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A. Preface

By Eric Lee Smith

When I was a teenager and constantly playing board games, I always looked forward to the next issue of the Avalon Hill *General* and SPI's *Moves* magazine. My favorite articles were those on game strategy and tactics, which both taught me to be a better player and encouraged me to revisit games again and again. With this our first *Player's Guide*, we are bringing you a range of articles about *Battle of the Bulge*, some that will help you play better, others will provide insight into the game's mechanics, and others we hope will simply amuse you. We also want to thank our Kickstarter backers, you have helped make this possible. Thanks guys!

B. Introduction

By Jeffrey Dougherty

You know what I'm happiest about, out of all the things about this Player's Guide? The fact that I don't have to write any more of it. And that is not a joke.

Battle of the Bulge is partially my creation, but no game designer or developer can make a game successful on their own. A really great game needs a vibrant community of players around it to wring it out, find the best strategies, spread their excitement about it to new people, and most importantly of all *play* it, to raise the standard for everybody else. If you don't believe me, look at chess. Nobody remembers the guy who invented it, whoever he was, but everyone knows Spassky and Kasparov. I knew when *Bulge* went out the door that it was as good as I and a truly outstanding team of professionals could make it, but I also knew that if we didn't attract that all-important core of passionate, dedicated players it could never be truly great.

It is thus with the greatest of pleasure that I present to you the *Battle of the Bulge* Player's Guide, featuring exactly *zero* articles written by me or anyone else on the Shenandoah Studio staff. The people who wrote the pieces collected here each bring a different perspective, some of them informed by what's gone before in playtesting and some look-

ing at the game with fresh eyes after its release. But what's really important is that they're not designers, developers, coders, or artists—they are players, and their willingness to create this guide with us shows that *Bulge* has the kind of following that can make a truly great game. If *Bulge* makes any kind of lasting mark on the industry it will be because of people like them—and if you're reading this, people like you, too. Thank you. All of you. Because at the end of the day, you're the ones making this happen.

So what are you waiting for? I just told you this is the least important part of the book, but if the last three paragraphs haven't convinced you of that I frankly don't know what will. So I'll help you along: one last "Thank you!" to all the wonderful players who wrote the pieces that make up this guide, and I'll get out of the way and let you get down to the good parts. See you all next game.

C. Strategy Overview

By Mitch Reed

The Axis Player

It is late 1944 and the war hasn't been going too well for your side. In this year you have seen your forces get pushed back to the Vistula in the East, and the Allies landing in Normandy, gaining a foothold on the continent. After pitched static combat in Normandy, the Allies broke out chasing you all the way back to the German frontier. For most of this time, other than some local counter attacks your forces have been on the defensive against the onslaught of the well-equipped and growing forces of the United States, Great Britain, and Canada.

In spite of these failures, in September the Allies suddenly stop at the doorstep of Germany due to the lack of supplies. This gives you time to rest, dig-in, and rebuild your forces. This period also sees a directive from the top that your forces will launch a major counter-attack in the Ardennes in the middle of December. Launching a winter attack into a rich and hilly forest is not the most optimal of conditions, however, orders are orders.

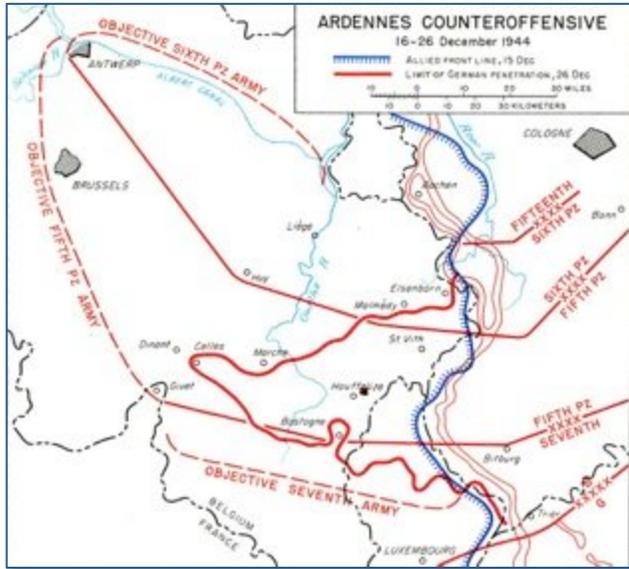


Figure 1 - Planned German Attack

The site of the attack was picked for various reasons; (1) this point in the Allied line is near the point where the British armies in the north meet the Americans in the south, (2) The line is weakly held by a brand new US infantry division which has yet to see battle and finally (3) This point in the line is the least likely place to expect an attack because of the terrain. Once transited by your forces, you can strike to the north, towards Antwerp.

The goal of the operation, disguised in the name "*Die Wacht am Rhein*" (Watch on the Rhine), is to capture the main source of supply for the Allies, the newly opened port of Antwerp, and to split the British armies from the Americans in the south. Success could lead to the Allies suing for peace and leaving you to defeat the red hordes in the east; the outcome of the war and the fate of your nation rest on winning this battle.

In the game, it is imperative that the Axis player understands they must boldly attack and reach the Meuse River in the allotted time. This is not an easy task in spite of the surprise of the attack and that you vastly outnumber the Allies to start the game. What makes it difficult is that the Ardennes is a dense forest where movement for armor is contained to the road network of the region. The game map and how a unit can move is dictated by the road network and gives you limited points in which to attack. It is critical, as you start the game

that you review the disposition of your forces in relation to the enemy and choose avenues in which you will pick for your points of attack. It is tough to make a quick grab for both Bastogne and the Meuse early in the game; the key is to pick one and concentrate your forces to that mission.

If reaching the Meuse is out of reach, look at the key victory point locations on the map and try to capture as many of those possible. While your forces may not make it to the river you can still get a victory from the points these key locations give you.

At the start of the game you will have a distinct advantage to start off with. The surprise of your sudden offensive will give you 3 game turns in which to move without Allied interference. You will have support of artillery in the zones close to your starting points during the first day and can only move their armor units. It is critical that you take full advantage of these conditions when you start your offensive. It is at this point in the game you will also enjoy your largest disparity in force size, your forces are strong and on the field where the Allies will slowly reinforce and rush units to the front to stop your attack. You can get additional forces for reaching the banks of the Meuse (and being in supply); OKW will release the front reserve for your use. These units can help you restart any push you are making.

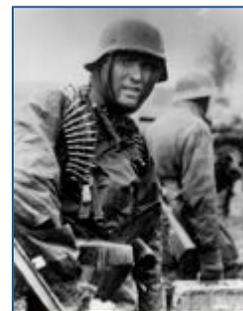


Figure 2 - German Soldiers Advance

Your army is comprised of two major forces, the Waffen-SS and the Wehrmacht; which have fixed their problems in coordinating a joint attack for this offensive. Your units represent what is left of the once strong German war machine, brought up to strength with the latest Panther, Tiger, and King Tiger tanks that can best any armor vehicle that the allies can put in the field. Your infantry units contain a mix of regular German infantry, panzer grenadiers, paratroopers, and the newly formed

Volksgrenadier divisions. These units are made up of the remnants of units previously destroyed in battle and are smaller in size than the standard infantry division. This lack of size is compensated for by an increase in the amount of automatic weapons they carry, thus increasing firepower. The mix of veteran leadership of this new formation will ensure they will acquit themselves well in the upcoming battle.

The last unit of note in your force is the SS Panzer Brigade 150, led by the infamous Otto Skorzeny. This unit is equipped with captured vehicles and German armor disguised as American tanks. This unit also has many English speaking personnel and is supposed to race ahead and capture key bridges in the path of your attack. They are also tasked with Operation Grief, in which personnel dressed as Americans will operate behind enemy lines in order to confuse and misdirect Allied forces coming to stop your attack.

So the task ahead of you is a daunting one, a task that so much depends upon. However you have collected one of the largest and best-equipped forces the Axis could field in late 1944. Headquarters wishes you the best and hopes for success in your upcoming offensive.

D. The Allied Situation

By Mitch Reed

It is late 1944 and you can almost see the light at the end of the tunnel. While the talk of a victory by Christmas is gone, you know that 1945 will see the defeat of Germany and a boat ride home will quickly follow.

The year opened with your forces cramming into Great Britain in order to conduct Operation Overlord, the return to the continent and the opening of the second front against the Axis. After gaining the beachhead in Normandy in early June, you moved slowly against the Germans in hedgerow country or at the doorstep of Caen. During this period of expanding your toe hold, the Contentin peninsular was captured and with Operation Cobra, you saw your forces race across France, trapping many German units at Faliase and capturing Paris.

This race forward saw your forces approach the German frontier, a link up with the Operation An-

vil forces which landed in the south of France, and the fact that the enemy has not really put forces of any great strength in your way.

However great this was, the scene drastically changed in the middle of September. Supplies, which are still being trucked in from Normandy are not keeping up with your rate of advance. Slowly, the lack of a logistics tail slows down your forces to a halt as they approach Germany. The failure of Operation Market Garden showed the Allies two things:(1) Germany was far from defeated and (2) you needed to open up a major port in order to bring in supplies for your forces.



Figure 3 - Strategic Situation, 16 Dec 1944

October and November of 1944, the British cleared out the Scheldt in order to open the port of Antwerp and the bloody attack in the Hurtgen forest. With these other operations taking priority, most of the American forces sat idle, conducting limited attacks with the resources they had on hand. This time is also a great opportunity to acclimate new units arriving from the United States into the line in order to gain some experience. One such unit was the 106th Infantry Division recently arrived in France and is placed in the quiet Ardennes forest to cover a wide part of the line. It is your hope that this time will give the green unit some time to gain some combat time so it can be ready to attack into Germany in early 1945.

The Ardennes is a great place to put this untested unit; the terrain is such where it can easily be defended and the thick forest, hilly terrain, and multitude of rivers makes it a very unlikely place where a German attack would take place. Most of the German units that the Allies have faced in late

1944 were second rate and lacked much of the equipment that made their blitzkrieg possible earlier in the war.

Furthermore, your intelligence experts tell you that they have noticed a lack of German radio communications, making everyone doubt that the Germans are planning nothing more than to defend the West Wall and hold on for as long as they can.



Figure 4 – The German Attack

The situation 16 December 1944

As the Allied player you have to respond to the last great German offensive of the war and the location of the attack occurs at the worst possible point and catches you by complete surprise. You start the game with the green 106th Division in the middle of an overwhelming attack from a determined and well equipped enemy which you once thought was down for the count.

You should realize that if this attack can clear the Ardennes and cross the Meuse, the Germans will have nothing in their way as they race to the sea and cut the allied supply line by capturing Antwerp. This would lead to the forces under Field Marshall becoming totally cut off from any line of supply and from American forces in the South. An outcome such as this would put any chance of a victory for 1945 in serious jeopardy and may even lead to a separate peace with the Germans, leaving the Soviets to fight Germany alone.

While you do not have the forces at the start you do have some things going for you: (1) you have

the ground and (2) you will get stronger as the game goes on.

Sizing up the map before your fight will show you that your weaker force structure can pick out key choke points such as rivers to hold off the German tide. You also hold all of the key victory point locations the Germans need to win; deciding which ones to hold and which ones to concede should be something you figure out before the game. While the game may dictate changes in this plan, knowing what locations are worth more victory points than others is crucial. The other advantage the map gives you is that you can draw a supply line from 3 map edges (North, South, and West) that make it harder to cut off some of your starting forces.

While you will be nothing more than a spectator the first day since you can only move your armor units, you can size up where the Germans have chosen to advance and make moves later in the game to counter this.

You will get stronger as the game progresses and gain air superiority when the weather clears, so your critical situation won't last very long.

So, your orders are to hold off the German attack as long as possible with your scant forces and headquarters will get troops and armor to you ASAP to crush the Germans and push them back. Good luck



Figure 5 - Resupplying US troops during the fighting

E. Watching the Calendar

By Ros Hermans with Davis Brasfield

Pop Quiz: What is the most important thing to master in order to excel at playing the Battle of the Bulge?

The map, of course. This is a wargame, right? The rivers and towns make all the difference.

No? OK...

It must be the units then. Knowing each one's position and capabilities is the surest path to glory. It must be the units.

Still... no?

Then what? I'm confused.

The calendar... Really? That screen over on the menu that I never open? How does knowing what day it is help me?

Well, the calendar provides key information that will drive much of the ebb and flow of the game. Put simply, the calendar lets you see the future. (I'm sure Von Rundstedt wished he could have done that.) The map, the units, and the other player's moves are factors but they will be based on the unique situation each day. So just what does this out-of-the-way crystal ball tell us, and how can we use it to be better players?



Figure 6 – The Calendar

Victory Thresholds

For every day, the calendar clearly shows what each side needs to do to win the game. Knowing where the other player stands on the VP track can

go a long way towards predicting their intentions. Will the Germans make one last lunge on 19 December for the Auto Win? Do the Allies need to press the attack? Or can they wait a day to fully gather that powerful stack they'd ideally like? The calendar can be a good indicator to help you prepare.

Reinforcements

The calendar shows you when and where new units will arrive. This is vital information that can shape the entire strategy of your campaign game. If the German player plans to take and score points for holding Bastogne for any amount of time they had best take Arlon prior to December 22nd. A peek at the calendar shows that for most of the later game, Allied reinforcements flow through that one space. The longer you can keep Arlon in your hands, the longer you can delay the arriving troops and push them west. The Allied player can also use calendar information to fill holes. For example, if no German unit can reach Liège on 23 December, then the Allied player might be able to use the unit there to fill another hole, knowing that the 5th Armored Division will arrive there at dawn.

Airpower

Clear weather on 23 December is the inflection point of the battle. Nothing fills a German player's heart with dread more than the buzz of P-47s overhead. If the Panther doesn't get hit, the fuel truck likely will. Always remember when this is coming. This is true for both sides.

The power of the attack bonus for the Allies cannot be overstated, but it can be overcome. The first thing to realize is what this bonus does in practical terms. From 23 December on, Allied infantry attacks like armor, regular armor attacks like elite, and the elite armor becomes total sledgehammers. This does not mean the German player is on the defensive. The opposite can be true; the Allies only get their hit bonus on the attack. Each shot has a 20% lower chance to hit when those behemoths are defending rather than attacking. If the German player has the opportunity to attack one of the Allied elite armor formations with a few Panzer divisions, it can be a crippling blow to the Allies' most effective attackers.

On the flip side, the Allies need to realize the newfound attacking power of their forces. Unsuccessful counterattacks with Allied infantry divisions early in the game can lead Allied players (and unwise Germans) to think that those divisions are good only for holding the line until the Sherman tanks arrive. The airpower bonus means that they now have more hitting power. The Allied player should use this to press the attack wherever possible. The Germans simply do not have the mobility or resources to cover more than a handful of holes in their front line.

Don't forget that the Germans lose the ability to use strategic movement when the skies clear. One space may not seem like much, but when it leaves that space just beyond the Ourthe tantalizingly out of reach, you feel it. The German player should try to have their panzers in the general area of the map that they want them to be prior to losing this extra bit of mobility.

Initiative

Along with the clear weather on the 23 December, the initiative changes from the Germans to the Allies. This is an important shift for a few reasons. The first reason: Replacements, specifically when you get them. Suddenly the Allies get their replacements first, then and get to move and attack. It can be a nasty surprise for a German player who has been used to going first and is caught with a stack out of position and understrength.

Fuel and Supply

Supply is in one of the most important factors in the game, and some important facets of it are driven by the calendar. The German player does not have to be concerned with supply for the first few turns and should use this to their advantage. This can lead to some daring early thrusts to the Meuse or across the Ourthe River around Manhay. The German Player must be mindful that all good things come to an end, especially if the flanks are left uncovered. Few things can lead to a hasty defeat like a three panzer division thrust being cut off and withering. Even if the Germans are not cut off, they have to pay the piper (not Peiper) at some point. This comes in the form of fuel checks for armor and mechanized divisions. On the 21st till Christmas, one unit will randomly be placed out of

supply. On 26 December and beyond, it is two units. There is no real way to mitigate this problem. All you can do is assume that the unit you need the most next turn will be one that is unlucky and out of gas, so plan accordingly.

Finally, don't forget that clear skies change the effects of Allied units being out of supply. From December 23rd on, cut off Allied units can, at worst, be out of supply. They are never isolated. The effects of isolation are pretty extreme in combat. A German player may want to consider diverting another attack to wipe out an Allied pocket prior 23 December, because after that they might not get another chance at getting those VPs.

F. Breaking a River Line

By Jim Venn

You'll notice rivers are quite prevalent throughout the map. Due to their effects, they will have a significant influence over the course of the battle. For this reason, being able to successfully negotiate rivers is an important aspect of strategy for both sides.

Tip: Apart from being highlighted in blue, any boundaries between areas that are rivers have non-linear (curved) lines. All other non-river boundaries have linear (straight) lines.

Before discussing how to break a river line, let's look at a river's effects:

1. **Movement** – Only one unit may cross a given river boundary into an enemy-occupied space per turn.
2. **Movement** – Bridges bordering a space occupied only by enemy units at the start of a turn are considered not to exist throughout that turn—the road is cut at the river. This is referred to as *Bridge Interdiction*.
3. **Combat** – If all attacking units enter the space by moving across a river in that turn, the defenders receive +10% to hit.

Attacking across a river increases the likelihood of the attacker receiving casualties and restricts the number of units that can attack in a turn.

So it's best to work on the 'prevention is better than cure' philosophy and breach a river line before the enemy can fortify it—preferably at a place

where the enemy has no units present—even if this isn't the most valuable region or doesn't represent the shortest distance to the ultimate objective.

Once a foothold is gained, this can be used to initiate attacks from without incurring all the river penalties in an attempt to 'roll up' the enemy line defending the river.



Figure 7 - Securing a Breach

In figure 7, the Axis 116th Panzer division moved from Houffalize to secure La Roche. In doing so, it breached the Ourthe River*. The 116 Panzer could have been moved to Werbomont instead, which poses a more direct threat. However, the Allies could easily plug the gap at Stoumont, requiring the Axis to perform a river assault.

Tip: The Ourthe River line, seen below stretching from Spa to Bastogne and running past Huy and Marche in a giant crescent, is of great strategic importance for both sides. It serves as a natural defensive barrier for both the Allies in slowing the initial Axis advance and for the Axis when defending against the Allied counter-offensive.



Figure 8 - The Ourthe Crescent

Whether or not a breach has been established, players should always be on the lookout for 'end run' opportunities where the more mobile elements of an attacking force can be sent on an outflanking maneuver to bypass the river.



Figure 9 - Outflanking

In figure 9, the Axis wants to gain control of Trois Ponts to strengthen its central position. One option is to attack with the 1st SS Panzer from Malmedy. This however is risky as the Axis is only able to cross the river with one armored division against

the 4 armored strength points of the Allies defending in forest.

By attacking instead with the force located in Vielsalm the Axis is able to move both armored divisions to Trois Ponts via Houffalize using their movement range whilst the 560th VG Infantry makes an attack across the river bringing all 3 units to bear against the defenders. And because not all attackers are attacking across the river, the Allies will not gain a +10% modifier even against the infantry who is crossing a river.

There will however be times where securing a breach or end run is not possible and in such cases a river assault is inevitable. This usually becomes a battle of attrition where the defenders have the advantage because of the river-crossing bonus and the fact that the attacker can only launch piecemeal attacks one division at a time.

In such cases, it's best to attack the enemy's weak point where it only has one or two divisions—of preferably low strength. Also consider making the initial attack late in the day to lessen the likelihood of the enemy responding with a counter attack or by reinforcing the area. This is especially useful when you have the first turn of the subsequent day so that you can immediately follow up the initial attack with a second unit (with the first unit reactivated and able to attack again) before the defenders have a chance to respond.



Figure 10 - River Assault and Follow Up

In figure 10, the 1st SS Panzer made an attack into Ouffet late in the day. Although the Allied 30th Infantry weren't dislodged by the attack, the Axis will be able to follow on the first turn of the 21st Dec with one of the Infantry divisions in Werbo-mont.

Tip: Because the area now contains the unit that made the initial attack and is contested, bridge interdiction no longer applies so the second unit making the follow up attack could be an armored or mechanized division starting from a non-adjacent area.



Figure 11 - Nullifying Bridge Interdiction

Following on in figure 11, the 1st SS Panzer now contests the area of Ouffet, so the follow up attack can come from one of the four armored divisions in either Manhay or Trois Ponts. Note, the one unit per turn restriction still applies for river crossing, irrespective of whether or not the area is contested.

Tip: The contesting unit also prevents the defenders from receiving the river bonus for subsequent attacks, so long as that contesting unit takes part in the attack (i.e. is still active).

G. Spaces of War

By Bruce Geryk

Battle of the Bulge owes its singular nature in part to the 61 unique spaces that comprise its map. Instead of a simple grid of hexes, each space has a character, or personality, that governs each encounter you have with it. These encounters may be in different contexts, but just like in any other community, personalities play off each other so

that you can't consider a space without its next-door neighbor. And just like in many communities, there's someone out there making lists and taking names.

The categories listed below are just one way of organizing the map's diversity. Many spaces could fit in more than one category, and while some of these are noted, discovering and appreciating how they do this is essential to mastering the game. After several plays, you may start to have your own thoughts, which is exactly how it should be.

Clear terrain [Namur, Verviers, Huy, Hingeon]: There are only four spaces on the map that have clear terrain. Probably not coincidentally, each one is crucial in a different way. None can be ignored.

Huy is often the focal point of the early game if the Germans are using a northern Meuse strategy. It's also the clearest example of one of the cardinal rules of Battle of the Bulge: defending a space weakly is worse than not defending it at all. A four-pip elite infantry that takes three or four hits will automatically retreat, and has a 30% chance of retreating if it takes two hits. But Huy is an objective, so for retreat purposes it acts like a five-strength unit, and Huy also has a town terrain bonus. The bottom line is that a full-strength 1st SS Panzer Division has a 41.8% chance of forcing a single defending Allied elite infantry to retreat from Huy. If it has taken a hit in prior combat, that chance drops to 27.3%. Either way, the chances of holding Huy with one elite infantry division against the Germans' best unit are better than 50%.



Figure 12 - Huy Probability

Which brings us to Hingeon. Because it isn't an objective space, defenders are more likely to retreat than they are from Huy. And there isn't any town bonus to help out the single infantry division that is almost certainly going to be the last line of defense against an automatic victory on Dec. 19th, if the Germans get that far. Against the same single elite infantry that did so well in Huy, even the reduced-strength 12th SS has a 72.7% chance of clearing the space. It's much better to stand in Huy.

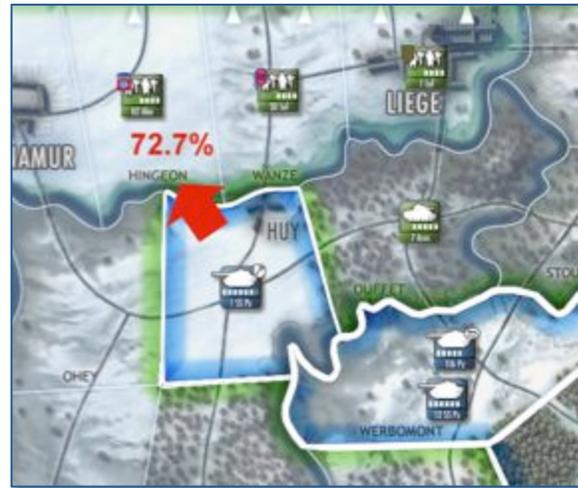


Figure 13 - Hingeon

It's hard to imagine a game in which the Germans reach Namur but are defeated. It is possible, but realistically only if the German overcommits armor there and has it cut off and destroyed. Even then, it's hard to make up for 2 VP per day, plus anything the Germans get for strength points across the Meuse. The best way to defend Namur is the way you defend any distant space protected by a river: use a small garrison to prevent the bridge from being crossed from two spaces away. If the Germans park in Ohey, they're just asking to be cut off and destroyed by the Dec. 22nd reinforcements. If that's not looking like a possibility, the Allies have lost already.

Lastly, there is Verviers. Because it can't be isolated, Verviers is a key buttress to the Allied defense and should be held at all costs. However, it should also be held properly. *Verviers cannot be held solely with infantry.* It's tempting to try to do this while releasing the powerful 3rd Armored Division for use elsewhere. If you do, prepare to be pounced on by the Germans' Dec. 19th reinforce-

ments, which can be easily re-routed to the north. Because Verviers is clear terrain, the elite infantry bonus gets canceled out, and the Germans are essentially rolling 18 dice at full strength. While the Allies may hold for one turn, they will not hold for the second. But by then their only retreat route is through Herve, which is listed below in the "Speed Bumps" category. Get the picture?

Highways to Antwerp [Fosse, Wanze] While there are other spaces that can give the Germans exit VP (Namur, Hingeon, and Liège to be exact), many exits happen here. Because a road runs from Huy to Wanze, once the Germans secure a bridgehead there, they can funnel units out of Huy and off the map. Wanze can only be defended from the east because the road in Hingeon doesn't connect, leaving the Dec. 18th reinforcements (82nd and 101st Airborne) on the outside looking in. But if the Axis is contesting Verviers from Eupen, there might not be much help to be had from the other direction.

Fosse usually doesn't figure in automatic victories because it is almost impossible to get there by the 19th without some serious Allied mistakes. But if the Allies don't sufficiently contest the road through Marche, they can find the Axis slipping to the south while the northern Meuse is securely garrisoned. What complicates this is the fact that someone in the Belgian Department of Transportation decided that the road from Marche to Dinant needed to go south over the river through Rochefort. Exits through Fosse usually take place as the German panzer reinforcements reach the field and relieve the spearhead. The initial panzer divisions might be depleted, but any exit VP is absolutely vital. Should you exit your one-pip 1st SS Panzer? Yes!

Spaces that should never see combat [Liège, Charleville-Mézières] If there is actual, legitimate combat going on in Liège, the Allies have already lost. I'm not talking about the Axis throwing away a panzer division in a desperate, doomed attempt to grab the city while they're on the wrong side of the victory threshold. I'm talking about a time when the Axis player thinks to himself, "Huh, attacking Liège is a really good idea right now." Thanks to the Meuse, any such attack will have to be by a single unit against the river defense bonus. Because the Meuse covers Liège from two directions and the map edge covers the third, the only

way it can be attacked by more than one unit in a single impulse is from the west, and if the Germans are doing that ... well, like the first sentence said.

Charleville-Mézières should never see combat, but that isn't because it can't. A particularly sneaky variation of the "Southern Crossroads" strategy which amasses a three-division panzer force at Clervaux to hit Bastogne on the 18th is a subsequent drive west along the Martelange-Gedinne road. Why, you ask? Because crossing the Meuse into Charleville-Mézières counts as, yes, "crossing the Meuse," and putting ten points of armor in that space with a valid supply line will get you ten points per turn. Against this kind of attack, the Allies' best bet is to cut the ribbon-thin supply line that will stretch eastward through spaces such as Bouillion and Florenville. Because the nearest exit is two spaces north in Fosse, this kind of attack often ends up with isolated (and eventually destroyed) panzers. But an unwitting Allied player can find that the lack of roads in this area can make it difficult to block this German move if he or she doesn't realize what is happening.

But we've devolved into silliness. Just don't. Tanks shouldn't hide in corners.



Figure 14 - Charleville Fork

Shield spaces [Ouffet, Eupen, La Roche, Spa] Shields take on importance proportional not only to the spaces they are defending, but how well they defend them. As such, Ouffet and Eupen top this list. Control of Eupen prevents (or allows) an

early strike into Verviers. While the Germans do have an alternate route through Spa, it's vulnerable to being cut off by a counterattack through that same very vulnerable town. Eupen is a stable jumping-off point as it offers three pips of defense (two forests, one town) and a solid supply line back through Elsenborn Ridge. Later in the game, it can be a back door into the German position and can unhinge a tottering Axis defense.

Ouffet would be an ordinary woodsy space behind a river except that right down the open road is Huy. You can have two identical games: one in which the Germans have a big stack of armor in Werbomont on the morning of Dec. 19 and the Allies have defenders in Ouffet and Huy, and the exact same situation except that Ouffet is empty. The first is a contest. The second is a massacre. When the Germans are two spaces away, there should be at least a one-pip Allied unit holding the bridge and preventing a move across. Once the Germans move adjacent, the defense will require a full infantry division. Never skimp on Ouffet's defense.

La Roche is an overlooked space that is the key to the southern approach to the Meuse. A one-pip Allied unit there will keep the German panzers in Bastogne from crossing the river and unhinging the defense of Marche. If the U.S. 10th Armored can take over the defense of Bastogne, the combat command remnants can park in La Roche and keep the German panzers in Houffalize from getting across the Ourthe. It's also a great place from which to move north and cut German supply lines if they decide to push the northern Meuse early.

Speed bumps [Herve, Mersch, Recogne, Ohey, Dasburg, Vianden, Sibret] Broken terrain without any town or city bonus is usually a bad place to defend. All of the spaces listed here are on the way from one place to another, and thus inevitably see a lot of traffic. You probably don't want to stay there, though, as you can turn into road kill. The best example of this is when making an ill-advised all-infantry defense of Verviers (see above), at which point you may decide you need to retreat. Unfortunately, the Germans probably hold Spa (or they wouldn't be attacking Verviers) and the only place to go is Herve. Since Allied infantry can't use the road bonus if they start in a contested space, they will almost surely get run down trying to escape to Liège. The worst kind of retreat is the

one that shouldn't have been necessary in the first place.

Vianden looks like a great space to defend, but is inevitably the weak point in the Clerf River line late in the game if the Germans are trying to hold on. If the Allies have a couple armored units in the south, this space inevitably buckles under the strain.

Highway from the Reich [Prum, Stadtkyll, Gemünd, Bitburg] The German reinforcement spaces should be pretty secure unless the Axis player gets careless and lets the Allies walk into Stadtkyll before the 19th, which would delay the crucial 2nd and 9th SS Panzer divisions. Because Gemünd is on the northern map edge, any Allied units there are automatically supplied. This fact will sometimes tempt the Allied player to push the elite 2nd Infantry to there and delay some reinforcements. That's a good way to lose 4 VP and the elite 2nd Infantry.

Elsenborn Ridge [Elsenborn, Monschau] In the real Battle of the Bulge, Elsenborn Ridge was a strong defensive position defended by the U.S. 99th Infantry Division which held throughout the whole battle. Any repeat of this Allied success in the digital version will spell German defeat. Fortunately for the Germans, it's very unlikely. The inherent defensive qualities of the land are depicted in game terms by the fact that armor can't exploit after combat into Eupen due to the lack of roads. Every day the Allies hold these is an unexpected bonus for them, but they shouldn't make a stand there. Just fall back to Eupen.

Maginot Line spaces (good from one side only) [Werbomont, Rochefort] Werbomont is the key to the German "Festung Ourthe" strategy after Dec. 22nd if they need to hunker down and reach the VP threshold. Once the Allies have a bridgehead there, they can pour armor through the gap and wreak havoc on whatever German units are holding Manhay. It should be defended as long as possible. But for the Allies in the early going, there is a cardinal rule that needs to be drilled into every officer candidate before he or she takes command of the digital troops: *never, ever defend in Werbomont*. From their perspective before Dec. 22, it should be in the "Speed Bump" category with all the other broken terrain spaces without terrain bonuses. If you give the Germans the

chance to launch a three-panzer-division attack into Werbomont, you're just asking for them to exploit after combat into Ouffet or Huy. Now the Germans are across the river, and control of the Ourthe River bridge lets the Germans attack Huy from Werbomont without being limited to one division per move. Watch that turn into another exploit after combat into Hingeon or Wanze.

Rochefort is an overlooked space that controls road access across the Lesse River from both Dinant and Marche. As mentioned above, the road from Marche to Dinant detours through here. Because you can just move directly from Marche to Dinant, tanks headed south through Rochefort often are bound for Givet. The Germans will actually often need to defend Rochefort against marauding Allied tanks on the 23rd, as leaving this space ungarrisoned can mean losing Givet's supply lifeline. From two spaces away, the Lesse River bridges are impregnable if just one strength point is in Rochefort. Just don't stay too long—the southern approach is wide open, and if the Germans have pushed the Arlon reinforcements back to Sedan, they can actually show up in your business a lot sooner than you expected.

Flypaper [Houffalize, Eupen, Bastogne] There are six spaces on the map with both forest and town terrain, which gives any defending force with strength of four or more an extra three hits of defense. Of these, three (Wiltz, St. Hubert, and Echternach) are easily outflanked and thus aren't very good as defensive strongpoints. Malmedy is important for other reasons, but its location makes it a defensive consideration only in the late game, if ever. But the location of the last two—Houffalize and Eupen—makes them crucial.

Eupen is so important that you could write a whole article about it, which I actually did on Quarter-tothree.com. The short version is that many German players expect their mighty 10-strength combined arms force which cleared Elsenborn to be able to do the same in Eupen, but the loss of the artillery and surprise bonuses means that half the time, they will score only two or fewer hits. How important is Eupen? It's the only space on this list that appears in two different categories.

If the Axis player isn't careful, it's possible to move the U.S. 10th Armored Division from its entry point in Arlon on Dec. 17th all the way up to

Houffalize. The German is then faced with an effective strength of 8, with a -10% penalty to hit due to defending armor. The answer to this is not to immediately attack Houffalize with three panzer divisions. If you do, I call this "getting Houffalized," because you'll probably end up with some banged-up panzers and without control of the space. If the Allies want to defend Houffalize, let them. It's not an objective. Using the 10th Armored in Houffalize means that it's not in Bastogne. The Germans should attack there instead.

Bastogne, though only offering two extra hits of defense, is its own unique brand of flypaper because the Germans will be desperate to take it and the Allies will be desperate to defend it. Bastogne's unusual geometry makes it difficult to isolate: the Germans need to control Houffalize, Lullange, Longvilly, Martelange, Neufchâteau, and Sibret. Some Allied players defend the space at all costs, to the point where nine strength points of armor perish there while isolated. Knowing when to retreat from Bastogne is key. If the Germans have invested that much effort in taking it, they have to be weak elsewhere.

The Hinterlands [Gedinne, Bouillion, Sedan] Sedan is the westernmost legal entry point for the U.S. Third Army reinforcements. If the Germans capture it, Herbeumont, and Arlon before those units show up, they won't appear *at all* until the Allies recapture one of them. That's four armored divisions and five infantry divisions that simply go away. Needless to say, capturing those spaces is a big prize for the Axis. Bouillion's and Gedinne's primary functions are to get you Sedan. On rare occasions, they can be part of an extended supply line to the southern panzers that runs along the south map edge. By the way, if you're wondering whether getting to Gedinne or Sedan counts as "reaching the Meuse," the answer is yes.

Patton's roads [Arlon, Herbeumont] These two reinforcement spaces are far more likely to fall to the Axis than Sedan, and thus will see more combat. As mentioned regarding Bastogne, inexperienced Allied players tend to push the 10th Armored Division into Bastogne and leave it there to be surrounded. But defending Arlon is an important secondary objective, because the Allied counterattack is fighting the clock and a diminishing German VP threshold. Being able to take your Dec. 22nd reinforcements in Arlon and not

Herbeumont saves valuable time. But if you have to fall back to Herbeumont, do so. It's better than Sedan.

Fool's gold [Givet, Morville] I've seen lots of Germans get to Givet. I rarely see them get out. The fact that Morville is not an exit space makes the drive to Givet a dangerous diversion, encouraged by that loop of road south from Marche. But besides a victory point for control, what do you get? A lengthy ride along the road through Morville to Fosse.

There is no bridge from Givet to Fosse, so you'll have to wait a turn after fording the river that way as well. There is nothing quite so frustrating as panzers parked in Givet with no way to exit, and no way to retreat.

Marshaling Yards [Lullange, Neufchâteau, Martelange, Longvilly, Clervaux, Manhay] Some spaces just exist to let you attack other spaces. Good ones have some terrain in them to help you if someone tries to attack you first.

Lullange has no such covering terrain, but needs to be cleared if the Axis are going to get at Bastogne on the 17th, whether it be directly or from Clervaux (see below). The standard attack on Bastogne involves the 2nd Panzer and an infantry division. Lullange might also seem like a shield space for this reason: as long as an Allied armor unit sits there, the Germans can only push one infantry unit across the bridge. The other unit in Clervaux will have to go elsewhere. Forcing the Germans to attack Bastogne with just 2nd Panzer and one infantry division might seem like a good idea, but if the CCR/9 Arm takes a hit from the cross-river attack, the Allied chances of holding Bastogne actually decrease.

Neufchâteau and Martelange are common assembly areas for Allied forces planning to attack Bastogne after Dec. 22nd. Neufchâteau has an additional special feature: because of the shape of the Bastogne space, Neufchâteau is often the last space the Axis need to take to isolate that important objective. Unfortunately, its broken terrain and single town bonus doesn't make it a great place to defend, especially in the face of German panzers swinging around from the south.

Clervaux is the place where a German player can concentrate 2nd Panzer, 116th Panzer, and

Panzer Lehr on Dec. 16th in preparation for a southern thrust through Bastogne. With Lullange clear, this three-division attack on Bastogne will carry the town slightly more than 50% of the time, even against four strength points of armor. The downside to this attack is that you are spending a lot of time to concentrate your southern armor and taking the 116th Panzer out of the drive to the Meuse. Only try this if Dec. 16th is absolutely dragging by.

Manhay is crucial to the Axis because it forces the Allies to cover the bridge at La Roche. While the Allies are worried about German armor in Werbomont in the early game, supporting forces in Manhay can switch the German point of attack quickly to a westward thrust through Marche.

Trap doors [Trois Ponts, Beaufort] These two spaces each have a kind of "gotcha" move which can cause the enemy anything from mild annoyance to severe distress. By far the most painful such move is 3rd Armored driving from Verviers to Trois Ponts on the 17th and forcing the German assault to take a detour through Houffalize. The best German defense is to preemptively contest Eupen, so that the Allies can't move both the armor to Trois Ponts and the infantry to Spa. Just moving the armor there leaves it open to encirclement as the Germans go through Spa instead.

Beaufort is the escape route for the U.S. 4th Infantry Division in Echternach. If the Germans have enough moves on Dec. 16th, or manage to beat the Allies to it on the 17th, they can slip a Volksgrenadier division into Beaufort and cut off its retreat. Of course, with a strength of 4 and both a forest and town on defense, the 4th can just settle in and wait out the battle without much fear of destruction, since the whole south map edge is a supply source for the Allies. But keeping an extra four strength pips out of the game early can be helpful.

Drive over country [Bleialf, Baasem, Bertrix, Stoumont, Florenville, Losheim, Kruchten] These are spaces you'll pass on your way to other spaces.

Nexus spaces [Malmedy, St. Vith, Vielsalm] The Bulge map does a nice job of building the Ardennes' limited road network and traffic problems into the game without adding a bunch of rules that no one can remember. Once you send a unit in a

certain direction, you might find it difficult to change your mind. Vielsalm and Lullange are right next to each other, but are on completely different axes of advance. Early Allied defense in St. Vith can be a nightmare for the Axis as all roads in that sector lead there.

Nexus spaces not only control important road junctions—they also dictate supply. When the Germans are making a strong push to cross the Meuse, they can find their supply threatened if they defend Malmedy too weakly. Controlling just two spaces—Malmedy and Vielsalm—can completely cut off the German supply north of Bastogne. Fortunately for the Axis player, that's easier said than done.

The Twin Cities [Marche, Dinant] There probably aren't two adjacent spaces more dissimilar than Marche and Dinant. Marche is a shield for the western objective spaces, a marshaling yard for not only an Axis thrust towards the western Meuse (or a quick punch up to Huy) but also the Allied counteroffensive to break the Ourthe line, and a nexus for road access, funneling movement to the north and south. I don't know how many times I thought I could just cross the Meuse into Fosse while starting at Marche, only to have my units stop in Dinant and realize that the road actually goes south to Rochefort. The woods and town in Marche make it a great defensive position, and any German move that can capture it undefended is usually worthwhile.

Dinant has none of these advantages. It is broken terrain with a single town bonus, it has no river protection from the north or east, and it is constantly in danger of having its supply cut. By the time units get to Dinant, they have to either exit quickly through Fosse, or think about falling back to consolidate their position in the face of the Allied counterattack.

But these two spaces are linked in every game by the decision whether or not to push to the Meuse and release the British reinforcements. Marche is a great space to gather the panzer schwerpunkt without having to worry about triggering the consequences of some British on the counterattack before Christmas. Often, three relatively intact panzers in Marche end up headed north to Huy, where that +10% bonus for clear terrain beckons. But the temptation to push west starts as soon as

you get to Marche. Maybe it's just something about crossing the entire map. But there are no extra victory points if you decide to become Herr Magellan.

Off-duty havens [Echternach, Trier] Who knows what happens in these spaces. The U.S. 4th Infantry Division can often be found here, intact and rested, late in the game. Trier sees no reinforcements and invites no counterattacks. If there is a Sitzkrieg anywhere on the map that is otherwise awash in movement, it's here.

The Schnee Eifel [Schönberg] The U.S. 106th Infantry Division played a critical part in delaying the German capture of St. Vith during the actual Battle of the Bulge. Part of the division (422nd and 423rd Regiments) surrendered on Dec. 19th after being cut off in this region. Kurt Vonnegut was one of the American soldiers taken prisoner. There are no rules for Kurt Vonnegut in this game.

Once the 106th is frozen by lack of supply on Dec. 17th, the Germans will often abandon the space and use the infantry to take over the defense of Malmedy and Losheim while the panzers race westward. Once the 106th is isolated, it can be eliminated by any of the following German reinforcements, some of which will struggle to make a difference in the battle otherwise.

H. Race to the Meuse

Winning from Both Sides

By Tom Gregorio

"Race to the Meuse" is a short scenario for Shendoah Studio's "Battle of the Bulge" iPad game that provides both novices and grognards alike with a series of tough decisions to make. Covering the opening days from December 16th to December 18th, both players need to be very aware that this three-day scenario plays very differently from the full campaign in terms of priorities and key considerations. While the overall game mechanics are unchanged, the scenario has nuances that can easily mislead even experienced players. This treatise provides a foundation for both the Allies and the Germans to enhance their ability to win the "Race to the Meuse" scenario against both the AI and human opponents.

Priorities

The first thing both players need to understand is the victory conditions. There are only two parameters to consider: The Germans reaching the Meuse and the Germans capturing Bastogne. Reaching the Meuse generates the win for the boys in grey while denying the Meuse and holding Bastogne gives our GIs a victory. With this in mind, it is clear that the key to victory is the Germans getting a supplied unit next to the Meuse; if the Allies don't focus on that objective, they will lose. Nonetheless, holding Bastogne should not be ignored, there are simple moves that will help safeguard that town or, conversely, ensure that it falls. Unlike the campaign game, ties are allowed so there is often a key point where one (or both) players have to decide whether or not a tie is worthwhile if the alternative is a non-negligible chance of losing. (For example: If the Allies have the choice of ensuring that Bastogne stays Allied but it risks a German unit getting to the Meuse.) In this scenario casualties don't matter, German reinforcements have minimal impact, and the impact of early decisions is often decisive.

Key Considerations

The first thing to recognize is that three days is not a lot of time to get to the Meuse. The map geography alone dictates that the Germans push relentlessly forward. Being even ONE space behind can be fatal! Conversely, from the Allied side, do not provide 'free' opportunities for the Germans to get closer. More specifically, be wary of overruns: the extra space gained could be decisive! Defending two spaces away, behind a river, is often a key tactic, particularly at Huy and Ouffet. The diagram shows the extent of the daily advances that can be anticipated (or desired if you're the Germans) as well as the "Key Spaces" that the US must ensure are not overrun.



Figure 15 - Three Days: Geography, Timing, Luck

A secondary factor to consider is "timing." A premature move on the Meuse leaves the Germans susceptible to being cut out of supply. Too late a move will result in their path being fatally blocked. (In an ideal situation, from the German perspective, the last move of December 18th features a panzer unit lunging forward to the Meuse and the day then ending.) The US player will similarly want to delay committing his reinforcements coming from Verviers or Liège. An early move from Verviers may fatally weaken that "Key Space" while an early move from Liège may 'use up' a unit that may have been better served by moving after the German panzers committed to a particular approach route to the Meuse.

Some key Allied decisions include:

December 16: Getting CCA/9 Arm into Bastogne. That should be your VERY FIRST move as the Allies! The only real decision here is what to do if the Germans do NOT clear Clervaux during the special attack phase of turn 1.

December 16: Timing the move of CCB/9 Arm out of Malmedy. I find it often useful to move it into Trois Ponts on my second Allied move, which ensures it will be stumbling block for the SS Panzers on December 17. You may want to delay this move, however, so that it can be available to reinforce a weak defender in Eupen.

December 16: You want to avoid having one weak unit in Eupen at all costs at the end of De-

ember 16. Having it overrun early in 17AM allows the Germans to bounce forward and contest (if not control) Verviers. Ideally, Eupen is empty at the end of the 16th, if it isn't, the US must strive to have three strength points defending it.

December 17-18: Do not let yourself get overrun in Werbomont or Stoumont or you almost certainly lose the game as the resulting overrun puts the Germans adjacent to the Meuse.

Important German decisions include:

December 16: You have to prioritize your moves carefully. My first move is generally to send 1st SS Panzer into Malmedy to try to eliminate the US CCB/9 Armored unit. (71% likelihood.)

December 16: You often have to make an early decision as to whether or not all of Lehr, 2nd, and 116th Panzer are needed for the assault on the Meuse. Without at least one of them involved, attacks on Bastogne are unlikely to succeed so you want to postpone this decision for as long as possible so that you can see the results of prior battles. (I often send 116 Panzer to Clervaux where it will join Lehr if I want a two panzer division assault on Bastogne on December 17.)

December 17: How best and how early to contest Bastogne. If you cannot see an easy path to the Meuse, a key opening move for the second day is to launch an assault on Bastogne in hopes of clearing it before US reinforcements arrive.

December 17-18: There generally are two main routes to getting to the Meuse, assuming the Allies do not give you an easy overrun in one of the "key spaces". The first route is in the far north, generally involving capturing Spa or Verviers and then going for Herve or a more daring thrust into Ouffet. Ouffet is likely to be lightly defended but is more susceptible to being cut out of supply.

Finally, another important consideration is related to luck. The timing of the appearance of the German Commando can be decisive. If they show up on December 17th, a 20% likelihood, the US unit that gets paralyzed may determine the winner of the game. The American player would like to see the Commandos operating in the south where they probably will help ensure that Bastogne falls; the German player would love to use them in the north if it will ensure that they can get a tank unit

further forward. (The Germans will often 'freeze' one of the Verviers defenders or even the US 2nd Infantry division to prevent it from sealing Eupen. However, if the German can already tell that his chances of getting to the Meuse are slim, he may use the commando to freeze the US 10 Armored division to help ensure the likelihood of at least a tie in the game. Should the commandos not appear until December 18th or later (80% likelihood), I cannot envision them being used anywhere but in the north where they could hamper a US response to the approaching panzers.

Conclusion

As I hope I've demonstrated, "Race to Meuse" provides a delightful iPad wargaming experience: It plays quickly, tough decisions are there to be made, and, perhaps most importantly, balanced opportunities to win exists for both sides. While luck does play a part in this game, a thorough understanding of the game mechanics related to movement, terrain, and combat are still quite important. Due to the brevity of the scenario, it's quite apparent that maneuver strategies are much more important than attritional strategies but the key to victory is likely to be with a player that can maintain a constant focus on the objective: The Race to the Meuse.

I. Game Center

By Mitch Reed

While the game is enough of a challenge to play against the AI, players can also test their battlefield prowess against other players via Apple's Game Center. Playing with other players is both simple and it really adds to the amount of enjoyment of the game.

The first step is to select the Game Center app on your iPad and establish an account.

From apple.com, sign in to your Game Center Account

When you open Game Center, you can sign in to your Game Center account using your Apple ID. If you don't have an Apple ID or another Apple account, tap or click Create New Account to create an account to use with Game Center.

Note: Each Apple ID has its own associated scores, achievements, and friends. If you have multiple Apple IDs, you can verify which Apple ID is in use by tapping or clicking the Me icon.



Figure 16 – Your account

You can change the account by tapping or clicking Account and then signing out of the current account and into the correct one.

Once you have established your Game Center account you can select the “Games” tab and find Battle of the Bulge. You will find that the game has challenges for both playing single and multi-player games.



Figure 17 – Game Center Achievements

Game Center will automatically track your achievements as you play, so do not worry about updating it manually.

Playing a Game

Playing a game in Game Center is very easy. First you go to the main screen and select “New” under the “Online” section of the menu.



Figure 18 – The Play menu

Now you have two options; you can play a game versus a player at large or play against friends that have Battle of the Bulge that you have saved as friends in the Game Center.



Figure 19 – Invite a friend or play now for an automatic match

If you select “Play now” you will either be sent into a game that has been initiated by another player or you will establish a game and wait for another player to select “Play Now” in Game Center.

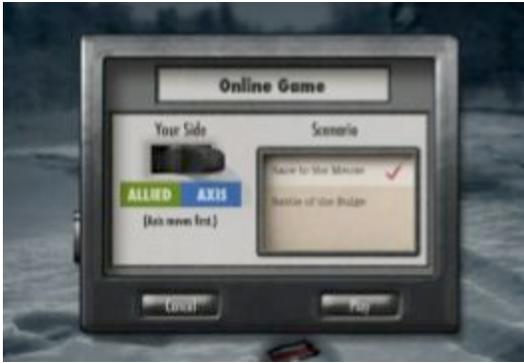


Figure 20 – Pick your scenario and side

When given this menu you can pick what side you wish to play as well as the scenario. Please note that you will not be allowed to set up a game via “Play Now” if other players are waiting in the Game Center cue.

Once the game has been accepted by another player in the Game Center cue, you will be notified by Game Center by a pop-up notification and by a red-dot appearing on the game’s icon. These notification settings can be changed by you in the iPads settings under the Notification menu.

You will also be notified when your opponent finishes a turn and it is your time to play, or when the game ends.

The other way to play versus another player is to select “Invite Friends” instead of “Play Now”. This will take you to a screen in which the friends you added in your Game Center app can be selected for a game. When you do this, you will be able to select the side and scenario you wish to play. The player you selected will be notified via Game Center and they can accept the game or not. It is important to note that in order to play via “Invite Friends”, the other player must have the game and be on your friends list.

One additional feature to mention is that as you play a turn and select ‘Commit’, you can send a message of up to 80 characters to your opponent.



Figure 21 – Have a conversation

Remember, we are all gamers and civility should be adhered to with all messages.

So now that you know how to set up games against other players, I expect to see you on the battlefield!

J. Combat

By Paul Dobbins

Active units trigger combat. Whenever a friendly unit(s) is active in an area containing an enemy stack (1-3 units), combat is triggered. But the combat only takes place if the "commit button" is pressed and the combat is "locked in". Thus, combat may be triggered before, during or after movement, but it is only resolved if the active player commits the action. A player should feel free to move units in and out of harms way, working the odds and gathering information, prior to making it so by pressing "commit"; please make liberal use of the "undo" button, which is always available prior to committing, thereby resetting—rolling back—the activation and allowing you explore alternatives. If you activate an area, move any or all of the units therein, triggering one or more combats, simply hitting the "undo" button several times will bring you back to the start of your turn. Hitting commit will set up the final resolution of the action(s); if the game understands you have units that were not moved during the activation of the given area, it will ask you if you really want to commit (*after you get burned a few times by committing too impetuously, you'll learn play better, sadder but wiser*).

The Combat Window. Whenever an activation triggers a potential combat, the *Game Engine* opens the combat window, which provides three important pieces of information:

1. **Raw odds. Don't get fooled!** The raw odds are simply a count of the number of dice each side will roll in the combat round, without regard for any tactical or terrain factors.
2. **Axis expected hits.** The most likely hit scores for the Axis, pre-dice roll, are displayed in a bar graph, with the single most probable result in **bold**. Roughly speaking, the areas of the respective bars provide a measure of the relative probabilities of the various results. Tactical and terrain factors *are* rolled into these calculations, the display provides icons for the factors modifying the base "to hit" probabilities. **Not all possible results are accounted for! The full range of results varies from zero to all dice hitting.**
3. Allied expected hits. As above.

It pays to play the odds. Dice rolling via the random number generator simulates the real thing, i.e. throwing handfuls of 10-sided dice; anything can and will happen regardless the example probability calculations demonstrated here or in the rule-book, or routinely displayed by the **Combat Window**.

The Combat Engine is moderately complex, yet it is built on a simple foundation: a unit rolls one "die" per strength point (SP or pip), with a base hit probability of 40%, i.e. a hit is scored on a roll of 1-4, if the shooter is armor, and 30% otherwise. Fire is simultaneous, for the defender all units that are not isolated, and for the attacker, **only those that are currently active**, shoot by rolling dice. Things get more interesting as a number of modifying factors are added on (subtracted off). A quick look at the combat section of the rules reveals what we'll touch briefly here.

Tactical factors modify the hit probabilities, and include elite status—indicated by a division badge appearing in the upper left or right—for attacking armor or defending infantry, Axis December 16th surprise attacks and east map-edge artillery, out of supply (OOS)

or isolated, offsetting enemy armor, and Allied airpower from December 23rd forward.

Terrain factors reduce the number of hits scored, with the exception of clear terrain. Forest and city have the most dramatic effects, reducing hits by up to 2. Towns and woods may reduce hits by 1. These effects are cumulative for cities and towns, and subject to possible limiting effects (see 7.4).

Clear terrain uniquely increases the hit probabilities for both attacker and defender by 10%. Whether you are on the strategic offensive or defensive, it usually pays to aggressively attack enemy units in the clear if the raw odds are at least even and you have an overall edge in tactical factors, i.e. higher net hit probabilities.

Unit strength points, SPs, shoot individually at target stacks (1-3 units in the area).

Here is a reformatted presentation of the "to hit" probabilities, and the modifying and mitigating factors given in the rules. To clarify, the terms "attacker" and "defender" apply to the units activated and initiating combat, and defending the area, respectively, and not to the shooter or the target per se (units in combat are simultaneously shooter and target).

Attacker To Hit %		Defender is target (per Stack)				
		Armor	Infantry		Both*	
SP shooting is			Elite**	Other	Elite**	Other
Armor	Elite	40	40	50	30	40
	Other	30	30	40	20	30
Infantry		20	20	30	10	20
Additional modifiers to Attacker's Hit probability						
Defender	OOS***	+10				
	Isolated	+20				
Axis	Artillery	+10				
	Surprise	+10				
Allied Airpower		+10				
Clear Terrain		+10				

* There are armor and infantry units in the target stack

** At least 50% defending SP are elite Infantry

*** OOS and isolated units never activate and never attack, but they make great targets!

Defender To Hit % SP shooting is		Attacker is target (per Stack)		
		Armor	Infantry	Both
Armor		30	40	30
Infantry		20	30	20
Defender	OOS	-10		
	Isolated	May not shoot		
Clear Terrain		+10		

Combat will generate a range of results, depending on the number of hits inflicted on the battling units. Hits are distributed as evenly as possible to the target units, from biggest to smallest. If sufficient hits are scored, the defender may be destroyed or forced to retreat (*attackers never retreat regardless the losses*). If any attackers are armor, and all of the defenders are destroyed, they may perform a **breakthrough move** (see **Section K Tactics** regarding breakthroughs).

Retreat is also probabilistic, as may be seen in the **Retreat Table**. The game engine controls where and when combat generated retreat happens, and the results can be surprising. It is important to keep in mind available paths of retreat when making tactical decisions. It is way too easy to overcrowd (i.e. reach stacking limits) behind forward lines—especially late in the game for the Axis player—doing so potentially blocks retreat paths and yields kills and VPs to your opponent.

Perhaps the worst results ever witnessed involved three Panzer divisions, attacking a 1 pip Cavalry recon unit in Trois Ponts, and failing to score a single hit for two consecutive turns, *rolling upwards of 36 dice!* Even allowing for the Trois Ponts forest absorbing at most 2 hits, that is mind-numbingly awful bad luck, (sorry pal)!

At the other end of the spectrum, the 4 pip elite 101st Screaming Eagles utterly fried a 4 pip Panzer division in rough terrain in the first round of a last resort counterattack to save another game.

*Always remember, if you roll poorly, arithmetic gyrations don't mean a thing—you may get nadda—and adding injury to insult, your opponent's "hot" return roll—if he's not isolated—may very well wing your ace! **Nonetheless, play the odds!***

K. BotB Tactics

By Paul Dobbins

Having carefully looked over Section J concerning the Battle of the Bulge combat model, how can we turn that knowledge into a formula for victory? For starters, the tactical problems facing a player differ significantly depending on whether the operational situation requires offensive or defensive play. Basically, the Axis player must attack. He must aggressively move forward with the capability to mass potentially overwhelming forces against key points in the thinly held Allied defense. The Allied player, on the other hand, starts with a very thin forward line and precious little in the cupboard from which to build an effective defense. Here follows a short list of basic tactical rules of thumb that ought to be part of a Bulger's bag of tricks.

Movement Basics

There are a few things to keep in mind regarding the tactical aspects of movement in BotB.

1. **All units may move into an adjacent area** subject to stacking and selected terrain limitations: only one unit may attack across a river from an activated area.
2. **Armor and mechanized units** may move into a second area along a road, if the movement started in an area with a road and that road passes through the first and second areas transversed.
3. **Strategic movement:** finally, armor and mechanized units may move into a third area, along the same road, if and only if all areas are friendly controlled and uncontested.
4. **A unit may violate stacking limits as it moves** through an area, but it must end its movement in an area that conforms to the stacking limit.
5. **Stacking limit is 3 units per area.** Maneuvering one's units, moving and fighting, is strictly governed by the limit—*stacking limit*—of only three units per side in any map area. So an essential skill of the BotB general is managing the stacking of friendly forces in such a manner that friendly movement in any direction is

unimpeded and sufficient force is massed to attack or defend, where and when it is needed.

6. **Supply is critical for movement.** No supply means no movement. A unit that cannot trace a path of friendly areas to a supply source is out of supply for the turn and *immobilized*, i.e. *cannot activate for movement*. OOS effects worsen the longer the situation persists, leading to *isolation*. Isolated units cannot fight and are easy pickings for scoring VPs.

Combat Basics

The rules to BotB may appear to be overwhelming, subtly complex, or perhaps simple, depending on a one's prior experience with turned-based, traditional board war games. Here is the short list of tactical basics to get one started on the road to good generalship:

1. **Units destroyed score points for the destroyer.** The full campaign scenario is all about scoring points and triggering victory thresholds, so killing units is a crucial part of winning. And the flip side is also true: losing units is the slippery slope to losing. A unit is worth 1 VP per strength point, but points are scored if and only if the last SP is eliminated. Lesson? Get battered units out of harm's way whenever possible. This is easier said than done, especially for the Allied player early on, or the Ax-is player late in the game.
2. **Supply is critical for combat.** A unit that is OOS not only cannot activate to attack, but also defends with reduced hit probabilities; the OOS combat effects worsen the longer the situation persists, leading to *isolation*. Isolated units cannot move or fight at all and are easy pickings for scoring VPs.
3. **Activation is all or nothing.** When an area is activated, all of your units in that area are activated for movement and combat. If a unit is not used when activated, it will not be available again until the next turn.
4. **Combat is triggered** when an area that is activated contains units from both sides. The player who activated the area may abandon the area completely by moving all of his units out, and if he does, no combat is resolved. Otherwise, once the commit button is pressed, the battle resolves for all of the units that remain in the area.
5. **Defending units may fight multiple times per turn**, as combat is triggered each time an enemy unit enters the defender's area from a different area of origin. Technically, since the stacking limit is three, a defending unit could fight three times in a day if three enemy units entered its area on three separate activations. And it could fight a fourth time if it were activated for combat and attacked sometime during the day as well. (And as our ever-loving editor has pointed out, even more combats are possible if attacking units die and open slots in the stacking limit, more than three units can be involved in successive, futile attacks. Think *Zulu!*)
6. **An attacker is only activated once, and only attacks once per day.** An important distinction to keep in mind is the difference between active combat—activating and moving or fighting—and passive combat—defending an area that is the target of an active unit.
7. **Empty areas you control limit enemy movement.** If your units were the last ones to pass through an area, that area is now under your control. The ability of armor and mechanized units to move via the road network and utilize strategic movement is limited by enemy-controlled areas, regardless the presence of enemy units.
8. **Choose wisely your path of attack.** As you activate units to move during a game, the app will often ask you to choose between alternative routes, choosing for example between traversing the open highway or a bridge, crossing a river or not, and so forth. These choices typically designate which areas will be traversed, and often what additional terrain modifications will apply to the defender in any pending combat resulting from the move. Try to minimize the benefits to the defender and maximize the number of unoccupied areas that switch to your control as you make these choices.

Attack

Attacking is all about swift maneuvering and combined arms attacks that maximize hit probabilit-

ities subject to the vicissitudes of terrain. Combined arms may be defined simply as the combination of armor, infantry and elite units in a given area, massed for either offense or defense. The combat model makes armor more effective at attacking than defending, but the defensive capability of infantry is heightened by adding armor, which offsets the bonus given to attacking armor. Combining arms may be problematic for an aggressive Axis player because of the pokey movement of his infantry units, but elite armor units should be used in conjunction with other units as much as possible to boost attack effectiveness. The Allied player, who must counterattack in critical situations early, and overwhelmingly across the board from the mid-game—December 23rd—onwards, has lots of fast moving motorized and mechanized infantry, so combined arms is naturally much easier, and magnifies the impact of Allied airpower. So here are the top attacking tactics:

1. The Hammer: a Super Stack. This is a particularly nasty Axis trick, and it mostly mitigates the difficulty of combining arms. The Axis player, having broken through the initial, weak Allied defense, should concentrate three panzer divisions—big ones at or near full strength and at least one of which is elite—in a central position along the expected line of advance. For the Axis player, it is often more important to move fast, so it is not recommended that the offensive be slowed to form a Super Stack, rather the panzers should maneuver in concert, independently if necessary, to a natural collection point. Once a stack is formed, it is a very powerful battering ram for crushing the defense in a target area, often killing solitary defending units. The effect is magnified if the attack can be launched against any one of several targets, stretching the defense and forcing the enemy to guess just where the blow will fall. But remember, the Hammer doesn't always work, especially against tough units in good defensive terrain, so develop a back-up option.



Figure 22 - A Vanilla Superstack Option. Not Very Exciting.

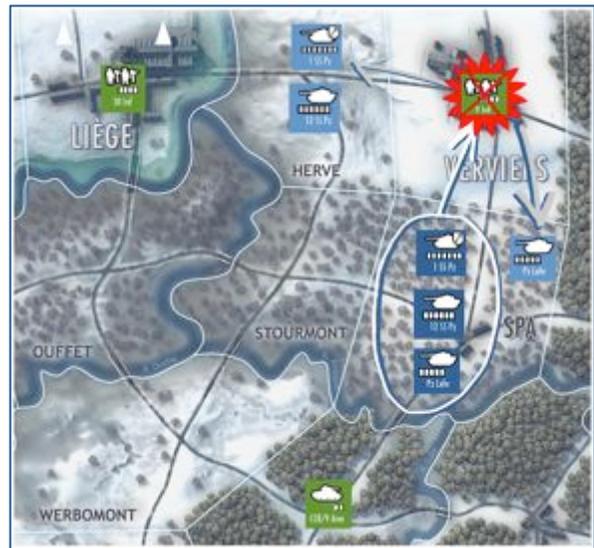


Figure 23 – Here, the Superstack strikes from Spa to Verviers, then exploits, advancing to Herve and falling back to Spa to defend.



Figure 24 – Here, the Superstack splits to strike in Verviers and Spa while advancing to Ouffet.

2. Armor Exploitation. If the defenders in an area are eliminated in combat, attacking armor units may move into an adjacent area, subject to stacking and some terrain limits. Exploitation is fraught with possibilities:

A. Seizing Objectives. The big pay-off for exploiting armor is the seizure of unguarded victory objectives behind the enemy line. An exploiting armor unit may very well cross a river line, including (and especially) the Meuse. The exploitation mechanic is an absolute key to success in the Race to the Meuse scenario, and often is the vehicle that leads to an automatic victory in the full campaign. So the Axis should always be on the lookout for a vulnerable Allied unit on the east bank of the Meuse that can be hit and killed by an elite panzer division. Prime real estate is found west of Liège on the east bank of the Meuse, in Huy and Ohey, where the terrain is relatively clear and solitary Allied units can be vaporized by the big bad wolf. But veteran gamers have seen success anywhere along the Meuse, including the short approach through Herve.

B. Pinning by Exploitation. An exploiting unit may be moved into an adjacent area containing enemy units. Combat there won't resolve, but the exploiting unit can cause immediate mischief. Recall, an enemy unit cannot move from an area occupied by one of your units into another area you currently control, whether the latter area is

occupied by one of your units or not. Thus, an exploiter can seal the edge of a breakthrough for friendly units that may follow-up later in the turn (see below for additional tips on pins).

C. “Back-Filling” or Securing Supply. This is an advanced topic! A favorite defense tactic is the “Haircut”, aka “cutting off the head of the snake”, which is discussed below (so you may want to come back to this). Given a *Super Stack*, the Axis player may want to risk an all out attack against the Allied line. Doing so, however, often means the Allied player may have an immediate counter move opportunity to seize the now abandoned staging area from which the Super Stack was launched, thereby cutting it off and putting it out of supply. *That's a disaster!* If a Super Stack is fully committed and the enemy is eliminated (i.e. you took the chance and it worked), don't forget to exploit one armor unit back into the staging area, thereby securing supply by “back-filling” your line of advance. If the Super Stack doesn't eliminate the enemy, you will most likely face a desperate battle to reopen supply as soon as possible, since the enemy will have had a chance to move after the Super Stack's attack, before you can address the situation. Some of the most interesting battles in BotB involve rescuing cut-off units (mostly German losses, but don't give up hope).

3. Pinning Attacks. Pinning is a valid tactic for freezing elements of the enemy line, whether the pinning unit is exploiting armor or not. A pinning attack launched against a target area has one goal, to inject survivable friendly units into an enemy controlled area so the enemy units there cannot move into any adjacent area you control (they may still be able to move into areas the enemy controls). The Allies generally do not have the capability to build a defense in depth, so limiting lateral movement along their forward line via pins is one way to develop a target area for a breakthrough attack. Some care has to be exercised in the pins, so that smaller, weaker attacking units are not sacrificed without success, and powerful units aren't sidetracked from the main effort. Weaker enemy units ensconced in good defensive terrain can be pinned at relatively low cost, so the strength of the enemy line really does hinge on its weakest links.

4. Artillery, Surprise and Airpower. The Germans possess an artillery bonus in areas adjacent to the

eastern edge of the map, so a forward Allied defense of St. Vith, for example, is difficult to pull off. In addition, there is the first turn Axis surprise attack bonus. The Allies get an airpower bonus once the weather clears on the 23rd, which is available over the entire map.

5. Commando Attacks (Axis only). On Dec 17-19, the Axis player gets one spoiling Commando mission against an Allied unit of his choice. This mission immobilizes the targeted unit for one turn. This can be a huge boost to an Axis breakthrough; essentially, a critical Allied unit is unable to move to a threatened area. Typically, a large uncommitted Allied armor unit is targeted, such as the 3rd or 7th armored division, but the choice should be dictated by the overall tactical situation.

Defense

Defending is all about exploiting terrain benefits and quickly taking advantage of the attacker's mistakes. The defender also must maneuver quickly to effectively fill holes and block avenues of approach to key terrain objectives. Basic defensive tactics include:

- 1. Exploit Terrain.** The BotB map is a mixed bag, with very heavily forested, rugged terrain areas alternating with urban areas, river lines and open plateaus. A quick review of the terrain effects chart reveals the modifications to hit probabilities, and even more important, enemy hits absorbed by cities, towns, woods, and forests.
- 2. Control the Road net by holding Crossroads Areas.** This is a Bulge game, which means controlling crossroads like Bastogne is a key to victory. You may find, however, that Bastogne is simply too difficult to hold against skilled German opponent. Regardless the fate of Bastogne, a few well placed Allied units can dramatically slow the Axis drive to the west, especially on the La Roche-Marche-Dinant line.
- 3. The Haircut, or Cutting Off the Head of the Snake.** Here we are crossing the boundary into grand tactics. One can score a lot of points through elimination, so any time there is an opportunity to surround and cut off enemy units, it should be taken—even if that means forgoing territorial objectives. The Germans *typically will take big risks* by going for an automatic victory—crossing the Meuse in supply by the end of Dec 19—or exiting

units to the NW across the Meuse, thereby scoring 3VP per SP exited. The Allied defender will often have one or more opportunities to cut off spearheads during the game. Cut-off and isolated units are easy kills, but a bag full of Germans is difficult to keep closed against a second wave of armored German attackers, such as the late arriving 9th, 10th SS, and 11th panzer divisions. To summarize, go for the big bag and the big score (even if it sometimes fails really badly).



Figure 25 - If the Allies can force the 352nd out of Malmédy, they'll cut off 18 points of Axis armor.

- 4. Fight and Fall Back.** The activation mechanics may sometimes favor the defense with respect to orchestrating a fundamentally sound retreat. Defenders that survive an Allied attack may still be able to activate (if they were not forced to retreat) and move themselves.

Don'ts

Finally, here is a list of tactical mistakes to avoid.

Reinforcing a Losing Battle. The way the BotB combat and activation systems work, it can be suicidal to reinforce a battle in which your side is outmatched (basically fewer SPs in the fight). There is a smart way to do this that can work, but there are also some dumb ways that won't cut it, without cutting you up instead.

Fighting at Disadvantage in the Clear. This is usually a losing proposition. The author, for example, has lost several games fighting losing battles in Huy, as both the Axis and the Allied player. “Disadvantage” is not measured by the number of pips alone, rather it is also determined by the types of units and the tactical modifier “stew” that determines hit probabilities.



Figure 26 – It’s tempting to reinforce Bastogne, but don’t! You’ll expose your units to 10 axis shots without the benefit of defensive terrain, and likely lose the four strength points you had hoped to gain.

Weakness on the shoulders of a salient. It’s a *Bulge* game, so it’s all about salients. The Axis player has to take chances, which often means pushing the hammers ahead and leaving the grunts to hold the edges. The Allied player is looking to chop off your head, so keep the edges of a penetration firm enough to resist any looming local threats.

No escape hatch. Heady early success often sees the Axis forces pushing hard to the NW. It is easy to overcrowd the body of a salient, making it nearly impossible for the leading edge to draw back when the tide turns around December 23rd.

Panzers sucking air in a bad spot. As much as we love panzers, they start running out of gas at the worst possible moments. From mid-game onwards, the Axis player must carefully and methodically draw his leading edge panzers back into strong defensive terrain, where they can sit through a turn or so unfueled. As a corollary, *don’t*

ever depend on a single panzer’s activation, because that boy may run dry just when you need him.

Don’t get Diced! Most important of all, don’t roll badly in critical situations like I often do!

L. Small Units, Big Impacts (the Hidden Power of the Combat Commands)

By Ros Herman

After a few games of *Battle of the Bulge*, many players will develop a certain affinity for certain units. It doesn’t take long for someone to have story about how the 7 elite steps of 1st SS Panzer knifed through the Allied defenses and enjoyed some rations from the supply dumps in Liège. How many times have the fabled 82nd and 101st Airborne held out in seemingly hopeless onslaught in Huy or Marche. This section is an attempt to highlight and give some much-deserved love to the utility of the mighty mites of the Ardennes.

Perhaps the most significant of these units are the three Allied combat commands (CCs), which begin right on the front line of the assault. These 2-strength armor units are just about the only thing the Allied player can move on the 16th. There is a strong temptation to look at these units and think “Ooohh... speed bumps.” It is easy to throw them forward as Tiger fodder to slow up the German advance on the 16th and 17th. While they may defend valiantly and buy you a turn, their real power comes from finding (elite infantry) friends, opposing crossings on the Ourthe, and being ever present threats to supply lines.

The one thing the Allied player has in abundance in the early game is elite infantry units. Alone, these divisions can hold off a massed German attack, but teamed with one of the CCs and some good terrain they can literally cut off an entire axis of advance for the German. Consider that one CC and one elite infantry division together reduce the hit chance by 20%. This renders the German elite armor only as effective as a regular infantry on the attack. In space that will soak three hits like Houffalize, this combination can be almost immovable. If you can keep your CCs alive on the 16th and 17th, it is possible to set up this mix in a few key

spots that will delay the Panzers far more than the extra space you may have denied them in the early going.

The mobility of the CCs makes them ideal in two other roles as well. If you are unable to get them set up in some the quality terrain in the center of the map (or if the Germans are not heading that way), they can always be moved back to be used as gap fillers on the Ourthe. Opposed river crossings can only be made by a single unit so having at least one unit in every reachable crossing will ensure that the terrifying stack of panzers cannot make it across together. Buying an extra turn to stem a breakthrough on the Ourthe is usually well worth the price. Add to this that if the German does not attack the space with the CC, they will often be exposing some part of their supply line. Often just the threat of this kind of move will alter the timing and the forces the German player will be able to move forward.

There are two other small units whose roles bear a quick mention as well. For the German player, do not ignore the 150th Panzer. Keep it moving early, even prior to some of the larger infantry units. The Allied player will often overlook it, but it is just as capable of cutting off Allied defenses as it's big brothers. Perhaps as important, having it at the front to add the armor defense bonus to an infantry stack can help hold a critical VP space the extra turn or two need to the swing the battle in your favor. The last unit to call out is the 102nd Cavalry Group in Monschau. This unit is normally nothing special, but it can provide the German player early pain if they are not careful. Should the German player clear all units in the northeast corner an early rush, the 102nd can sneak into Stadkyll on the 16th and keep the 99th Infantry in supply. You won't always get the chance to make this move, but if it's there, take it. Saving the 99th is 3 VP normally lost without a fight.

M. The Top 10 Areas

By Paul Dobbins

The following lists were inspired by an "Open Mic" piece on *Quarter to 3* posted by Tom Chick—shout out to Tom—and the terrific analysis of Eupen by Bruce Geryk, also posted on *Quarter to 3* (Bruce brings us *Section G: The Spaces of War*). But they pretty much run their

own course of insanity based on the shared experiences of the gaming community as reported on Shenandoah Studio's *Battle of the Bulge* Forum. To belabor the obvious, it is really difficult to focus on a top 5 anything in a game as rich and varied as *Battle of the Bulge*.

Top 5 Areas to Attack

1. The "Paper Triangle"—Losheim, Clervaux and Bleialf. A typical Axis December 16th opening puts paid to the flimsy defenses of the paper triangle. Clearing Losheim enables the mighty 1st SS Panzer to surge forward into Malmedy; clearing Bleialf opens the door to St. Vith and a steady diet of early and easy VPs. A surprise attack on Clervaux, if successful, eliminates the 110/28, allowing the Germans to move into Longvilly on the next turn, thereby cutting the 9/CCA (Beaufort) off from Bastogne, a move now known as the "Longvilly Lunge".

2. Malmedy. Once the 1st SS Panzer is unleashed, it is remarkably successful frying the 9/CCB in Malmedy, although the latter sometimes takes only one hit and runs. Killing it opens up the center of the map for thrusts north, since Malmedy provides the vital cut through the twin bastions, Eupen and Trois Ponts (see below).

3. Arlon. Whether Bastogne falls or not, Arlon, a major road junction and Allied reinforcement center on the southern map edge, is critical for a southern Axis offensive to work. A viable strategy sees the Axis seal the southern map edge completely, from easternmost Trier all the way west to the Meuse; the inevitable Allied counteroffensive cannot be staged through Arlon if the Axis grab it early in the game, and the rugged terrain west of there—Bertrix, Bouillion, and St Hubert—is easy to defend in the end game.

4. Herve. Defending Herve, like Huy (see below), is a thankless task, made so by the Axis capture of Verviers. Herve is as good as clear and open to a super stack assault from the east. Unless strongly held, it can yield a breakthrough move to attacking armor, taking them across the Meuse and victory in either the Race to the Meuse or the Full Campaign scenarios.

5. Huy. If there is one place you don't want to get caught defending mid-game, it's Huy, unless Ouffet and Marche are firmly in hand. First, it's

clear terrain and perfect for armor, so fighting there is bloody. Second, it is backed up to the Meuse with easily accessible lines of approach from east and south, although its SE corner on the Ourthe River provides only limited access from Werbomont. Armor has a good chance of scoring a breakthrough here and crossing the Meuse. So attack already! But beware the inevitable counter-attack.



Figure 27 – The top 5 areas to defend are highlighted in blue. The red arrows indicate how the top five areas to attack should be approached.

Top 5 Areas to Defend

1. **Eupen.** It's a dream area for the Allied defense, as it is always supplied, it is forested, and it is not particularly accessible to the east. And it has a wide body, allowing it to front two VP areas, Spa and Verviers, for that special economy package in big "D". Now, if only Malmédy weren't such a disappointment; Eupen is like very warm and comfortable long underwear, with the trap door down...
2. **Trois Ponts.** This is the breaker of Axis dreams, a narrow bottle neck that demands an Allied cork yesterday! Strong elements in Eupen and Trois Ponts will channel an Axis northern offensive through Spa and Verviers, and strong reinforcing Allied units. Every so

often, however, a unit in Trois Ponts fails to hold, and sometimes there is no way to get a friend there to arrest a hot rolling Axis attack. C'est la vie!

3. **Bastogne.** Sure, it's way too obvious, but it is nonetheless a top stop because it is the gateway to the center of the map. If it falls, look out for an Axis march along the southern edge, aided and abetted by a central thrust along the La Roche-Marche axis.
4. **Ouffet.** The barbican of Liège. Well protected by an outer moat provided by the Ourthe River, it is one tough nut to crack from all points northeast to south, and can only be seriously threatened from Huy, provided it has a strong garrison culled from the rich flow of reinforcements passing through Liège.
5. **Marche.** It flanks Huy to the south and completes the Ouffet-Huy-Marche line along the Ourthe River. It would be nice to add St Hubert as well, but first build the basics.

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