CIV, DIP, RB, SC, TT others. Free sample WARTHOG club newsletter. Ken Peel, 8708 First Ave., #T-2, Silver Spring, MD 20910, (301) 495-2799.

Adult gamer looking for ftf opponents in ASL, FP, SOF with GHQ miniatures. William J. Meyer, 38601 Wakefield Ct., Northville, MI 48167, 477-4774.

Adult wants ftf in KC area. Will try anything. Strong on SL and CAE, DIP, TLD, and 3R. Neal Ekengren, 412 NE Timbercreek, Lees Summit, MO 64063, 524-5501.

Central Missouri Wargamers meet the last Saturday of the month in the Columbia area. John Loy, 861 Homestead Dr., Moberly, MO 65270, (816) 263-1589.

Pbm zine publisher and GM 10-years seeks players; CIV with free bonus, KM, beginners game DIP, DIP variant, all pbm. Information 39¢. W.E.J. Hinton Jr., 20 Almont St., Nashua, N.H., 03060.

Experienced gamer looking for ftf weekly meeting/engagements. Includes computer games. Call Bob Swenson, (609) 767-9124, 53 Sunset Dr. (Voorhees), Berlin, NJ 08009.

Jersey Wargamers meet first and third Fridays, first and third Sundays each month. For info: Days Bob Wielgus, (717) 992-5135, Evenings Bob Hahn, (201) 276-3558. Bob Hahn, 596 Brookside Place, Cranford, NJ 07016.

Looking for friendly ftf opponent for weekly or bi-weekly games, SL scenarios and/or naval games. Hans Bauermeister, 115 Walnut Street, Teaneck, NJ 07666, (201) 836-4645.

AREA 1500 (Prov.) seeks pbm, ftf for TRC, AK. All letters answered. Will accept any level opponent. All games fought to the bitter end. Brad Acker, P.O. Box 195, B Co 1/16 INF, APO, NY 09046, Phone No. 011-49-7051-30574.

Looking for pbm players for BL, AL, AIW, CAE, TRC, SL series, TAC and 3R. Frank Bue, HQ 35th, USAAD, APO, NY 09069, Phone No. 04464-1548.

Opponents wanted in South Germany; I have 4-years experience and prefer Eastern Front games. Brian Walters, HQ USEUCOM, APO, NY 09128.

Opponent wanted for PL 1940 only! Non-rated, will play either side. Sit from 21-30 and 42-47. All games finished. Bob Passamonti, 3080 Voorhies Ave., Apt. SL, Brooklyn, NY 11235.

Adult gamer, Rated, seeks pbm, GI, COI, SL, have system. Will play all games to completion. Jim ManfredI, 230 Otis St., Rochester, NY 14606.

37-year old gamer looking for ftf opponent in Rome, Utica area for SL, PB, AIW, TRC and AF. Steve McNeil, 3614A Mars Drive., Rome, NY 13440, 339-3720.

Want to play multi-player CIV, TT or DIP by mail? New zine (The King's Court) wants you! Send stamp for pbm systems and more information. Jason Russ, Stonehouse Road, Somers, NY 10589, (914) 277-8543.

Average 26-year old player seeks adult opponents in area. Over 50 games, you name it; no pbm! George J. Cartiglia, 404 Arthur Kill Rd., Staten Island, NY 10308, (718) 967-9435.

Adult AREA rated seeks Rated only pbm games of WAT, TRC, STAL, BR, AK. All letters answered. John L. Ottrando, 354 Fairbanks Ave., Staten Island, NY 10306.

Piedmont area wargamers welcomes new opponents to the Triad. Regular get togethers. All games played. Contact: Raymond Woloszyn, 7162 Mantlewood Ln., Kernersville, NC 27284, (919) 996-5677.

23-year old Rated approx. 1200 desires Rated pbm, TRC, BB '65-'81, SL-GI. (Send list of your favorite scenarios.) Also wanted pbm GE, BL, DD, GOA, RF. All inquiries answered. Tony Owens, Rt. 2, Box 34, Thomasville, NC 27360, (919) 476-1038.

Civil War gamers: subscribe to Volunteers, the newsletter of Civil War gaming. Six dollars for four issues. Bill Koff, 146 Chimney Lane, Wilmington, NC 28403, (919) 763-7497.

Veteran adult gamer seeks competent and reliable adult for ftf, FT, RF, 3R, HW, FP, PGG, SL, Civil War and others. Ron Myers 2740 Lakeside Ave., Canton, OH 44708, 453-7963.

Experienced adult seeks ftf in Dayton for AF, AZ, BB, DL, FE, GOA, PGG, TRC, 3R & others. Terry Kee, 4506 Wayne Meadows Cr, S. Huber Hts., OH 45424, 237-7070.

New AREA member looking for pbm opponents for SL and COI. All letters answered. Tim Rausch, 735 W. Maumee Ave., Napoleon, OH 43545, (419) 592-9551.

Beginning adult palyer seeks pbm opponents for BL, BB and ftf opponents for SL. Frank Kaeberlein, 3701 Country Club Dr., Stow, OH 44224, 688-1261.

"Gamers Legion" newsletter we run W&P, HW, BowlBound, DIP, Legioneers will be ranked by performance. For more information please contact: Marcus Vogt, 145 Spring Valley Rd., Westerville, OH 43081, (614) 895-2231.

Pbm opponents wanted for ASL. Mr. Stephen P. Dandar, 123 W. Pearl Street, Willard, OH 44890, (419) 935-0248.

Experienced gamer wishes ftf VG, Civil War, Nato, AH ASL, VITP, 3R, CIV. Will teach or learn your game. David L. McCarty, 2017 Willow Creek, Edmond, OK 73013, (405) 340-3421.

Seek 4th ed. 3R ftf opponents in central Okla. John Michalski, Rt. 10, Box 526-Q, Moore, OK 73165.

Beginning Squad Leader seeks pbm opponents. Have system if you don't. I am currently knowledgable of rules sections through scenario 3. Steve Smith, 10300 SE Waverley Ct., #201, Milwaukie, OR 97222, (503) 254-0813.

Warriors of the Roses. Boardgames Monday and Friday nights. Featuring an ASL, AF campaign game. Many AH game titles played. F. Scott Payne, 7625 SW 91St Ave., Portland, OR 97223, (503) 244-0660.

Warriors of the Roses. Boardgames Monday and Friday nights. Featuring an ASL, AF Campaign Game. Many AH game titles played. F. Scott Payne, 7625 SW 91st Ave., Portland, OR 97223. Not particularly looking for new ftf players, but if interested and close, call! Most AH non-fiction games, especially ASL, FT. Ron Fedin, 112 Glengarry Drive, Coraopalis, PA 15108, 457-8624.

AREA 900 (Prov.) seeks pbm DD, DIP, FR, TRC. Also pbm 3R, but need system, ftf many others. Bob Robles, 59 Trinidad Ave., Hershey, PA 17033, (717) 534-2542.

Desperately seeking opponents for ftf SL, COI, COD, GI Anvil, ASL, BV and SOF in Erie County area. Paul M. McGinnett, 16½ Grant St., Northeast, PA 16428, (814) 725-4428.

Soldats, are there any amongst you who have the courage to ftf me in 1809, NAB, SON, HDB or W&P. Tom Semian, 430 Boggs Ave., Pittsburgh, PA 15211, (412) 481-5357.

Need wargame opponents in the Shaw, Sumter, Columbia area. I play a wide variety of AH games (not incl SL). Just got AZ. Mike Knautz, 24 Kings View Drive, Dalzell, SC 29040, 499-2630.

Are there any wargamers out there! I play SL through ASL, DIP and others. Desire ftf. Daryl Rothchild, Box 204, Delmont, SD 57330, (605) 779-5181.

Experienced 23-year old seeks ftf opponents in Nashville/Cookeville area. For ASL, FP, and UF. Occasionally in Nashville. Harold Sawyer, 1971 N. Dixie Ave., D-5, Cookeville, TN 38501, (615) 528-7039.

13-year old looking for pbm opponent for TRC. Honor system only. Robert Croxdale, 315 Beech St., Morristown, TN 38813, (615) 586-5757.

Adult wants pbm HW. Also I will GM for FT, 1942 scenarios. Charles Dudney, 629 Golden Harvest Road, Knoxville, TN 37922, (615) 966-7208.

Squad Leader Gaming Club: city rankings, sanctioned challenge matches, tournaments, and more. SL-GI rules. If you live within 100 miles of Houston, please write: Hardcore Gaming, 9319 Carvel, Houston, TX 77036.

Novice 39-year old seeks mature pbm opponent for DEV and PAA. Also interested in VG's Vietnam. Ken Hanning, 2530 South San Antonio, Pearland, TX 77581.

Adult (36) 1200 (Prov.) gamer seeks AREA rated games in PL, PB, others considered. All letters answered. Any Rio Grande Valley gamers. Kenneth Oates, 316 Hidden Valley, Dr., #27, Weslaco, TX 78596, (512) 968-7984.

Avg. player new to pbm seeks opponents for 3R, WSIM, SL and VG's Vietnam. Need your system. Any gamers in Olympia? Lance A. Weller, 1907 So. Bay Rd., Olympia, WA 98506.

Fox Valley Gamer's Club meets on the 2nd and 4th Saturday of each month. For information contact: Kerry Watson, 1625 W. Weiland, Appleton, WI 54914, (414) 731-5579.

Adult (31) seeks ftf opponents in area of Milwaukee, Wis. for TRC, BB, FE, FR, PGG. Andrew Wittlieff, 4415 So. 46th St., Greenfield, WI 53220, (414) 543-5618.

Any wargamers in the Chatham area willing to ftf games with average player; have lots of wargames. Willing to travel, Tyrone Newby, RR2 Tupperville, Ontario, Canada N0P 2M0, (519) 683-2801.

Want ftf for ASL, UF, AF, TR, AZ, TB, GSL, AIW, FP, RF, FL, 3R, SON many others. Will travel. Dick Demmery, 559 Chester St., London, Ontario, Canada N6C 2K1, (519) 432-8880.

Looking for ftf players in SOO area for SL thru GI, FT, MD, SUB, WSIM, SST, AF, DL. Rated or Unrated. Shaughn Haines, 4 Amherst St., Soo, Ontario, Canada P6C 5V4, (705) 942-6034.

Any wargamers in Israel? Desperately seeking! COI, RF, 3R, W&P and AIW. Guy Blachman, 39, Galei Tchelet St., Herzlia Pituach, Israel, 46640, (052) 77605.

THE QUESTION BOX

BLITZKRIEG

8.3 & 19.3 Can an infantry unit exit into a Sea Zone from a port in the ZOC of an enemy unit? Can armor and air-assault units exit into a Sea Zone from a port in the ZOC of an enemy unit other than armor or air-assault?
A. No. No.

9.3 May a one-hex city, holding at the beginning of a Movement Phase three full air units, be used as a take-off city for air transport?
A. Yes.

9.3 & 9.4 Does air transport of airborne and air-assault units count against the four-unit air transport limit?
A. Yes.

9.4 May air-assault units land in the ZOC of a unit (or city) other than armor or air-assault?
A. No.

19.3 & 20.3 During a single Movement Phase, two units move ashore through a friendly port. May another two units go to sea during the same Movement Phase?
A. Yes.

19.3 & 20.3 During a single Movement Phase, two invading units land on a vacant beach hex. May another two units go to sea during the same Movement Phase?
A. Yes.

19.4 If Blue has units at hexes W33 and Z33, may Red use BB31 (or X27) as a port?
A. No; ZOCs block access.

19.4 If Blue has a unit at AA13, does that unit block Red access to Sea Zone A from CC15 or VV25?
A. No.

19.4 If Blue has a unit at D1, may Red move from Sea Zone A to Sea Zone B?
A. Yes.

20.1 May an air-assault unit land on a beach hex during an air drop?
A. Yes.

21.1 Can an automatic victory occur at 3:1 odds when only a single factor is defending?
A. No.

21.3 The last sentence states that advancing units must half "if the first hex after combat is into a zone of control, mountain or woods hex." May an armor or air-assault unit continue if the ZOC is from a unit other than armor or air-assault?
A. No.

21.3 With regard to the above, may armor, air-assault and artillery still advance when the first hex is a woods hex?
A. No.

23.5 Is there a limit to the number of units that can be supplied through a friendly port hex?
A. No.

28. Must an inactive substitute counter be available in order for it to be accumulated? For example, one 4-factor and one 2-factor inactive TACs are available. On one turn, the 2-factor TAC is "accumulated". On the next turn, although no 2-factor TAC be availalbe, may the 4-factor TAC be activated with the "accumulated" 2-factor one then returned to the inactive pile?
A. No. There is a typo in the rulebook—replacements *cannot* be accumulated. The other rules make this inescapable.

28.3 If an aircraft city has been captured, is the ground unit replacement capacity also reduced to two substitute units?
A. No.

28.5 Can an aircraft city in an enemy ZOC but not captured generate a replacement?
A. Yes, assuming it is not bombed.

29.6 Does the aggressor 2-factor loss per turn resume when the opposition takes one city of a formerly subdued minor country?
A. Yes.

29.7 May aggressor units voluntarily be left out of supply to prevent the 2-factor supply loss?
A. Yes.

32.4 May multiple air missions be conducted against the same hex during a single player turn? If multiple attacks are permitted and conducted against a single hex, do escorts protect all missions in that hex?
A. Yes, although the specific missions must be identified to the opponent prior to combat. Yes.

30.2 Is the aircraft "movement factor" (2.5) the same as aircraft "range"?
A. Yes.

30.5 Must aircraft return to the original base if conducting a mission other than "transfer"?
A. No.

30.8 Do TAC operating from full sea hexes at less than half range double their bombing factor also?
A. Yes.

30.8 Does the double strength at less than half range provision apply to TAC and MDM aircraft reducing minor cities?
A. Yes.

32.4 Can air missions other than bomber and air transport be escorted?
A. No.

FLIGHT LEADER — $26.00
Game of Air-to-Air Jet Combat Tactics, 1950-Present

Despite the low response, likely due to our experimenting with rapid coverage of a new release, based on this limited evaluation *FLIGHT LEADER* looks to be a winner. Its Overall Rating is a respectable 2.55, which would have placed it 12th on the RBG listing. It is, without doubt, the best jet age air combat game on the market.

All of the ratings generated by those responding were well above the average taken from the 57 titles currently on the Wargame RBG Chart. Truly notable, however, is the rating for *FLIGHT LEADER*'s mapboard—the best to date, topping even the recent *RUSSIAN FRONT* (as reported in Vol. 23, No. 6). Charlie Kibler, who crafted both of these as well as the recent *ASL* mapboards, in our opinion has become the leading wargame mapmaker in the hobby. His attention to detail has taken the state of this art beyond the merely functional to the sublime. We look forward to his further efforts (he is currently at work on the mapboards for *KNIGHTS OF THE AIR* and future *ASL* modules).

FLIGHT LEADER, as the results of this polling show, is a fast-playing game of lethal hardware. Once the system is mastered, the Excitement Level (1.91) and Play Balance (1.96) makes repeated play almost mandi-tory. Experimenting with DYO scenarios quickly supplants the published scenarios, as players can become familiar with the peculiarities with their favorite aircraft. Initially designed as a training tool for the USAF by a serving pilot, *FLIGHT LEADER* covers the entire spectrum of modern air-to-air combat.

Overall Value: 2.55
Components: 2.47
Map: 1.38
Counters: 2.36
Player's Aids: 2.89
Complexity: 5.11
Completeness of Rules: 2.68
Playability: 2.24
Excitement Level: 1.91
**Play Balance:** 1.96
Authenticity: 2.34
Game Length
    Shortest: 39 mins.
    Longest: 2hrs., 8 mins.
Year: 1986
Sample Base: 39

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 the Game Length categories are measured in multiples of ten minutes (thus, a rating of "18" equates to three hours).

WARGAME RBG

Title	Overall Value	Components	Complexity	Completeness of Rules	Playability	Authenticity	Game Length Shortest	Longest	Year	Sample Base
1. ASL	1.67	1.44	10	1.81	2.80	1.98	—	—	1985	13?
2. RF	2.00	2.78	5	4.15	2.56	2.36	15.54	89.64	1985	88
3. GI	2.02	1.93	10	3.01	3.38	1.88	12.84	35.33	1982	264
4. COI	2.06	1.95	9	3.29	3.13	1.99	11.61	29.27	1978	532
5. 3R	2.21	2.67	10	3.81	3.40	2.73	25.94	69.24	1981	273
6. COD	2.23	1.97	10	3.12	3.08	1.85	12.15	30.20	1980	224
7. TRC	2.29	2.53	4	2.52	2.12	3.11	17.44	37.74	1976	540
8. SL	2.31	2.09	8	3.48	2.87	2.45	10.17	27.90	1977	680
9. UF	2.42	2.26	4	2.57	1.31	2.84	4.84	13.05	1983	58
10. B-17	2.51	2.62	3	2.52	1.86	2.21	3.30	11.50	1983	87
11. WS&IM	2.53	3.04	6	2.93	2.67	2.39	7.01	34.90	1975	464
12. FP	2.57	3.10	4	3.12	2.91	2.87	5.42	16.81	1985	85
13. HW	2.59	3.27	4	3.68	2.13	4.25	8.27	21.73	1984	63
14. W&P	2.61	2.76	5	3.46	2.93	3.04	13.04	57.19	1980	374
15. BB'81	2.67	2 46	4	2.53	2.94	2.91	19.62	35.09	1981	277
16. TLD	2.68	1.95	8	3.72	3.54	2.04	24.44	170.68	1980	119
17. VITP	2.72	2.86	2	2.89	2.22	4.52	16.96	22.36	1977	420
18. CAE	2.85	3.01	4	2.32	2.89	2.52	25.14	32.57	1976	252
19. SON	2.92	3.03	10	3.72	4.09	1.92	29.50	81.78	1981	123
20. SOA	2.97	2.79	3	2.73	2.41	3.88	18.22	22.57	1981	232
21. FE	3.00	2.72	7	3.21	3.21	3.00	21.17	49.05	1980	345
22. FRED	3.00	3.41	4	2.93	2.58	2.75	12.25	24.67	1983	58
23. SUB	3.08	2.64	8	3.13	3.08	2.74	9.41	26.15	1978	281
24. CON	3.12	3.64	7	3.08	2.52	3.52	25.8	49.1	1983	73
25. MD	3.13	3.51	3	2.80	2.21	3.44	14.75	20.74	1979	395
26. AZ	3.17	2.72	7	3.18	3.86	2.68	18.63	63.40	1978	292
27. PL	3.19	2.94	7	3.31	3.13	3.50	9.49	25.80	1974	479
28. 1776	3.21	2.97	7	3.09	3.03	3.10	10.16	45.09	1974	373
29. FT	3.23	3.12	10	3.22	3.67	3.16	24.51	57.39	1981	196
30. PB	3.35	3.08	6	3.73	2.90	3.94	10.35	23.07	1970	448
31. BIS	3.45	2.96	6	3.43	3.25	3.06	12.41	26.35	1979	248
32. AAOC	3.52	2.95	7	3.02	3.26	3.07	15.52	26.53	1978	239
33. FITW	3.53	3.14	4	3.17	2.94	3.72	16.14	30.01	1981	100
34. CL	3.54	3.35	5	3.15	3.33	3.79	12.53	25.53	1975	136
35. DL	3.61	4.02	7	3.85	3.22	3.29	6.66	19.94	1981	120
36. GOA	3.66	3.37	5	3.67	3.79	2.98	18.68	60.06	1981	297
37. WAS	3.71	3.67	1	2.48	2.37	5.98	9.09	12.71	1976	396
38. GE	3.72	3.12	6	4.64	4.41	2.84	13.25	57.13	1977	248
39. AF	3.74	4.16	3	3.98	3.34	3.35	5.61	16.02	1980	192
40. AIW	3.74	3.05	8	2.92	3.52	3.06	8.69	25.36	1977	308
41. LRT	3.75	3.60	4	3.53	3.39	2.96	13.04	17.00	1982	56
42. TR	3.80	3.76	3	3.33	3.60	3.70	9.51	25.79	1980	72
43. WAT	3.83	4.17	2	2.95	2.64	5.00	17.08	23.13	1962	296
44. NP	3.87	3.29	3	3.27	2.56	4.89	9.69	14.40	1978	159
45. AK	3.92	4.38	2	3.30	2.48	5.09	14.49	19.13	1964	492
46. AL	4.03	4.05	5	3.69	3.18	3.57	12.34	17.93	1974	217
47. TB	4.06	3.53	7	3.48	4.47	2.50	11.28	32.50	1975	304
48. RW	4.14	3.14	5	3.32	2.91	3.98	4.22	21.15	1973	311
49. JU	4.17	3.20	6	3.61	3.83	3.22	16.01	36.66	1974	193
50. PAA	4.17	4.24	5	3.79	3.99	3.70	15.51	25.24	1981	144
51. DD	4.22	4.07	2	3.04	2.88	4.64	17.54	26.25	1977	367
52. CH	4.39	3.80	4	4.35	3.52	4.67	14.76	24.96	1961	140
53. STAL	4.39	4.29	2	2.88	2.75	5.83	20.57	28.85	1963	320
54. LW	4.45	3.75	5	3.77	3.79	4.79	13.36	34.14	1971	372
55. FR	4.79	3.49	4	3.47	3.75	4.06	16.27	26.95	1972	244
56. BL	4.73	4.16	7	3.65	3.77	5.27	20.43	41.44	1965	336
57. TAC	5.62	5.25	1	2.79	3.23	6.34	11.70	19.29	1961	285

COMING UP NEXT TIME

The recent issue devoted to introducing *FLIGHT LEADER* and some of our other air wargames (Vol. 23, No. 1) brought general approval (an Overall Rating of 2.94), quite a few letters of compliment or complaint, and a perhaps unnoticed change in the layout of this magazine. Captain Morgan's lead article introducing we land-bound pigeons to the world of modern air combat topped the ratings list for the individual articles. Surprisingly, the next two best rated articles both dealt with *B-17, QUEEN OF THE SKIES*, showing that even after several years our only solitaire game remains popular. The ratings of all the articles found in the issue are as follows:

BASIC FIGHTER MANEUVERS 226
15th AIR FORCE 186
FILLING THE SKIES 183
HITLER'S HANDBOOK 117
IN DEFENSE OF NIPPON 99
THIS IS NO DRILL 92
STAFF BRIEFING—TAYLOR 78
REFITTING 57
THE FIVE-SECOND GAME 37
THE TROUBLE WITH ANGELS 34
SHADOWTITAN 27
ASSAULT ON A QUEEN 26
HITLER IN MONTE CARLO 24
AH PHILOSOPHY 14

An avowed expriment for both author and editor, our first "dramatic interpretation" of a wargame scenario obviously struck a responsive chord among the readership. It brought the writer, David Schaffer, his first Editor's Choice Award, our annual reward for the best article of the volume year. What makes this accomplishment even more impressive is the quality of the competition this year, with articles by some of the best players and professionals in the hobby gracing our pages during Volume 22. Mr. Schaffer's effort and innovation is rewarded with a $100 bonus from The Avalon Hill Game Company and a lifetime subscription to The *GENERAL*. The complete list of nominees, and their percentage of the total votes cast by responding readers, is as follows:

THE BEND IN THE CORRIDOR
  by David Schaffer 28.0%
DEVIL OF A FIGHT
  by David Bieksza 16.9%
BATTLE FOR THE TRENCHES
  by James Lutz 11.4%
FIRST IMPRESSIONS
  by Robert Medrow 9.2%
STRUGGLE FOR EL SALVADOR
  by James Werbaneth 8.6%
RETURN TO THE FRONT
  by James Burnett 8.3%
THE BATTLE OF THE INNOCENTS
  by Craig Posey 7.1%
PACIFIC DREAMS
  by Fred Helfferich 6.8%
BEFORE THE SNOW FLIES
  by Dan Thompson 3.7%

Gamers Alliance Report is the newest amateur periodical on the hobby of wargaming. It serves as the official organ of the "Gamers Alliance", a rather loose international fraternity of gamers. According to the editor's message in the most recent issue, the *Report* seeks to spread information on games through brief reviews and news of the hobby—"to compliment those publications [*other hobby periodicals*] by turning . . . attention to *all* areas of gaming." The same issue, for instance, has a review of *FLIGHT LEADER*. The *Report* comes as part of membership in The Gamers Alliance. More information on the organization may be obtained from Mr. H.M. Levy, P.O. Box 197, East Meadow, NY 11554.

Infiltrator's Report

Another new hobby periodical made its recent appearance in hobby and game stores in the eastern U.S. this past month. And it has a unique advantage —it's free. The *gameworks* is a 12-page quarterly publication devoted to all types of games, with classified ads by gamers, articles on the play and design and collecting of games, insights into hobby events, and more. A rather conversational style makes it a treat to read. Unfortunately, no subscriptions are available, the editors being determined that it be a free service to those who, like them, have a great love of this pastime. So, look for a copy at your local store. For hobby shop owners and others who may desire more information, sample copies may be obtained from the editor, Ms. Debbie Driscoll (P.O. Box 2157, Flemington, NJ 08822).

From a few friends getting together to enjoy the hobby in 1984, *Adventure Gamers Worldwide* (AGW) has grown to encompass some 250 members in four states. The organization was formed with the hopes of offering a forum for gaming competition and to bring together wargame clubs from

all over the continent. AGW officers offer their support and advice to individuals wishing to start a game club chapter, or to existing chapters looking to expand membership or their program of events. A bi-monthly newsletter is in the planning stages, and the potential for providing discounts on game purchases by members is being explored. These, and other matters, will be discussed at the first AGW national meeting at ORIGINS '87 in Baltimore. If readers would like additional information on the AGW, chapter guidelines, national constitution, and a copy of the first issue of their newsletter, "Outreach", please send a $1.00 to cover postage and handling to Christopher Cummins, AGW National Director (11395 Columbia Pike, #C-12, Silver Springs, MD 20904).

Contest 131 brought quite a few "closet artists" out and had the best response we've seen in some time to this feature. Many fine pieces were submitted, clever ideas abounded, and the choice the three judges (Bruce Shelley, Charles Kibler and myself) faced was tough. When we had independently voted, 19 entries had at least one proponent. Despite some arguments, we finally settled on the ten we felt to be the best; in a future issue, I hope to reprint the winners and a few selected runners-up as examples of *B-17* nose art. The ten winning entries (plane names in parentheses) were submitted by the following: Robert Beattie, Muenchberg, West Germany ("Siouxie Q"); Frank Calcagno, Billings MT ("Hitler's Hemorrhoid"); Don Hawthorne, Clayville RI ("Pool Shark"); Edward Heise, Orlando FL ("Donald's Revenge"); Richard Knight, Pfafftown NC ("The Snarlin' Marlin"); John Olson, 29 Palms CA ("Odds Bucker"); Daniel Perrine, Orange TX ("Bee Bopper"); Ryan Schabow, Sussex WI ("88 Bait"); Matthew Schreck, Westminster MD ("Hey Meier"); Richard Vigorito, Phoenix AZ ("Just Plane Goofy").

Contest 132 was an exercise in the fine art of when and what to discard in *UP FRONT*. Quite simply, given the situation described, the American player's best play for the upcoming turn is to forego and action and discard the Sniper and Woods cards.

The key to the solution is Pvt. McElroy's wound and the fact that the second deck is close to being exhausted. During the American's first turn of the third deck, he will be forced to draw for McElroy's endurance (33.7) and will lose him *and* the game if that RNC is red—unless he has a Hero card to play "immediately prior to the RNC draw to exempt" McElroy from that requirement for that deck. Thus, without the German player losing a man first, the American has a 50% chance of losing the game without the Germans ever firing a shot—unless the American has the foresight to save his Hero card against that eventuality.

Playing the Hero card on Fox to get the necessary firepower to play the Fire 4 card is certainly tempting, but will result in an American win only on a draw of a black "4", black "6" or black "6" respectively—a possibility of less than 5%, 2% and 2%! While the Sniper discard has decidely less chance of resulting in an outright KIA (somewhere around 3.6%), it saves the Hero card for use to save McElroy and allows the American to draw twice for the Rally card he needs to make both of his Fire cards effective.

With the threat to the wounded McIroy under control, there is no doubt that the American has the advantage in position, terrain and firepower . . . and probably in cards in his hand. The longer the game lasts, the better his chances. There can be no doubt that his best move in this instance is to play defensively to avoid the 50% chance of a defeat in his first turn of the third deck.

Subscribe NOW and be Eligible to WIN one of 100 PRIZES!

*"If Moses had played **Outdoor Survival,** he wouldn't have gotten his followers lost in search of the promised land"*

. . . is what a caption for this picture might say! We might say that a subscription to our magazine, **The General**, would explain the benefits of playing **all** Avalon Hill games.

We might also say that you can win a FREE SUBSCRIPTION FOR LIFE to **The General** if you can come up with a better caption than the (groan) one stated above.

In fact, we're even going to let you WIN FREE GAMES FOR LIFE if you can come up with a caption focusing on **any** Avalon Hill game. Some examples:
*"If the German High Command had played **D-Day,** they wouldn't have left Normandy so lightly defended."*
*"If Robert E. Lee had played **Gettysburg**, we might be speaking a different language, y'all."*

100 WINNERS!

It doesn't matter which Avalon Hill game you write a caption about; winning entries will be chosen on originality and cleverness of caption.
Here's what you can WIN!
Grand Prize: Every new Avalon Hill board game sent to you at no charge for the rest of your life.
Mini-grand Prize: Subscription to **The General** at no charge for the rest of your life.
3rd to 10th Place Prizes: Extension of your subscription to **The General** at no charge for one additional year.
11th to 100th Place Prizes: Awards certificates worth $10 in merchandise value. (90 to be given away.)
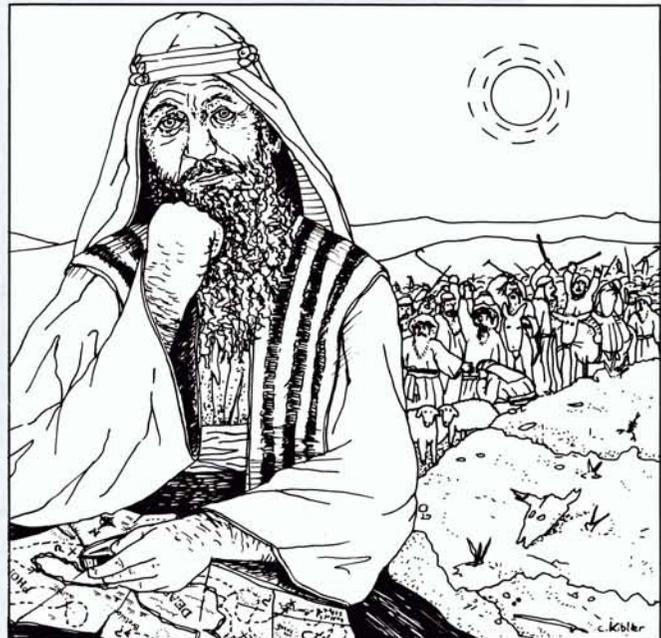
HOW TO ENTER

All you have to do is take out a 2-year subscription (or extend your current one for an additional two years). Simply complete the GREAT CAPTION CONTEST ENTRY BLANK, then send it along with your payment to The Avalon Hill Game Company, 4517 Harford Road, Baltimore, MD 21214.

Winners to be Announced at the National Game Convention — Baltimore 1987

Deadline for mailed-in entries is June 10, 1987. Winners will be announced at ORIGINS '87, the national game convention held at the Baltimore Convention Center. Judges decisions are final and will be based on neatness, originality, and the whim of the eccentric manager of the advertising department.

Why You Should Read The General

It's stood the test of time—over 20 years and still full of articles on strategy, tactics and variations of Avalon Hill games, written by game designers, and others who know what they're all about.

Each issue is loaded with full-color graphics, numerous maps, illustrations, and diagrams. We accept no outside advertising, so each issue is loaded with 48 full pages of game material including Series Replays, game contests, historical background pieces, information on conventions, even gossip on what's happening in the game world. And best of all, **The General** tells you about upcoming new games before the general public knows. You get all this normally for only $12 a year. And if you use the discount coupons to the fullest, you get half of that back. And for a mere $18—the cost of an average game—you get a 2-year subscription which includes $12 in discount coupons. Obviously, the best wargaming value around is **The General.** Take out a 2-year subscription today—you may be eligible to win one of 100 prizes—maybe even a lifetime of games!

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My Great Caption:

Here's my creation: □ *My caption is too clever to fit on the lines below—so I've enclosed a separate sheet.*

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In the event of my winning one of the 100 prizes in this contest, I give permission for The Avalon Hill Game Company to use my name in any and all press releases and advertising relating to this promotion.

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(This form will be invalid if submitted after June 10, 1987. The Avalon Hill Game Company further reserves the right to reject any entry without prejudice. This drawing is not open to the employees or staff of The Avalon Hill Game Company nor of Victory Games, Inc.)

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TIMOSHENKO'S ATTACK

ASL SCENARIO G1

GOMEL, RUSSIA; July 12, 1941: German armored spearheads were advancing on Smolensk. In a desperate bid to save the city, Timoshenko gathered together a mixed force of twenty divisions and launched a flanking attack. The thin screen of infantrymen of the German 10th Motorized Division were to bear the full brunt of the Russian assault.

BOARD CONFIGURATIONS:

VICTORY CONDITIONS:
The Russian player must exit ≥ 13 VP off the north edge of any *one* mapboard.
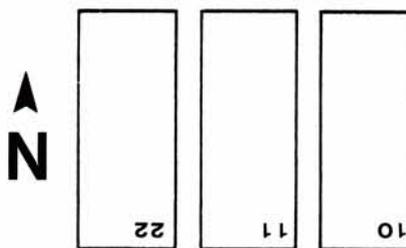
BALANCE:

✚ Add one 4-6-7 squad, one 8-1 and one ATR to German OB.

★ The Russian player may hold back any three squads and one leader from any group for entry on the south edge of any single board on Turn 2.

TURN RECORD CHART

See SSR 2 and 3	1	2	3	4	5	6	7	8	9	END
★ RUSSIAN Moves First										

1st Battalion, 20th Regiment, 10th Motorized Division [ELR: 4] set up on rows Q-FF, inclusive, as per SSR 3: {SAN: 0}

Elements of Timoshenko's Attack Groups [ELR: 2] enter on the south edges as per SSR 2: {SAN: 0}

Group 1:

Group 2:

Group 3:

SPECIAL RULES:

1. EC are Moderate, with no wind at start. The stream is Shallow.

2. The Russian forces are, prior to setup, allocated by the Russian player with one group per board; one group must enter the south edge of each mapboard. Following the German setup, these groups must set up offboard for entry on Turn 1.

3. The German forces are, prior to setup, divided into *four* groups by the German player in any manner. Three groups must set up on the mapboards, one group to each board. The fourth group is the reserve and portions, or all of it may be called into play (as reinforcements) on any board(s) after a one-turn delay. (Thus, if called upon during the German RPh of Turn 1, they would arrive during the German MPh of Turn 2.) When he calls for reserves, the German player must declare what will enter and on which mapboard. All German reserves enter anywhere along the north edge of the mapboard declared. All reinforcements need not be called into play.

4. Reinforcements may only be called for at the end of a German RPh. A radio is not necessary to call for reinforcements.

5. German reinforcement groups may be as few or as many as desired, and comprise any portion of the remaining reserve. But, for each board and each turn that reinforcements enter, there must be at least one leader with the group.

6. Although all three boards are placed side by side, they represent three separate attack lanes. Play is simultaneous on all three boards, but no movement, fire or LOS is allowed between them. It is suggested that players leave a slight space between the mapboards as a reminder.

7. Once onboard, units may not be moved offboard (other than for Victory Conditions).

8. All level 2 buildings are treated as single-story buildings.

9. Bore Sighting and Pre-Registered (for one hex) Fire are available for the appropriate weapons/radio that set up onboard.

10. The German radio represents a module of 105mm artillery; the Russian radio, a module of 81mm MTR.

11. Battlefield Integrity rules (A16) are not in effect.

AFTERMATH: The German line, though outgunned and outnumbered, held just long enough for reserves to rebuff the initial Russian surge. Though battered, the 10th Motorized Division held their positions. Smolensk fell, and Timoshenko was forced to withdraw his forces.

PANZERKRIEG $18.00

Armored Waarfare in the Ukraine, 1941-1944

INSTRUCTIONS:

Rate each category by placing a number ranging from 1 through 9 in the appropriate space to the right (1 equating "excellent"; 5, "average"; 9, "terrible"). EXCEPTION: Rate items 7a and 7b in terms of minutes necessary to play the game, in ten-minute ncrements. (Example: If you've found it takes two and a half hours to play the basic scenario of *FRANCE 1940*, enter "15" for category 7a.) For an explanation of the categories, refer to the AH Philosophy of Vol. 19, No. 4. Sub-categories are indicated by italics. Enter ratings only for those categories relevant to the game in question. Note that AH's ratings for **Complexity** and **Year of Publishing** have been provided; do not rate these categories.

1.	**Overall Value**	____
2.	**Components**	____
2a.	*Mapboard*	____
2b.	*Counters*	____
2c.	*Player's Aids*	____
3.	**Complexity**	_4_
3a.	*Complexity*	____
4.	**Completeness of Rules**	____
5.	**Playability**	____
5a.	*Excitement Level*	____
5b.	*Play Balance*	____
6.	**Authenticity**	____
7.	**Game Length**	____
7a.	*Basic/Shortest*	____
7b.	*Advanced/Longest*	____
8.	**Year of Publication**	**1983**

WHAT HAVE YOU BEEN PLAYING?

Top ten lists are seemingly always in vogue these days. Whether the subject is books on the Best Seller List, television's Nielsen ratings, or even games, the public never seems to tire of seeing how their individual favorites stack up numerically against the competition. Our preoccupation with this national pastime is almost akin to rooting the home team on to victory every Sunday. So to further cater to your whims (and to satisfy our own curiosity) we unveil The *GENERAL*'s version of the gamer's TOP TEN.

We won't ask you to objectively 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 less) games which you've spent the most time with *since* you received your last issue of The *GENERAL*. With this we can generate a consensus list of what's being bought. The degree of correlation between the Best Selling Lists and the Most Played List should prove interesting.

Feel free to list any game regardless of manufacturer. There will be a built-in bias to the survey because you all play our games to some extent but it should be no more prevalent than similar projects undertaken by other magazines with a special interest-based circulation. The amount to which this bias affects the final outcome will be left to the individual's discretion.

The games I've spent the most time playing during the past two months are:

1. _____

2. _____

3. _____

Opponent Wanted   50¢

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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, Alexander—AL, Anzio—AZ, Arab-Israeli Wars—AIW, Assault On Crete—AOC, Banzai—BANZ, Beyond Valor—BV, Bismarck—BIS, Blitzkreig—BL, Battle Of The Bulge—BB, Bull Run—BR, Caesar Alesia—CAE, Caesar's Legions—CL, Circus Maximus—CM, Civilization—CIV, Conquistador—CON, Dauntless—DL, D-Day—DD, Devil's Den—DEV, Diplomacy—DIP, Empires in Arms—EIA, Firepower—FP, Flat Top—FT, Fortress Europa—FE, France 40—FR, Frederick the Great—FRED. Freedom in the Galaxy—FITG, Gettysburg—GE, Gladiator—GL, Guns Of August—GOA, Gunslinger—GSL, Hitler's War—HW, Jutland—JU, Kingmaker—KM, Knights of the Air—KA, The Longest Day—TLD, Little Round Top—LRT, Luftwaffe—LW, Magic Realm—MR, Midway—MD, Napoleon—NP, Napoleon at Bay—NAB, Naval War—NW, Origins—OR, PanzerArmee Afrika—PAA, Panzerblitz—PB, PanzerGruppe Guderian—PGG, Panzerkrieg—PK, Panzer Leader—PL, Rail Baron—RB, Richthofen's War—RW, The Russian Campaign—TRC, Russian Front—RF, Streets of Fire—SOF, Squad Leader—SL, Stalingrad—STAL, Starship Troopers—SST, Storm Over Arnhem—SOA, Struggle ofNations—SON, Submarine—SUB, Tactics II—TAC, Third Reich—3R, Titan—TT, Tobruk—TB, Trireme—TR, Up Front—UF, Victory In The Pacific—VITP, War and Peace—W&P, War At Sea—WAS, Waterloo—WAT, Wizard's Quest—WQ, Wooden Ships & Iron Men—WSIM.

____ ____ ____ ____ ____

____ ____ ____ ____ ____

____ ____ ____ ____ ____

____ ____ ____ ____ ____

NAME _____ **PHONE** _____

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CITY _____ **STATE** ___ **ZIP** _____

Contest 133

1st Turn Moves:

2nd Turn Moves:

Code	Type	Hex Placed	Depth Setting
A	HH		
B	DCK		
C	DCK		
D	DC		
E	DC		
F	DC		
G	DC		
H	DC		
I	DC		
J	DC		

Issue as a whole . . . . (Rate from 1 to 10, with 1 equating excellent, 10 equating terrible)
Best 3 Articles

1. _____

2. _____

3. _____

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____
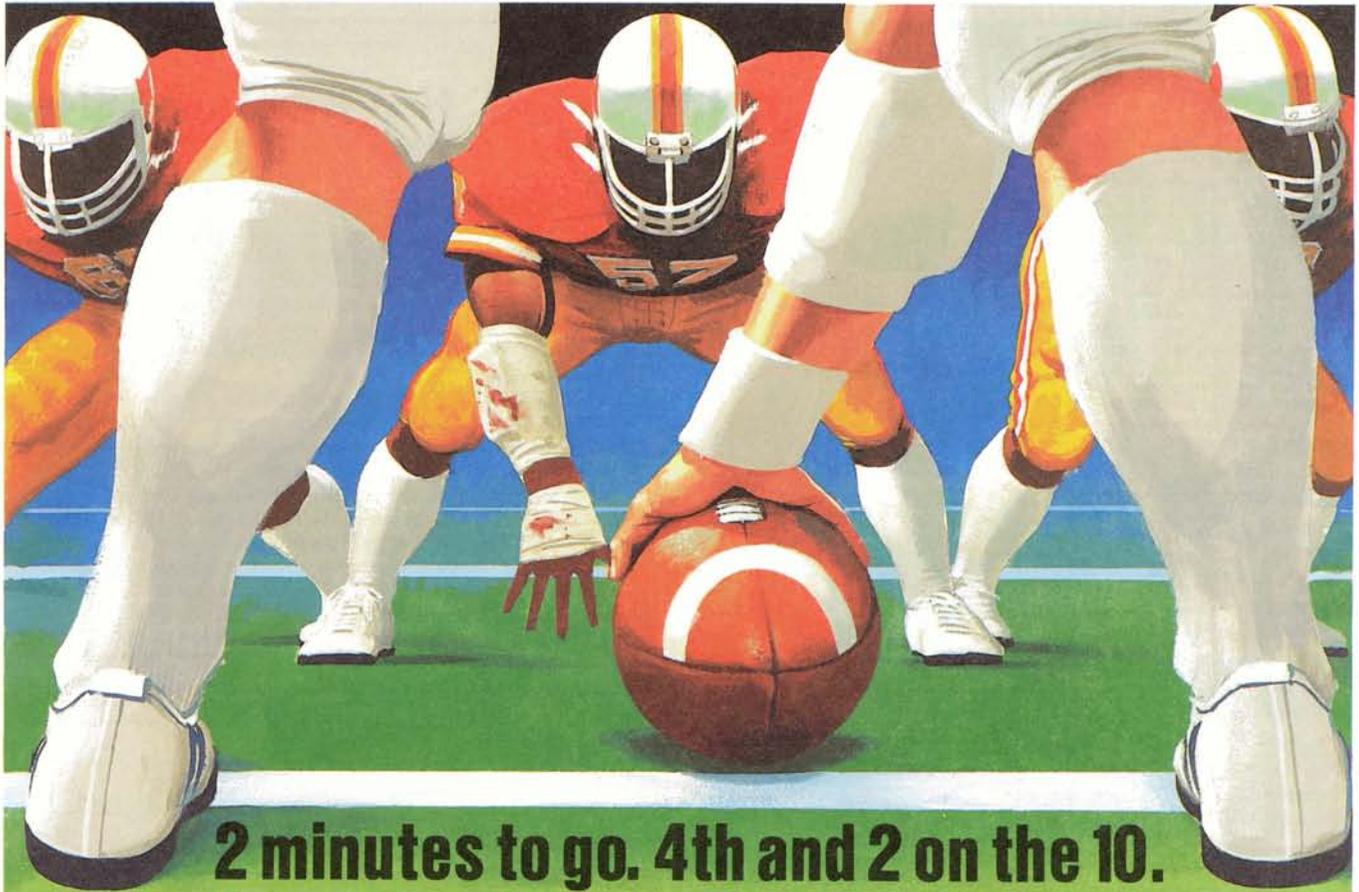
2 minutes to go. 4th and 2 on the 10. Your QB can't run. What's your play?

Every time you play a SPORTS ILLUSTRATED game, you find yourself in realistic situations like that. The same kinds of tight spots and tough decisions the pro coaches face in every game.

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We're sticklers on statistics. And realism. Knowledge of statistics makes for authenticity. And that's what our games are all about. The result of our attention to detail is astonishing realism through every minute of play. SPORTS ILLUSTRATED games offer double fun. Great head to head competition . . . and solitaire play that lets you have all the excitement for yourself.

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