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FIRST CLASS MAIL

Designer's Notes

1

"From the Jaws of Victory..."

Before launching into the meat of this issue's column we might as well get the latest news from the drawing board out of the way.

The long awaited War in the East (a/k/a Stalingrad II) has been delayed again. This time it's purely a scheduling problem. The game will be announced by the end of the year. On the other hand, the twelve new games we will do in 1972 have been decided upon, at least as far as titles go (hopefully the designs will be just as easy). In S&T there will appear (in the following order) NLF (military/political warfare in Indochina: 1945-197?), Borodino (the 1812 bloodbath between Russia and France, using the same game system found in the Napoleon at Waterloo "Expansion Game"), The American Revolution (a strategic level game, something like Strategy I), The Thirty Years War (again, a game-system somewhat like Strategy I), The Flying Circus (the first of an already completed line of tactical plane to plane games, this one covering World War I) and The Lorraine Campaign (for all you George Patton freaks, this is a regimental level game of the US 3rd Army's battle on the German Border between September and December 1944). TSG's will be Battle of Stalingrad (same scale and mechanics as Kursk), The Franco-Prussian War (the 1870 fracas with hidden movement that works, we hope), 1812 (Napoleon's campaign in Russia on a strategic scale), Soldiers: Tactical Level Combat in the West 1914-15 (speaks for itself, a/k/a Tac 19). And then we have our "Twin-Mini Games" which will include two small games for the price of one (well, for \$6). Four titles already lined up are The Winter War (Russo-Finnish War 1939-40), Papua (Pacific 1942), Palestine (1918, Lawrence of Arabia and a cast of thousands), and The Army of the Potomac (Civil War 1861-5, simultaneous movement, etc). All of the above titles are, of course, tentative. Some of these games are finished. Some are in the development stage. Some are still just bright ideas. We'll keep you posted.

As you all probably know, we have finally published our Napoleon at Waterloo "introductory" game. Some of you may have even seen it already. What we would like to know is, what has your experience been with people who have been introduced to simulation games through the use of Napoleon at Waterloo. We'd like to hear from those of you who've already been there, and know of someone who's just getting there.

And now, onto the main theme of this issue's Designer's Notes. An essay on "the idiocy factor". Put simply, the Idiocy Factor is that element of a game which is most difficult to re-create because they are "human" factors which, because of the format of the game, should be controlled by the players. Some recent examples are to be found in the France, 1940 game: With two normally sane players it is virtually impossible to re-create the original campaign. To show the Idiocy Factor more clearly take a look at the Kursk game. Here the idiocy factors could be built into the game without intruding on the player's prerogatives. In other words, the idiocy factors in France, 1940 frequently occurred during the campaign itself while in Kursk idiocy factors were present

primarily in the decisions made before the campaign began. Therefore, we must concern ourself primarily with those situations in which the Idiocy Factor was present during the actual course of the campaign.

Actually, there are few campaigns in which the Idiocy Factor is not present to a certain extent during the course of the action. There are few campaigns conducted with no mistakes (major ones, that is) on the part of the commanders. The Idiocy Factor, remember, relates to mistakes of decisive importance. Such as the errors made by the French commander in 1870, 1914 and 1940.

Now that we have established what the Idiocy Factor is, what are we going to do about it when it must be applied to a game? First, you go out and read a book by Charles Fair; From the Jaws of Victory. This book is a discussion of the great losers in history. I have often noted that wars are frequently lost more than they are won. In other words, there seem to be more losers than winners. Put another way, what happens when a Napoleon comes up against a Frederick the Great? Somebody has to win, right? So one of these "great captains" of history would become less great if he came up against someone equally great and had the misfortune to come out second (you very rarely have ties in cases like this). Being that there are few great people in any period, much less all practicing the same trade, it would follow that many "great generals" are merely the lucky incompetents who happened to come out on top in a contest between high-potential low-achievers.

Mr Fair, however, confines his study to those who are truly losers. Such historically infamous personages as Marcus Licinius Crassus (who ended up as a drinking cup), through the likes of Charles the Bold, Ambrose Burnside and up to William Westmoreland (who was promoted). What each of these men had in common was failure of colossal dimensions in a military undertaking. The book considers the reasons for their failure, and therein we find the book's usefulness.

As with warfare in general, the Idiocy Factor has become more complicated of late. There was a time when the Idiocy Factor was, quite simply, the result of idiocy on the part of the principals. But as military institutions became more complex so have the workings of the Idiocy Factor. For example, during our own Civil War one of the main reasons for the poor quality of Union generals was the necessity for prominent politicians to be given high commands. Lincoln was forced to fight a "political" war at home every bit as bitter and decisive as the military one. There was no lack of good officer material on the Union side. Most West Point officers and other regulars had remained loyal. This aspect of the war is often overlooked. I've given a considerable amount of thought to doing a game called "Mr Lincoln's War". The war in question, of course, would consist of Lincoln's political maneuvers as he attempted to keep himself in office and still maintain some amount of competence among his generals. What this points out is that Idiocy Factors don't just pop out of the ground. There are often other factors at work behind the seeming simplicity of the Idiocy Factor in action. This, of course, applies to any aspect of a situation being turned into a game-simulation. My point here is that people often don't consider the rather complex possibilities just under the

surface of a seemingly simple situation. By making you aware of the complexity of such a seemingly innocuous element as the Idiocy Factor you can perhaps be made aware of the enormous number of other factors which, while appearing quite simple are, in reality, quite complex. Until you have a good understanding of these factors you can't really deal with them on a "simple" level (the level at which they must appear in a playable game).

The complexity of the Idiocy Factor rises and falls with the complexity of the military organization using it. This can be seen, on the "simple" level, in our Tactical Series of games. Take Dark Ages and Phalanx, for example. The period covered by Dark Ages may be considered as one of the golden ages of the Idiocy Factor. It seemed to be everywhere. Weaponry could have been more efficient, but wasn't (missile weapons were usually neglected in favor of shock weapons). On the battlefield tactics were in a sorry state. Often there were no tactics at all. Regardless of the situation a "leader" (even this was often in doubt) would immediately go for the enemy. If this were avoided the leaders would often mis-manage their forces, not taking into account the different equipment and capabilities of their troops. It is usually quite impossible to re-create the Idiocy Factor in such situations. A person today, living in a very different social environment, will simply not react like the original commander did. He is aware of the capabilities of the forces under him, more or less as much as the original commander was. But we live in an age of "reason and logic" (at least more so than was the case in the Dark Ages). We tend to try and get the most out of a situation). There were men like this a thousand years ago. Not many, but a few. They were out of step with their fellows and had to step carefully. It was an age of superstition and belief in many things that were not understood at all. This attitude spilled over to warfare. With two opposing commanders of much this same attitude a battle was decided as much by luck as by anything else. Military history, usually the creature of the age in which it is written, does not often make clear this last point. We tend to be creatures of our own age as much as those who lived ten centuries ago. We see history through glasses tinted to reflect what is real today. But this "reality" was usually quite different not long ago. This, too, is an important part of the Idiocy Factor.

This covers but one period. So many problems. How does one build this into a game? In many cases you can't. In Tactical Game 14 (S&T 22) the feudal mentality was handled, to a certain extent, through the use of a "Feudal Rule". It was an imperfect solution, but better than nothing. In most cases the situation is re-created to the extent that the technical conditions are accurately re-created. Mental quirks are something else again. In most cases you have battles being fought with 20th century mentalities. Unless a way is found to force players to think like 10th century warriors there appears to be no other solution. You can devise rules (such as the Feudal Rule), but the 20th century mind will simply strive to devise ways of "beating" these "restrictions".

In all periods of history we find similar "mentality" problems. During the period immediately preceding the

Napoleonic wars we find something similar to the "feudal" mentality. Commanders of that period had a rather "strictured" attitude towards warfare. Certain things were done a certain way, and certain things were simply not done at all. Some generals tried to be different, but individuals could not do much. When the truly revolutionary French army appeared in the late 18th century the current "system" armies were swept away. With the Napoleonic armies began the first "modern" armies. To be sure, such "modern" armies had appeared before. The Roman and Byzantine armies were modern in the sense that they were highly organized and run by professionals (this does not mean that the highest commander was a professional, this was often not the case.) Later on there were a few really professional armies; this trend peaked during the Thirty Years War period (17th century) before declining in the pre-Napoleonic period.

We are all more familiar with the more modern forms of the Idiocy Factor. Or are we? This is where Mr Fair's book "From the Jaws of Victory" again comes into its own. The roots of the modern Idiocy Factor lie not just with a commander's personal and professional shortcomings, but also with the peculiarities of the social system within which he must operate. Sound strange? It really isn't. Consider, for example, the sheer size of modern armies. Then consider the hordes of highly skilled and specialized personnel required to keep it functioning. Consider the frictions inherent in any such large organization. Consider the fact that in most large, modern armies the primary objective has not been to defeat the enemy but rather to enhance one's personal position within the "organization". So very few people actually go out and fight any more. Most soldiers, particularly the more able ones, are needed to keep the organization running. And most of the organization is not concerned with fighting. From here the seemingly mundane Idiocy Factor question we have proceeded to some rather complex questions. What I have done here is outlined the problem. You ought to read Mr Fair's book to get a broader view. Later we'll take up the Idiocy Factor problem again and work it into some actual games.

FEEDBACK

Recently we began to use a Feedback card in Game Design. The results for GD #4 were as follows: Deployment:A Critique=7.3, Designer's Notes=7, How Good a Game Do You Think This Is?=6.8, The Mathematical Derivation of a Combat Results Table=5.8, Avalon Hill Review/Bulge=5.4. Overall rating was 6.7. 68% said they would resubscribe, 25% maybe and 7% no.

Game Preview: Tac 16, The Dark Ages

2

by Steven E. Patrick

With the publication of Tac 14 (THE RENAISSANCE OF INFANTRY) and Tac 13 (CENTURION), the creation of a game to bridge the gap follows naturally. To some extent, this intermediate game is restricted by the precedents which were established by the earlier games. Thus, when Tac 16 finally sees the light of day--as a TSG, incidently-- some "old friends" will be recognized, such as the heavy cavalry of Tac 14 and the Byzantine

cataphracts of Tac 13. Moreover, the strengths of the units for Tac 16 had to be in proportion to the strengths established by the other two games so that, ideally, one could pit a Roman Legion of 100 AD against a Roman numerus of 1012 AD or against the Swiss pikemen and contemplate the possible results.

One major change has been wrought. The projectile weapons (archery, in this case, as siege weapons are not within the scope of these games) are given a uniform attack strength. The reasoning behind this is simple enough: within the effective range of each weapon, it's killing power is equivalent to any other weapon. This is particularly true among arrows. While one could say that a musket ball is more deadly than an arrow, the quarrel of a crossbow had about the same killing power as the arrow of a longbow--within its effective range. That is the key--effective range. The effective ranges of these weapons varied greatly. The simple bow had an effective range of between 100 and 200 yards; the crossbow between 200 and 300 yards; the composite bow between 400 and 500 yards. Since a bow was not used toe-to-toe with enemy swordsmen, a set-off had to be considered. Thus, based on a scale of 1 hex equaling 100 yards, a 2 hex range was given the simple bow. Some might quibble that this would, in theory, allow forces to be almost 300 yards apart, if one assumes that each was to the rear of its respective hex. The only answer is that while this is correct, this is why the games are simulations and the overriding consideration is that bowmen simply would not be used within sword range of the enemy, unless unavoidable. That would be the result if only a 1 hex range were given. The rest falls into place thereafter: 3 hex range for crossbows and 5 hex range for composite bows (oriental archers). For the same reason, the melee attack strength of archery units was reduced to nil--they were practically speaking unarmed for combat in melee. Although the option is given to permit archers to be employed in melee by converting them into fyrd, this is a permanent change.

Some new types also appear: Axemen, Medium Cavalry, and Fyrd. The axe was, of course, a weapon revived in the Dark Ages, only to fade in popularity as the Dark Ages waned. Medium Cavalry is really a misnomer and is used to denote the pre-1070 equivalent of heavy cavalry. The Normans at Hastings had a heavy cavalry which was decidedly lighter than the heavy cavalry of the Crusaders. The alternative was to create a rule modification which requires everyone to remember that the numbers on the pieces don't really mean what they say--a device to be avoided if possible. Finally, the Fyrd is the military levy of the period. Fyrd is the Anglo-Saxon term for their levy and it is a handy one to use. By "tradition" of Tac 13 and 14 militia type units have an attack and defence strength of 2. However, keeping in mind the ultimate linkage between these Tactical Series games, the fyrd was little more than a rabble in arms and are reduced in strength appropriately.

The Scenarios for Tac 16 will depict, as usual, some of the major actions of the period. Presently under consideration are these: Tours, 732 AD (Charles Martel's Frank v. the Arabs--the Muslim drive into France is halted); Manzikert 1071 (Turk v. Roman--the Romans are defeated and Anatolia laid waste); Civitate 1053 (Normans v. the Pope--the Pope's attempt to drive the Normans from Italy fails and Norman power is established); Cannae 1017 (Romans v. Lombards--last attempt of the Lombards to drive the Romans from Italy, the Romans winning this Cannae); Durazzo 1082 (Robert Guiscard's Norm-

ans v. Romans--Alexius Comenus' Romans are defeated and the way to Constantinople opened); Cerami 1063 (Normans v. Arabs--the conquest of Sicily by the Normans previews the Crusades); Famburg 880 (one of many Viking raids); Dorylaeum 1097 (Turks v. Crusaders--an early Crusader battle highlighting the differences between the two forces); Ascalon 1099 (Turks v. Crusaders--a rather typical battle of the Crusades); Hattin 1187 (Saladin v. Crusaders--Saladin's defeat of the King of Jerusalem which prompted the Third Crusade); Balthusta 1014 (Romans v. Bulgars--Basil II's crushing defeat of the Bulgars); Liegnitz 1241 (Mongols v. Germans--the Mongols put the German's backs to the wall); Hastings 1066 (English v. Normand--the Conquest).

Some Notes of The Battle of the Bulge

3

by Warren Jervey

On the morning of 16 December 1944 American troops of the VIII Corps suddenly found themselves confronted by German infantry and armor. And so began the last German gamble for victory over the Western Allies. This offensive has been known as The Bulge, The Ardennes Counteroffensive, the Gelgian Bulge, and the Battle of the Bulge.

The staunch and fierce American resistance to the German drive has been well reflected in Avalon Hill's BATTLE OF THE BULGE. However, in this game the Germans aren't even a shadow of a chance to win.

The German commander would have refused to assume command of such wholly inadequate and disorganized forces. His logistical officer would have had many a headache over the unit identifications as supplied by A/H.

To alleviate these two problems I list here the German units which participated in the battle, with proper identification where known, at the start of the action.

VI Panzer Army

1st SS Dn--correctly identified in A/H's game

9th SS Dn--correctly identified.

18th VG Dn--293d, 294th, 295th Regiments

26th VG Dn--39th, 77th, 78th Regiments

62nd VG Dn--164th, 183d, 190th Regiments

340th VG Dn--three unidentifiable regiments

560th VG Dn--1128th, 1129th, 1130th Regiments

246th VG Dn--three unidentifiable regiments; not noted in A/H's game.

V Panzer Army

Pz Lehr Dn--correctly identified

2d Pz Dn--correctly identified

116 Pz Dn--correctly identified

150th Pz Regt--correctly identified

3d Para Dn--correctly identified

12th VG Dn--27th, 48th, 89th Regiments

79th VG Dn--208th, 212th, 266th Regiments

277th VG Dn--989th, 990th, 991st Regiments

326th VG Dn--751st, 752d, 753d VG Dn

VIII Army

5th Para Dn--correctly identified
167th VG Dn--three unidentifiable Regiments
276th VG Dn--986th, 987th, 988th Regiments
352nd VG Dn--914th, 915th, 916th Regiments
212th VG Dn--316th, 320th, 423d Regiments; not noted
in A/H's game.

Avalon Hill did a particularly good research job on the American forces, but even here they managed to leave out three units. These are:

102d Armored Cavalry Regiment (4-6)--available at the start of the game at SS-3
4th Armored Cavalry Regiment (4-6)--arrives on the South edge on 22 A.M. turn.
29th Royal Tank Regiment (4-4)--arrives on the North edge on 23 A.M. turn.

As a result of these errors you must, in effect, make a complete set of new German counters and a few new Allied ones as well. You can either make them out of cardboard and paint them or order a pre-colored set of blank counters from Simulations. In Battle of the Bulge, simplicity and playability have replaced authenticity when it should be the other way around. To add a bit more authenticity a few new rules are needed.

1. The Germans may make three air strikes in the course of the game, but these may only be made against stacked units. A roll is taken: 1 or 2 indicates no effect; 3, 4, or 5 immobilizes the stacks for the number of turns indicated on the next roll of the die; 6 destroys one of the units in the hex. These air strikes must be called for before the Allied movement portion of a turn and may not be called for after the 17 P.M. turn. This will nicely duplicate the effect of several Luftwaffe attacks made during the first days of the operation.

2. The 150th Pz may move its full movement allowance without regard for terrain effects or enemy zones of control. This will reflect the fact that the unit was composed of Germans in American uniform, intent upon infiltrating the Allied lines.

3. Employing the 10th and 11th SS Panzer Divisions (each composed of two 9-4s and one 6-4). These may be committed to the starting line-up on a roll of 1, 2 or 3. They were originally supposed to be assigned to VI Panzer Army but were held back.

4. Allied units cut off on the first day have their combat factors halved until the end of the third day.

5. One regiment of the 3rd Parachute Division may be dropped behind Allied lines. This unit must be removed as soon as the U.S. 1st Division comes on the board. This will create a situation similar to the one caused by the actual German air drop during the battle.

6. For every unit the Germans get off the board via the Spa and Martelagne roads the Allies must keep one of their reinforcing units coming from that edge off the board. This unit is assumed to be containing the German unit and neither may enter the play thereafter.

Armor in Simulation Games

4

by Steven B. Patrick

The gap between combat and wargames, as far as realism is concerned, is one all gamers seek to close. Some elements, fortunately, will never be reproduced in wargames--the actual horror of war being chief among these. But other elements are worth taking the effort to adapt to games to add realism. It should be borne in mind that wargamers in miniature have a certain advantage over boardgamers, as the former deal with individual elements, just as in combat, while the latter tend to deal in whole units, often of large size. In the final analysis, to attempt to add this realism, it is necessary to have some background in military theory and doctrine, for it is based on these concepts that combat is conducted and any attempt to parallel reality must draw on the same source.

Rather than cover the whole gamut, it seems worthwhile to examine the problem a portion at a time. The worldwide custom of branches in armies provides a suitable means of doing so. In many respects, particularly in board games, the use of infantry is fairly correctly set forth--certainly far better than any other branch. Therefore, attention here is devoted to the other branch having the principle mission of closing with and destroying the enemy in combat--armor.

While the United States Army is not necessarily the acme of military theory, current armor doctrine is at least as advanced, if not more so, than in any other country. While it is easy to limit the way in which armor will be employed, as when creating a "between wars" type of situation, it is still necessary to know the outer limits of armor capabilities in order to understand how to make intelligent limitations of those capabilities. Current U.S. Army doctrine attempts to embody not only sound theory, but also the results of successful experience and, in that regard, can be represented with reasonable authority as an expression of the most advanced state of the art to date.

The Army provides some useful definitions and guidelines which deserve serious consideration, for they are typically terse and yet provide the cornerstones upon which all armor practice is laid. Without employing the principles set out in them, the true benefit of armor cannot be achieved, either in combat or in wargames.

Armor is defined as a combined arms force designed to conduct mounted operations employing armor-protected vehicles and armored aircraft as a principle means of accomplishing a land force combat mission. This, essentially, means tanks and mechanized infantry, as well as support from mechanized artillery and engineer units, with a nod given to current developments in the

their capabilities. The mission of tanks is to close with and destroy enemy forces, using fire, maneuver, and shock effect in coordination with the other arms. That of cavalry is to perform reconnaissance and provide direction of air cavalry. Perhaps the most important concept is contained in the "role of armor": to conduct decisive, highly mobile land-environment warfare, primarily offensive in nature and characterized by a predominance of mounted combat, through the use of both ground vehicles and aircraft. Armor operations are mobile in nature, violent in action, and calculated to obtain decisive results. Make no mistakes, in these brief lines lie the essence of the blitz, armor's greatest contribution to the battlefield. Look at it again. Armor is highly mobile, primarily offensive, designed to conduct decisive, violent operations. Then think of how armor is used in wargames. Are armored units given special capabilities which allow them to duplicate their combat potentials in wargames?

What will not be discussed here is the means by which armor accomplishes its mission. A tank or APC or other item of equipment not employed in accordance with armor doctrine will not achieve the ends uniquely available to armor. On the other hand, as is being shown in Viet Nam, using beefed up M113s and the M577, vehicles other than tanks can accomplish armor-type missions when used in accordance with the principles of armor. Therefore, it will be those principles which will be discussed, with a view toward providing the basis for making rules suitable for adapting these principles to war games.

Armored units can be assigned a variety of missions particularly suited to their capabilities, including: deep penetration and wide envelopment; exploitation; mobile defense; destruction of enemy armor formations; and reconnaissance and security. To accomplish these various missions, the three principle elements involved are tank units, armored or air cavalry, and mechanized infantry. The officially designated missions of these three arms are indicative of the type of employment best suited to security to the units to which they are assigned, and to engage in offensive, defensive, and delaying actions as an economy of force unit. Finally, the role of mechanized infantry is to close with the enemy by means of fire and maneuver to destroy or capture him or to repel his assault by fire, close combat, and counterattack.

The foregoing may seem like so much pat military phraseology, but when an attempt is made to apply these principles to wargames, it can be seen that there is very little fat. For example, in what war game do tanks have the ability to achieve shock effect, which you will note is not considered in the capability of mechanized infantry? The problem, then, is to create a system of rules to allow this shock effect, as an example, to occur. Review each of the above principles with this sort of idea in mind and the point need not be belabored.

Offense and defense are the meat of combat. Yet these particular phases of warfare are almost impossible for a boardgame to achieve, except on the grandest scale. The idea of assembly areas, lines of departure and the like,

when a hex represents no more than several kilometers of land and two hexes might well encompass the entire area of a battle is impractical, to say the least. Here war-games in miniature have the decided advantage in the creation of realism. For armor, offensive operations are conducted under the aegis of the principles mentioned earlier. The advance from the LD to the LC is one fluid move, calling upon speed to pass through enemy defensive fires and fall upon the enemy before they can bring effective opposition to bear. Keeping in mind the combined arms concept, the armor--infantry team is most often used. Where possible, tanks lead the way to take advantage of their armament and ability to fight "on the run". In fact, if at all possible, the infantry, which is following the tanks in APCs, should not have to dismount short of the objective. Once on the objective, the tanks are to sweep over it to the far side, then withdraw, if no further advance is in order, to allow the infantry to assume the main burden of consolidation. This is the ideal armored attack, employing all of the precepts of movement, violent execution and constant offense. Obviously, variations will occur. Often, particularly in terrain unsuited for tracked vehicles, the dismounted infantry will lead the way, supported by tank fire. As in any attack, artillery is invaluable but, again, the advantage of armor comes to the fore here in that the tanks and infantry in their APCs can be advanced much closer to the supporting fires due to being "buttoned up" and less exposed to friendly artillery fire.

To place these principles into the format of rules is rather difficult because the armor concept is as much a state of mind as an actual combat arm. To some extent, the matter of rules in this area is more a problem facing boardgamers than those in miniature, because the latter simply execute the manoeuvre, while the former must find some way to deal with division sized units. One thought, for boardgamers, is the elimination of zones of control when a successful attack is made by armored forces. This would reflect, to some extent, the increased mobility of armor as well as adding the shock effect concept. The present practice of having greater strength in armored units already implements the greater fire-power of armor. On the other hand, the movement after combat must also be taken into consideration. Invariably the attacker advances less than the defender retreats. When an armored unit attacks an infantry unit, this is simply nonsense. There is no physical barrier to an armored unit pushing an infantry unit all over the map, presuming it wins all the battles. Moreover, the present rules invariably prevent armored units from getting to the rear of the enemy, which is exactly the reverse of a well-executed attack. The only solution here is a different CRT which distinguishes between the movement-after-combat abilities not only on the basis of attacker and defender, but also on the basis of whether the units involved are armor, mechanized infantry, regular infantry, and so on. As a side factor, it should also be noted that a unit can move to the maximum of its movement factor in order to achieve combat and, if successful, move further. If the movement factor is supposed to reflect the movement capability during a given time period--however long a turn is supposed to be--

it is interesting to discover the logic which allows further advance merely by virtue of winning a battle. World War II is full of commanders who wished they had that capability. The overrun principle also deserves consideration, such as where a unit is so outnumbered as to be automatically eliminated. While it is nice to think that other units could then move over the area as if no one were there, in point of fact, and again keeping in mind that a turn reflects a hypothetical time period, the mere presence of troops in an area, no matter how weak, will cause some delay, though not necessarily requiring all other units passing by to stop and fight.

Armored forces generally attack based on several plans of maneuver. The most common are the penetration and the envelopment. The first is merely the punching of a hole in the enemy lines, using the mass, violence of execution, and fire-power armored units can bring to bear at a given point in the line, to first rupture the position on a narrow front, then hold and widen the gap and finally penetrate deep into the enemy rear to destroy the continuity of enemy defences. The envelopment differs from the penetration in that the penetration seeks to meet the enemy head on while the envelopment is an "end run", seeking an objective in the enemy rear. Obviously the key here is that the enemy must have an assailable flank. The standard boardgame more often resembles World War I, with its continuous line from border to border, than it does World War II. Thus, miniatures again have an advantage in this situation. The general plan for executing an envelopment is for supporting fires to fix the enemy and, if possible, force the enemy to commit its reserves, leaving the flank not only vulnerable but difficult to reinforce. Variations on these maneuvers are several in number. There is, of course, the tactician's dream, the double envelopment. However, in this day of units capable of changing front with some ease, it is generally executed only on large unit levels, such as the German kesselschlacht in Russia in 1941-1942, where armies were the maneuver elements. The frontal attack is a variation on the penetration. This is used against a weak force, where local superiority is not necessary due to overall superiority. The major variant on the envelopment, most likely to be met, is the turning movement. As its name implies, it seeks to actually drive the enemy flank from a position and turn the corner, so to speak.

As was pointed out in the beginning, armor is ill-suited for defense. This is not because of an inability to conduct defense, but because digging into defensive positions converts armored units into little more than dismounted infantry and fixed gun positions. The principles of defense by infantry and direct fire gun emplacements covers armor in defense.

Creating rules for boardgames putting into effect the principles of maneuver employed in attack is an exercise of little value. The FEBA (Forward Edge of the Battle Area) is a figment of one's imagination when a hex contains a whole division. One is either adjacent to it and in combat or not adjacent to it and not in combat. As

mentioned earlier, those using miniatures have the definite advantage here. Rules are not the key, merely execution in the same way that an 18th Century wheel would be executed. On the other hand, though not by way of rules, given a meaningful CRT which allows armored units to effect an overrun and to actually breach enemy lines and work behind them, the basic maneuvers then become executable on the board.

Peculiar problems in armored operations are presented by terrain. Obviously, open, gently rolling terrain is ideal for armored operations. Conversely, any variations on that present their own problems. Often the problems are presented in wargames, though the solutions given by the game designers are just as often wrong. In addition, there are several problems to armored operations, as well as other arms, which wargamers strangely ignore. Essentially, the terrain problems revolve about forests, jungles, mountains, rivers, fortifications, and cities.

With forests and jungles, the problem is apparent. Due to the dense growth, armored units are channelized and vulnerable to ambush, the degree of vulnerability and channelization being relative to the density of the growth. Parenthetically, armor is not utterly helpless in forests or jungles. The power of a tank when pushing on a tree is significant and Viet Nam can attest to the effect achieved in jungle areas by canister rounds. Still, the best practice is to treat forests and jungles as areas. The advance to the front edge should be conducted as an attack in order to overwhelm any force in the forest or jungle which might have clear fields of fire for oncoming armor, but themselves being protected by the growth. Once the edge of the forest has been seized, movement becomes no faster than that of a man on foot. The infantry are dismounted and escort the vehicles through, individually. The infantry has the function of providing security against ambushes, bearing in mind that the inability of the tanks to deploy severely limits their effectiveness. Moreover, the growth affords enemy troops an opportunity to get within range of hand-held anti-tank weapons. The exit from the forest, like the entrance, is conducted in an attack mode. The reason here is the reverse of the reason for the entry, units leaving forests or jungles tend to be strung-out and can be picked off individually as they exit unless the exit is conducted in an aggressive manner. The point to be made is that while progress is slow through forests, due to the requirement for dismounted infantry, there is nothing intrinsic in forests or jungles which prevents armored units from moving through them. The key is the infantry.

Rules for forests and jungles are, or should be, more complex than most wargamers make them. As noted above, initial movement through woods must be at reduced speed and tanks cannot move through alone. Therefore, one rule ought to be that tanks can only move through forests or jungles when escorted by infantry, though infantry can move through alone. Another rule ought to reflect the slower pace. Yet, the normal rule of one hex per turn is equally unrealistic. One turn may

represent one or more days. One hex may represent four or five kilometers. The rate of movement through forests or jungles must bear some relationship to the size of a hex and the time period involved in a turn. Even at one kilometer per hour, which may be a little slow, the number of daylight hours makes clear that movement will be better than four or five kilometers a day. Therefore, the better rule would be simply a reduction in the movement allowance, as is sometimes, but not often, done. On the other hand, when going through a forest or jungle, presumably the enemy is being cleared ahead of the friendly troops. Consequently, once the first unit goes through, there is no reason why subsequent units need move off at the reduced rates, though the enemy may take action to re-occupy or reinforce the forest or jungle, thereby starting the whole thing over again. A point often ignored is the increased vulnerability of armor in the woods and the inability to properly deploy. Thus, while going through forests and jungles, the combat factor, both attack and defense, must be severely reduced. This would exist whether the unit was the first one through or one of the succeeding ones, though in the latter case--assuming the enemy has been cleared out--the reduction would be purely academic. Finally stated, the best rule for forests and jungles would be something where the first friendly units through the forest must be infantry, alone or in company with armor or other arms, that they must move at a reduced rate through the forest or jungle on the first trip through, that tank units suffer a reduction in combat factor, that subsequent units move at the normal rate and the rate of movement should bear some relationship to the theoretical size of the hexes and the time period being used for the game-turns.

- Mountains are another problem. Here, again, it is too easy to visualize extremes. Not all mountains are the Rockies. However, mountain operations do have the common problem of constriction, thereby forcing more road usage than normal and hindering deployment, though not as much as in forests or jungles, except in defiles. The fact that mountains are not an absolute barrier to tanks or armored unit was shown in the Ardennes in 1940 and 1944 and in the Balkans in 1941. Perhaps the key to the problem is traffic control, especially as it effects supply. The cause of the former is obvious and, as to the latter, it results from the stringing out of supply trains along available roadways, leaving the supply lines vulnerable to partisans and aerial interdiction. After all, the classical was to stop a column in a defile is simply to knock out the lead and tail vehicles.

In mountains, armor should encounter, in common with all units, a supply problem which would take effect when combat develops or when partisans or aircraft are used, all of which effect the supply flow. Armor should also suffer a reduction of combat factor, though, again, not as great as in forest or jungle, to reflect the decreased ability to deploy. Movement, too, would be slower in mountains that are uncleared, to reflect the difficulty in moving across country. Again, once the mountains were cleared of enemy, road usage would go up and so would speed through the mountains, subject to enemy action, as mentioned above. Actually, true authenticity would

require a hex by hex designation to reflect the factual situation, where some sections of mountains are truly impassable and others merely difficult.

Rivers are an over-estimated barrier. It should be borne in mind that rivers are rarely encountered in an advance as a matter of chance. A good commander knows a river is soon to be reached and plans for the crossing in advance. The two types of crossings recognized in army doctrine are the hasty and the deliberate crossing-- terms which relate to execution, not to planning. In the hasty crossing there is less elaborate planning due to the fact that the crossing is done by fording, if possible, or by swimming the vehicles and using fording kits on non-swimable vehicles or by bridging erected by engineers. In a hasty crossing the movement to and across the water by the combat forces is designed to be all one movement. As a result, hasty crossings are normally executed against lightly held areas or where the opposite side is not defended. The deliberate crossing, on the other hand, employs similar equipment but is done when going from defense on a river line to offense; when a hasty crossing is not feasible, such as when the other side is heavily defended; and when a hasty crossing has failed. As may be imagined, armor favors the hasty crossing as it does not entail a delay in the advance and thereby furthers the mobility concept. In either, artillery and engineers are of particular value, for obvious reasons. The point is, that river crossings need only be time consuming when planned to be so by the crossing force or when opposition on the far side requires it.

Rivers, as far as opposed crossings, make sensible the common practice of altering the combat strength of the defending unit. On the other hand, since a hasty crossing consumes little time, relatively, only a small reduction in movement factor would seem reasonable. It is always somewhat incongruous when the rules provide that you must stop on reaching a river, but if you can stop in a combat situation and are successful, you can bootstrap yourself across the river by the movement after combat, thereby achieving in an opposed crossing what could not be achieved unopposed!

Fortifications present a barrier to any advance. Part of the problem in boardgames is again in the size of the hex with regards to the area covered. Clearly one hex will not contain one pillbox. As far as the mechanics are concerned, armor is of genuine help in breaching fortifications. It was to overrun barbed wire and trenches that tanks were first developed and that ability has never been lost. In addition, the direct fire capability allows assault of bunkers which could not be damaged by regular artillery. The ideal method, is for bombardment-- both artillery and tank fire--to keep the emplacements pinned down and the enemy buttoned up. Infantry, with engineers, breach the minefields and the like and, finally, accompanied by tanks, breach the individual emplacements.

The common practice of increasing the defense factor of a unit in a friendly fortified hex seems best for a boardgame, where one hex represents several kilometers of dragon's teeth, rather than a particular bunker. However, there should also be a reduction in movement factor when crossing these barriers, as they do represent a problem to mobility. To add some realism, the use of artillery and particularly of engineer units would be worthwhile in this situation, thereby requiring the commander to exercise his own coordination abilities.

Cities are all too often ignored in wargames. Particularly in boardgames. They are often nothing more than adjuncts to the high-speed travel on roads. This is fine for friendly cities, but a captured enemy city is generally just the reverse, depending upon the amount of fighting needed to take it. The Germans at Stalingrad bear testimony to the problems of taking a major city. Every building, whether standing or in ruins, provides an instant pillbox. Snipers, ambushes and the like abound in cities. A determined enemy can hold out in a city far longer than in any comparable piece of terrain and, as such, constitute a thorn in the side of an advancing force. The technique preferred is a three-phase assault. In phase I, the city is surrounded, cutting off reinforcements, and positions are secured outside the city from which to launch an assault. Phase II, is the assault into the outskirts and is similar in concept to the assault into the edge of a forest. The enemy ground observers and direct fire weapons guarding the approaches to the city are knocked out and initial penetration is made on a narrow front, with tanks leading. The ideal time for launching Phase II is at first light or under similar conditions of limited visibility. By using a narrow front in the penetration, it is intended that a modified column formation be employed--a rarity in any attack. Phase III is of two types. In a lightly defended or small built-up area, advance is rapid to seize key buildings, employing columns of tank-infantry teams, with tanks leading. When heavily built-up or heavily defended cities are encountered, clearing is done by dividing the city into sectors and clearing block by block in the sector with company sized units. Though artillery is useful in Phases I and II, due to the proximity of friendly troops to the enemy, its value is sharply reduced in the final assault and clearing. On the other hand, engineers have increased value in clearing barriers, debris, and mines, as well as executing demolitions.

For a wargamer with miniatures, no special rules are needed, merely the execution of the attack along the foregoing lines. For a boardgamer, with a crosshatched hex representing an entire city, a three phased attack lacks some realism. However, the fact of whether a city was fought for or merely occupied and, if fought for, the damage done, could be considered when dealing with a movement factor. If a city is surrendered by the enemy without a fight, there is no reason to have attacked it and damage would be incidental and minor. The roads would be good and movement rate undiminished. When the enemy had to be driven from the city, initially roads might well be impassable and, later, passable only at a reduced speed. The

easy way to simulate this is to require that, for a given number of turns, movement through a captured city be prohibited and then, for a given number of further turns, that movement be at, for example, the normal crosscountry rate, or even reduced somewhat. The extent to which either of these limitations would exist must turn on the amount of time involved in a turn. If one turn is a week it will be different from one turn being a month or a day as far as how many turns a city would be impassable.

One area omitted so far, which is inherent in armor, is reconnaissance. The reason is obvious, as far as board-gamers are concerned. Intelligence is virtually perfect. Even with inverted pieces, the enemy knows that something is located at a given spot and will adjust his front accordingly, though inverted pieces are a step in the right direction. Off the board counters would be an ideal system, but this is a book keeping exercise and for that reason would not be desired by many. In addition, it is hard to keep your opponent honest when moving large numbers of units off the board, representing those elements behind the lines which would be only imperfectly identified by chance sightings and spy reports. Once some system is devised to inject intelligence problems into wargames, two ends will be accomplished: reconnaissance will become valuable and, for the first time, the one element which has caused more difficulties in combat than any other will be introduced. Can you imagine the Bulge happening with better U.S. intelligence, or appreciation of intelligence?

Everyone knows that the desert was where Rommel made tanks and mobile warfare a watchword in World War II. Desert warfare does, properly present unique situations not found in normal open terrain. The lack of high ground makes observation difficult, as does the frequent dust clouds blown up by the wind--or could it be troops columns? The result is that envelopment is the most common tactic in desert warfare, with troops arriving without warning on enemy flanks. Security, on the other hand, is very difficult in deserts, for obvious reasons. The very factor which makes maneuvers so easy, prevents a defender from anchoring his flanks on impassable terrain features. Another problem in desert warfare is that of maintenance. Sand and grease don't mix well with bearings. In the end, though, for the essential reason that reconnaissance is not normally available in wargames and intelligence is excellent on both sides, desert wargames suffer and become more like normal open terrain games, with odd rules thrown in for kicks.

To try and present the whole of armor doctrine in a few paragraphs is an impossible feat. Still, at least a general enough background is offered to allow a wargamer who wants to stop short of FM 17--1 to employ armored units, and particularly tanks, in a realistic manner. Armor, like other combat arms, is specialized to the extent that there are some tasks that it can accomplish better than other arms and some not as well. Wargames should reflect these strengths and limitations in a manner somewhat more sophisticated than simply adding to the combat and movement factors a few points.

This is the last issue of Game Design!

It's not as bad as it sounds. In fact, it's very good. Let us explain. Both GAME DESIGN and the S&T SUPPLEMENT were started as stop-gap measures. Neither was intended to be permanent, at least not in their present crude form. We eventually hoped to upgrade both to a level of quality similar to S&T itself. With this in mind we did a little computing and discovered that we upgrade NOW if we combined Game Design and the S&T Supplement into one magazine. This we have done, or will do come February 1972. In February we will publish the first issue of MOVES. Each issue of Moves will contain from one third to two thirds "Game Design" type material, with the remainder being "S&T Supplement" type material. Moves will be a 32 page, bi-monthly magazine of much the same quality as S&T. Moves will sell for \$2.00 a copy. Subscriptions will be \$7.00 for one year (six issues), two years (12 issues) for \$12.00, and three years (18 issues) for \$16.00. Now you may not want to receive more. Give us a chance, though. Our computer will shortly combine the subscriptions lists for Game Design and the S&T Supplement. For each issue you have left in your subscription to either Game Design or the S&T Supplement you will receive credit for one-half an issue of Moves. If your new subscription to Moves ends up with half an issue we will round it off in your favor. In other words, if you had four issues remaining in your S&T Supplement subscription and three issues remaining in your Game Design subscription this would give you three and one half issues of Moves. We would round this upwards to four issues. If you like moves, consider the first issue you receive as the first issue of your subscription to Moves. If, by some fluke, you don't like Moves, keep the first issue (consider it free) and return your mailing label for a full refund. We expect you'll like Moves. We don't expect we'll have to give out too many refunds.