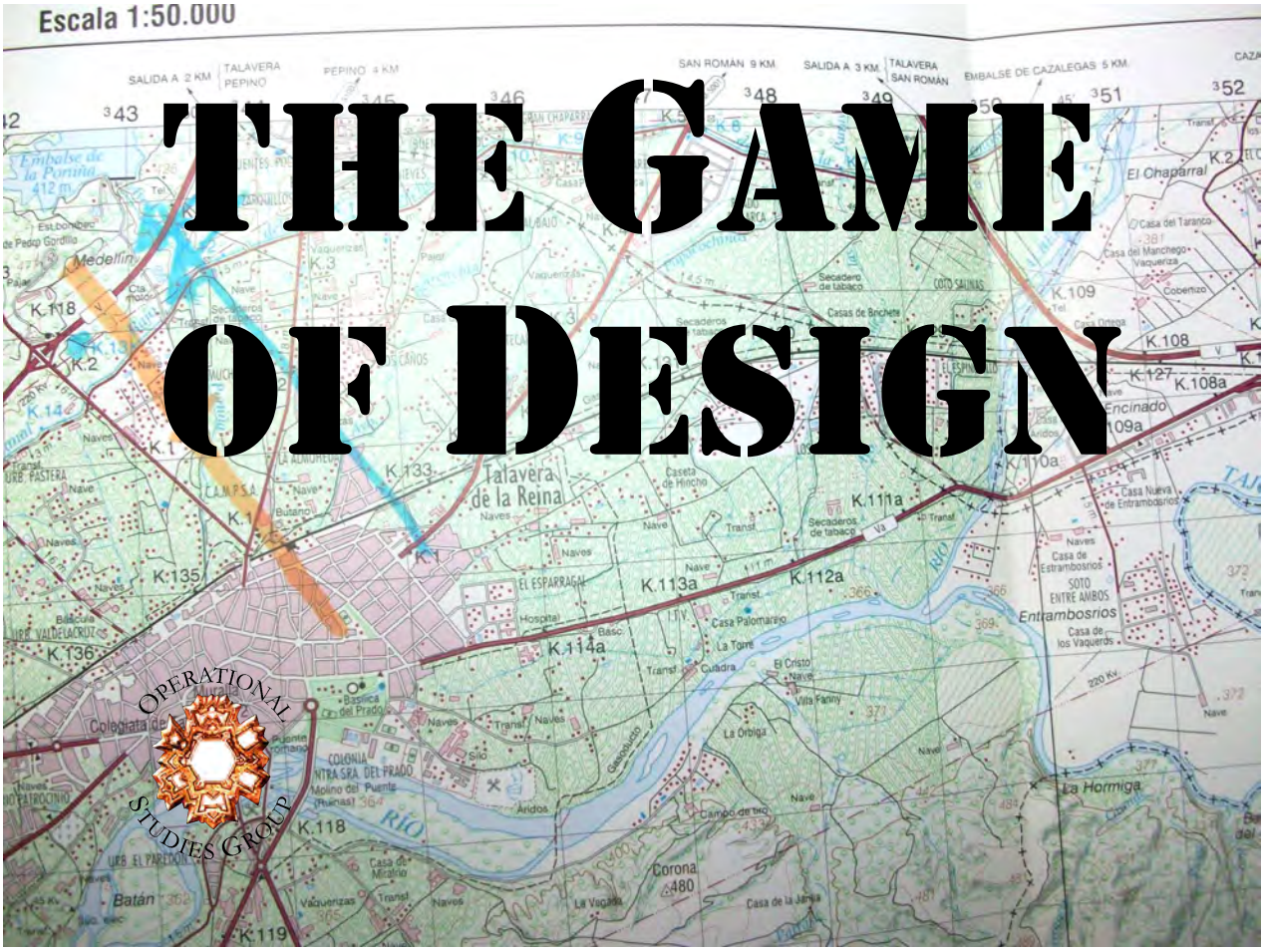


The Game of Design

Design Tips and Hints, Explanations, Arguments and Gripes

From the archives of *WARGAME DESIGN* Magazine

by Dave Demko, Redmond Simonsen, John Thiessen, Vince Hughes, Jean Foisy, Christopher Moeller, John Devereaux, Andy Gebhardt,

and

Kevin Zucker

THE GAME OF DESIGN

Table of Contents

Title; volume, issue & page numbers as originally published; authors.

Complete issues of *Wargame Design Magazine* are available for free download at https://napoleongames.com/blogs/wargame-design-magazine

How to Get Started (You'll *Never* be Ready)

By Kevin Zucker

I had no idea what to write on this page or how to begin this booklet. *Sometimes you just need to put your oar in the water and start paddling*.

The First Rule of Creativity: Creative energy is not always available. When a fresh wave of energy arrives, you have to surf that and travel as far as you can, even if you think you are not quite prepared. Get going.

You'll never get all the ducks lined-up! At some point you have to make a raid on the unarticulated and unknown.

> Until one is committed, there is hesitancy, the chance to draw back. Concerning all acts of initiative (and creation), there is one elementary truth, the ignorance of which kills countless ideas and splendid plans: that the moment one definitely commits oneself, then Providence moves too. All sorts of things occur to help one that would never otherwise have occurred. A whole stream of events issues from the decision, raising in one's favor all manner of unforeseen incidents and meetings and material assistance, which no man could have dreamed would have come his way. "Whatever you can do, or dream you can do, begin it. Boldness has genius, power, and magic in it. Begin it now."[1]

Just grab the info on the top of the stack, and work your way down. Content yourself with this rough and ready draft, knowing that the next stage in the process will find those miscues and the repairs will be made. Through a laborious development, the designer/developer have to make constant changes and rearrangements until very little of the original estimate remains.

The Skill of Estimating (Coup d'oeuil)
This is what many people deride as "firing from the hip." It helps to have a vision, a concept, which lays out the whole battle. This vision develops over time by working with the source material and making improvements as you go. But if you don't have a basic narrative to hang your hat on, you can't proceed to the next step. You need a working hypothesis, even if it turns out to be inaccurate, in part small or large. It provides the all-important starting place.

After you have gone through the design process several times, with some degree of success, then you can almost fill out the forms in advance. To create the next TLNB Study Folder, it is derived from the previous game via "Save as" searching and replacing inappropriate rules.

Development work on *Napoleon's End* had been interrupted for a couple of months. Having left it for so long I lost the thread. It would have been even helpful to open the Study and other files regularly, to keep track of the next necessary steps. I had some things jotted down, but it wasn't enough to provide inspiration or impetus.

Then I realized that the solution was to approach the project as though it was already done, and all that remained was to write down the particulars of the forces involved in each of the battles. Once this decision was sealed, there was no more resistance and all four battle setups and all the Turn Tracks were filled-in, at least roughly.

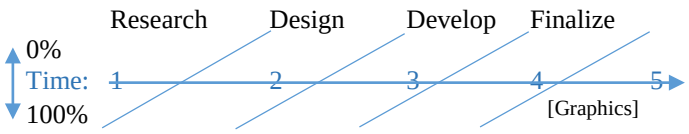
Still it remains to provide the reader with an overview of the Design Process, and for this I can think of no better place to start than this old article, "Stages in Design," from WDM…

[1] William Hutchinson Murray with embedded quote from Johann Wolfgang von Goethe

Stages in Design

Kevin Zucker

Design begins during research. The stages overlap:



Research is, of course, the beginning of any game design. At first, research, reading, and note taking is the only thing happening. Then something you read strikes you. Designing takes off, with less and less need for research. Before point 2, Research is complete and Design is taking up most of your time; meanwhile you've begun to develop map and counters.

Research begins with reading. You may not know at first what you are looking for. Get books. Depending on your temperament, you may find a general history of the campaign and just start in on page one. I tend to start with the index, and look at topics that receive a lot of references. Use the index as an in-depth outline of the book, to understand what the issues are. I like to flip around a lot and see what strikes me. I also look at references to particular military formations to find out strengths and weaknesses of the fighting forces. I use the index to read selectively.

Often the most significant things are mentioned in passing. How do you recognize those telling details? It is not the voice that says, 'it would be neat to put that into the game.' The result of this is kitchen-sinking. What you need is a clear interpretation of the factors which led to the success of one side and the failure of the other. There are two main flavors: strengths and weaknesses of the armies, and environment and geography. Sometimes you cannot even see what the most significant factors are until you have assayed your first prototype and can step back and see the whole event. In The Eagles Turn East, I had this problem with assessing the importance of Thorn. My main source (Petre) only mentions in a footnote that the town on the Vistula might have been threatened in the Russian offensive prior to the battle of Eylau, and it was only after looking at the printed map that I realized the importance of that town to the strategy of both sides (the town itself lies just off the map). Since the Russians failed to take the town, historians didn't bother to consider what would have happened: the French troops relying on Warsaw for supplies would be cut off, since the barges had to pass Thorn on their way to Warsaw. As a game designer, you have to see possibilities. A game design reveals corners of history that traditional histories never illuminate. The narrative historian is primarily concerned with keeping the spotlight on the man of action at the crucial moment as things actually transpired. He gives little attention to the hero who might-have-been. Assembling the whole picture can become a fascinating detective job akin to Archaeology.

Illusion or Reality?

There aren't that many real designers out there, capable of creating a game that is still interesting when you clear away all the clutter and chrome; there are a lot of "experts" dishing up undigested information. Very few have a clue about shaping their material. Some have an instinct for what plays. Our games are like the tax code—they're so complex you can't see where you're being taken. There's always been a trick to game design, a certain slight of hand, a certain illusion, what I call a "belief structure" to create a sense of "reality." But designers amaze me by their lack of regard for the basics of realism—an accurate map and time/space equation—and don't even check whether their troops can get from point A to point B in historical time.

Design begins with setting the correct time-space parameters. This is the single most crucial decision and much time may be lost if it is done incorrectly, since a new map and set of counters will be needed. Yet this inconvenience is a regular part of the design process, and it cannot be avoided. I cannot stress enough, that you must investigate the historical march rates of your forces, and render the terrain exactly; don't trust your eye, and never draw your basic geography from different sources. Xerox your source directly onto a hex grid to avoid mislocating the terrain. I use pre-printed hexgrids at 4mm on xerox paper to do a trial map at various scales. You load a sheaf of the blank hexgrid into

the paper feed tray and then set your map source on the glass at various reduction/enlargement percentages. Since a wargame map has much less detail than a similar scale map, it's best to enlarge your source to reach the final size. Try different rotations: if one army has to advance along a road, you can align the hexrows with or against the road. You can make it easier or harder to defend a line in the same way.

Development

I usually make a map very soon after I start reading. Critical issues in making a map are setting a scale, but you can't set the map scale unless you know the time scale, and you can't set the time scale unless you know the unit scale. So all of those scales are interrelated. In the Napoleonic era you can't just arbitrarily say that this is going to be a battalion or a demi-brigade level game at this arbitrary scale. There is a certain scale that is appropriate to each HQ echelon.

I start to do research on Orders of Battle while I'm reading, and after I have done that I begin to design the game. The ideas for the design come from the reading. I tend to take notes in a separate notebook I use for each design. From my reading I select the critical factors that should be in the game. After design comes development—though all of these stages are overlapping. Design starts while you're researching, development starts while you're designing, etc. After development comes graphic production and editorial... but playtesting is the most important. Playtesting continues throughout the entire process, and really research does too, because you usually don't understand what the Victory Conditions are going to be until near the end of the project.

Development is best accomplished by someone other than the designer—or after a year or so by the designer if he hasn't looked at the design in the interim. The reason: the designer may remember too much of the process, whereas the developer has only the final version in front of him—and he should not listen to anything that isn't a part of the written record. The developer is the advocate for the player, who has no access to the designer except via his thoughts expressed in writing. He has to be a player and look for gaps in the rules, bugs in the system, and loopholes in the set-ups. He has to help shape the design if it has grown wild and unruly. It is a thankless task since the designer will be praised if he succeeds. The difference between design and development is between conception and execution—where the rubber hits the road—where ideas which sound great receive the acid test. Playtesting is the main weapon of the developer.

What are rules, what are they trying to do, what should they be doing?

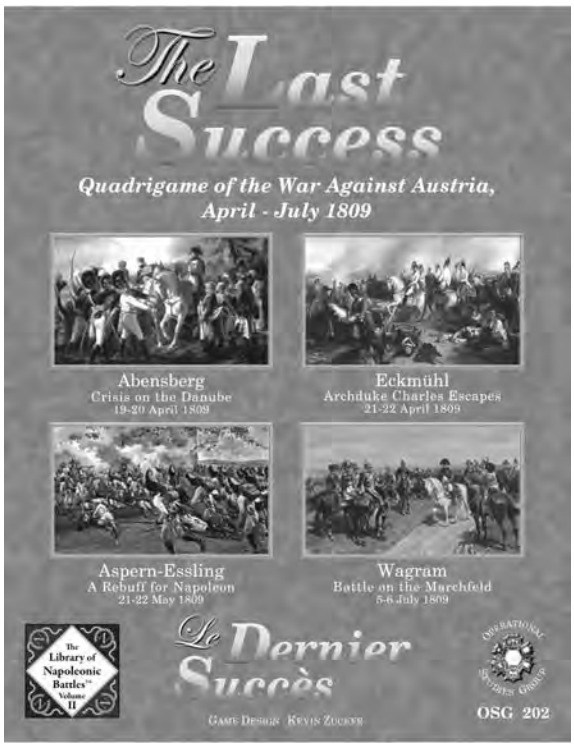
What we are trying to do is to provide an explanation of how to _play_ the game, and to provide enough of a guide for people to be able to solve for themselves any wierd situations that spring up. We are not trying to create a textual object. In a wargame, and especially in a multi-player game of alliances, you can never—never!—spell-out every contingency.

A set of rules has to be finite. If you keep adding to the body of rules, people are going to stop reading. Knowing how much to say is an art: you have to tell the general concepts and then articulate them just enough so people can see from that framework how to proceed in any given situation. Just because all the details are not written down doesn't mean the rules are inadequate. You have to be able to interpret, to use judgement and imagination to resolve questions in the sprit of the rules. That will *always* be a part of the experience of playing a wargame.

Graphics

Graphics should first be functional—decoration that obscures or inhibits use results in games that go unplayed. For all the lavish visuals of graphic designers, basic cartography is often distorted. If we can do nothing else, we can at least present the facts of geography. Besides, if your map is inaccurate, the game will simply never work, no matter how hard you try to make up for your original mistakes.

What we learned from Redmond…



I had the great good fortune to work shoulder to shoulder with the late Redmond A. Simonsen (RAS), SPI's Art Director. Our pages were laid out on illustration board using rubber cement and x-acto knives. Color was limited. Although the technology lacked the flexibility of the digital graphics of today, our goals as graphic designers haven't changed.

By Kevin Zucker with Dave Demko

Redmond held that a wargame was a "paper time machine" where the different parts work together to create the effect of simulating events with a specified level of detail and focus.

RAS's emphasis on wargame graphics that fill their role as part of the time machine is often forgotten, in favor of graphics that look spiffy to somebody flipping through the components or looking at blown-up samples on a web site. Sometimes the graphics that seem to please game buyers let down game players, for reasons RAS articulated. But wargames can obviously evoke a strong esthetic response while still being usable.

ELEMENTS OF SYSTEMS DESIGN

Being pretty is not enough. While *The Last Success* was in playtesting, it went through a complete graphic systems design. We wanted the maps, counters, charts, and rules to work together and compliment each other as a system. If Redmond created a hierarchy of components, it might look like the following:

1. The Game Box. *"You can't tell a book by its cover, but you can and do sell a book by its cover." —RAS*

The cover is generally the first thing anybody will see. Marketing geniuses realize that the cover comes to stand-in for the product itself in many people's minds.

2. The Counters. We spend hours looking at the map, but our actions involve the counters: deciding where to place them, how to move them, creating columns, lines, reserves, *et al.* Counters must provide more information at a glance than even the map *(see more on Counters, below).*

3. The Map. Players will look at and study the map for the entire duration of the game, for hours on end, so it must be easy on the eye. The maps for *LNB* were designed to lead the eye to important places. A map should jump out and say, *"play me!"* The first exposure to the game may be a *kibitzer* who happens to stop by when two people are playing. In this case the map becomes the first thing he sees, even before the cover. The map is a better selling point, but the absolute best is seeing two players engaged in a tense contest of wills. It's easy to sell a game if it's fun *(see "Maps," below).*

4. The Tables. In terms of handling priority, players will consult the Sequence of Play and the Terrain Effects on Movement the most, followed by the Combat Results Tables and the Terrain Effects on Combat. The Turn Record will be consulted each turn, but the Weather Effects only rarely. The Casualty Tracks and the Reorganization Displays will grow in importance from turn to turn.

If Looks Could Kill Dept.

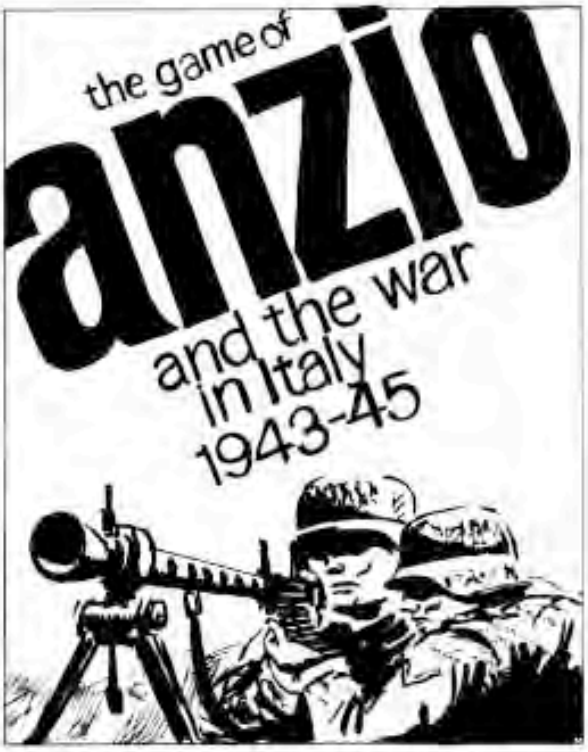
Redmond Simonsen, a graduate of Cooper Union and an artist and illustrator by profession, has done some recent work on Avalon Hill game packaging. He did not, obviously, have anything to do with ANZIO's.

There's one thing every wargamer can do to improve the box-cover art on his copy of ANZIO: spray it with three or four coats of white paint and do it over. Don't let the fact that you may not be a professional artist stop you – it didn't stop Avalon Hill. One of the sure things in life, along with death and taxes, is the sheer mind-bending awfulness of the box-art in question. Avalon Hill has graced its packages with losing designs before this (e.g., BLITZ, Battle of the Bulge! but without a doubt this latest abortion is a shining triumph of vulgarity without peer.

Not only are the colors ghastly, the design crude and the treatment heavy-handed but the "concept" is so irrelevant as to be laughable. Whatever possessed AH to use Mussolini as the primary image will forever be beyond our understanding. (Historical Aside to Avalon Hill: Mussolini was out of power almost two months before the Allies invaded.)

Of course you can't tell a game by its cover, but you can and do sell a game by its cover. AH will never know the full sales potential of this not-so-bad game because its package will be such a negative influence. Accompanying this article is a rough sketch of an alternate cover for ANZIO. It is simply an "off-the-top-of-my-head" idea. But the elements of impact and clean design are there. Wouldn't you rather look at that than at the original ANZIO cover everytime you take the game out to play? Wouldn't someone new to wargaming rather buy a game that looks like that as opposed to one with a sloppy portrait of Mussolini inanely conforming to a dubious map of Italy? Really!

Avalon Hill's box cover for their ANZIO game. They won't admit who did it...



Proposed alternative box cover design for Avalon Hill's game of ANZIO (finished design would be in color, the above is only a preliminary sketch).

Alas, once one opens the horrible box all his visual trials are not over! The mapboard has to have been drawn with only one possible implement: a banana dipped in diesel oil. French curves, mapping pens and draftsmen's tapes do exist Avalon Hill! Really! Other hints: select your map and counter colors in a room with the lights on so you'll be able to see that distinguishably different colors are possible with four-color process. Also, when you say "terrain changes never coincide with hex-sides" let your mapmaker in on it.

Of course, the OA cards are visual delights and models of graphic organization (Ho Ho!). After several thousand years of reading left-to-right, Western Man is presented with the ANZIO TRC cleverly designed to read right-to-left just to keep us on our toes – and what history fan wouldn't be charmed by the backward swastikas on said TRC.

We don't actually expect The Avalon Hill Company to commission Andrew Wyeth to execute their box-art or employ professional cartographers for their map-work. We just expect a little sensitivity, a little common-sense organization and a little taste.

5. The Rules Folders. Necessarily, the rules will be consulted prior to play and during play until the game is mastered. OSG put a lot of effort into the "Simonized" rules *(see "Game Folders," below).* Folks will also spend a lot of time with the scenario information. We have tried to present this in the most useful form. We like to supplement the game components with a pdf, available online for free download, that uses unit pictures to illustrate the set-ups.

6. Finally, the **Playing Cards** are consulted every turn for a moment of quick reference.

The components of *LNB* were designed to fit together harmoniously, so that they can be used without getting in the way (the "fiddle factor"). The less you notice them, the better they're doing their job.

The great Ardennes expert Danny Parker once wrote, quoting a Buddhist sutra, "Do each thing so that no trace of the self remains." Well, that is the goal. As Redmond himself put it, "The better the graphic design, the more likely it will *not be noticed.* Since, in game design, the overriding mission of the graphic designer is to communicate the substance of the game to the user, heavy-handed or flashy images that call attention to themselves (rather than their message) are actually detrimental."

With that as our prime directive, then, our physical systems designers went about to create a product that—we hope—would gain Redmond's (perhaps stinting) approval.

I. THE GAME BOX

The Front cover illustrations set the tone for everything that follows. On the box back, it is probably best when possible to include a picture of the game components. However, given our production lead times, this is not possible for OSG as the box goes into production first. Instead, we simply list the components and illustrate with a theater map to show where our battles took place and how they relate to the overall course of the war.

II. THE COUNTERS

Colors have their own symbolism. There are those who believe that the color of the counter should reflect the uniform color. Probably everyone's uniforms were brown after a few weeks on campaign.

Exact uniform colors could confuse the players. French cavalry could be blue, green, or red; Prussians white, orange, blue, green or red. The French and Prussian infantry uniforms were almost exactly the same!

HEIRARCHY OF INFORMATION
Given the limits of the process, the graphic designer must strive to produce the most useful counter image. Counters should be designed with an information hierarchy in mind. This is simply a categorization of items to be displayed on the counter according to their relative importance:
1. Who owns the counter?
2. What type of counter is it?
3. What is the primary value(s) of the counter?
4. What historical or functional information not included in the above categories is necessary for the play of the game?
5. What historical information not included in the categories above is desirable to display on the counter even though the information is not functionally necessary?

Another basic question that the designer must answer is: what is the information load of the counter and is it appropriate to the game system? Traditionally, the designer attempts to put as much useful information as possible on the counter face. —*RAS*

Redmond's ideas are utilitarian and they work. RAS was the first writer on graphic design

in wargaming *(If Looks Could Kill).* He wrote the first practical manual for wargame graphics. His principles are capable of unlimited permutation. On the other hand, Redmond had his own personal style, a signature of his personality, tending toward asceticism. One can apply the above principles without imitating Redmond's style. The *TLNB* style is about half-way between the spare style of RAS and fully-fledged uniform style, complete with pelisse and buttons.

The *TLNB* counters include 14 different data points, starting with number 1 in the list above. They have reached a maximum where trying to include anything else would reduce their utility and might cause difficulties for the player.

Let's compare the counters in two quadrigames, *Napoleon at War (SPI, 1975, left)* and *The Last Success (center).* RAS's minimalist counters contain five pieces of data each, four of which are necessary for play: ownership/ nationality, unit type, combat strength, and movement allowance. The designation is strictly informational. The information hierarchy is three tiers deep: First comes ownership/ nationality, shown by color. Next come type, strength, and MA at pretty much the same level of prominence. The designation, at the bottom of the hierarchy, is in small type. Each counter uses only black plus one color.

The *TLNB* counters are colorful and more highly decorated. But the colors are functional, showing ownership/nationality and higher formation, while the Initiative box color indicates the battle the counter belongs in. On the leader counters *(above right),* color shows side/nationality, command/formation, and whether the leader is a Commander. The combat units and vedettes have the following data: side/nationality, unit name, size and type, combat strength, movement allowance, initiative, higher formation, division (sometimes), number of vedettes (if any), unit leader's name, and size/echelon. All of this information is necessary for play except for size/echelon and unit leader's name. Higher formation is shown twice, by the colored stripe and by letters or numbers in the designation; the stripe is higher up the information hierarchy and easier to scan for. The backs of units and leaders either show the same kinds of information or show side/nationality only. What Edward Tufte calls the data:ink ratio on these counters is very high. Almost all of the ink conveys necessary or at least historically interesting data. The only decorative ink is in the national flag symbols and the leader portraits and both of these help with identification.

The information hierarchy begins with ownership/nationality first. Formation, unit type, and ratings are the second tier, and then everything else. We need to know the first-tier info every time we use a unit, while division membership matters only for stacking. The most prominent features on the counters are the ones we need to scan for and use most often.

The markers have more decoration and a lower data-ink ratio, since each provides only one piece of data (front and back).

So the more-densely packed *TLNB* counters actually adhere to Redmond‘s principles: 1) Use colors, typography, and symbols to convey information. 2) Follow an information hierarchy that conforms to how the players use that information during play. 3) Include decoration for historical flavor so long as it doesn't interfere with the data's clarity.

While the counters from these two games are extremely different in density of information, both actualize RAS's design guidelines. The visual representation of the multinational, polyglot composition of Napoleon's troops at Abensberg is not strictly necessary for play, but effective in conveying a bit of history. For reasons of playability, however, we would not sacrifice a necessary element for something merely cool.

The Last Success has one Guard cavalry brigade that has vedettes from France and Poland. Perhaps that was working against the prime directive. Since it is only one brigade, though, it will not take up too much mental space, and passes into the “kind of cool” category.

It all comes down to the prime directive: Don't leave any doubt about the provenance of a unit. If you do that, most gamers will not persevere. There are many games that people admire but do not play.

MAPS

Here is a checklist that Redmond wrote—in his inimitable style—reminding the graphic designer to show the reinforcement entry hexes, and maintain the hierarchy of importance (so that the most important terrain is the most visible).

REDMOND ON MAPS

1. Can the basic set-up be printed on the map using unit-pictures or codes?
2. Can the victory conditions be expressed on the map by coding the cities or sites that may be the objectives?
3. Would it be useful to code entry and exit hexes or reinforcement sites?
4. Are there any seasonal/weather changes that can be displayed on the map without interfering with the basic terrain?
5. Are there any rules, other than victory conditions, that make some terrain feature or site important enough to warrant a graphic emphasis?
6. If the game involves the production of units, are there any values or devices that can be built into the map to aid the player?
7. If the sketch map indicates more than one terrain feature in a hex, which takes precedence (and can the map be rationalized so that there is only one feature per hex)?
8. Are there any superfluous terrain features on the map or are there any redundant features that can be eliminated to clarify the actual, operative terrain analysis?
9. What are the effects of the various features? Is there a natural hierarchy that can be expressed graphically?
10. Are there any games in print which use a similar or identical terrain system? How well does that prior system serve the present need?

One thing Redmond fought against was decoration for its own sake, and we have upheld this principle as well in *The Library of Napoleonic Battles:* form follows function.

Is there a natural hierarchy that can be expressed graphically? The maps lead your eye to the important places. Roads and rivers stand out from across the room. You learn about the strategy of the campaign even by a quick glance at the map. Having a hierarchy of terrain means that the important points shine out, not an overall sameness.

MAP SYMBOLOGY

The graphic designer must make the proper choice of colors and symbology to create a map which will have high utility for the player and yet be pleasing to the eye.

The graphic designer has available to him a range of choices as to how to convey a given type of terrain or map element. These divide into categories which I'll now list in order of their recognition value (i.e., the ease with which the average person senses the presence and meaning of the graphic element).

1. Color and tone
2. Shape and pattern
3. Symbol
4. Typography and outline
5. Position

What this means is that those elements most essential to the interpretation of the map should be represented by change of field color—since humans with normal eyesight most easily recognize differences in color.

There are limits to the application of color. *The more colorful a map is the harder it is to read in an overall sense: the patchwork quilt of a multi-colored map can be confusing to the eye and tiresome to look at for long periods of time.*—RAS

This is an important principle of Redmond's design style that cannot be overstated.

Pure, bright or very strong colors have loud, unbearable effects when they stand unrelieved over large areas adjacent to each other, but extraordinary effect can be achieved when they are used sparingly on or between muted

background tones.

"I've chosen to print almost all SPI maps on a paper-color called Sandstone—this color automatically harmonizes the ink colors printed on it and also reduces the glare problem. Incidentally, it's a basic principle of mine that no map should ever have a white field. The most common mistake in the use of color on wargame maps is to make the colors too harsh and bright and to surround them with large expanses of white paper."—RAS

The similarities between the maps in *The Last Success* and *Napoleon's Last Battles* are striking. The NLB maps are good-looking and functional, and the same goes for the TLS maps. Our three maps for *The Last Success,* large and subdued, emphasize the roads, cities, and rivers. The counters stand out as spots of color. When your eye takes in the whole map with deployed units, it's easy to see the current shape of the campaign.

Looking back over the list of OSG games, the only problem I can recall are the *swash* font for town names in *1806: Rossbach Avenged.* Compare that with the typographic and cartographic correctness of the town names in *The Habit of Victory*—Roman type has greater legibility. The easiest font to read on any related map might be the font used for the *Struggle of Nations* map.

When it comes to harmonizing the colors on a game map, we have to understand the way our eyes and brain interpret color information. Our eyes evolved to work well in the natural environment with blue, green, and earth tones perceived as harmonious. We do not use red to depict woods (unless in October). Our eyes grow tired of looking at maps with a lot of red on them. The Human eye evolved in nature, and is designed to see the colors of nature best; seeing too much red creates stress. We use the actual colors of nature to represent natural terrain. Our colors automatically harmonize the map.

If we use the colors provided by nature to depict natural phenomena, the maps will automatically be easy on the eye, and in addition the coloring will immediately inform us of what type of terrain we are looking at. There will be no need for a terrain key (except for the color blind).

Edward Tufte says about this: "What palette of colors should we choose to represent and illuminate information? A grand strategy is to use colors found in nature, especially those on the lighter side, such as blues, yellows, and grays of sky and shadow. Nature's colors are familiar and coherent, possessing a widely accepted harmony to the human eye—and their source has a certain definitive authority."

We should strive to make our maps appear similar to how the earth looks from a few thousand feet above the ground, in a simplified way that clarifies the terrain relationships.

One aspect of map design that Redmond doesn't speak about, a very deep discussion, more an art than a science, is how you translate a normal topographic map into a hex map. This means you have to reduce 360° of reality down to ***one*** hex type and ***six*** hexside types per location. As you can imagine, such a reduction entails a huge amount of abstraction.

If you take a walk on a Napoleonic battlefield, no matter how hard you look, you cannot tell the exact line where a forest starts. There are no lines in nature. Yet we have only lines and colors to depict it. There is no rule for this; it requires judgment, and understanding of the effects of terrain.

For instance, the effect of woods was different for Prussian troops than it was for the French in 1806. The Prussians fought in the open and when they entered the woods, their unit cohesion was gone. The French were trained to move through the woods with ease. For *1806 Rossbach* we tried making woods a hexside type rather than a hex terrain.

We applied these processes to all aspects of *LNB*. The art direction is intended to be evocative of Napoleonic warfare. The rules and

charts are not cluttered with secondary or tertiary little bits with everything just "thrown in" and covered by a die roll. There is a strong focus. Everything flows together into a coherent narrative/whole.

One objection to *LNB* maps is the use of dotted lines to render the trails. No one has yet developed a simple graphic that gives the feel of tracks from 10,000 feet. You have to capture the thin strands of parallel wagon ruts, which sometimes come together and sometimes go awry. If lots of wagons cut the intersections then you see them becoming a big mess—the effect you might get with a stretched-out piece of steel-wool, inked, and stamped onto the map. In a case like that, using a dotted line is simpler. This is an aspect of design that is still evolving.

The period feel of old maps can also convey a sense of the era. When the first color maps started to be produced in the early 20th century, their use of color was very schematic: a blob of green for the woods, brown hash-marks for the escarpment. It may not evoke woods, but it does evoke the research materials we consulted. Simplification is a necessary part of development.

IV. THE PLAYER AIDS

Here there is plenty of room for improvement. Mark Hinkle showed us how with *Sun of Austerlitz*. In *The Last Success* the Turn Record Cards are o.k., but the Initial Set-ups needed more work. With Napoleon at Leipzig we added GIANT page numbers at the bottom and coat of arms to each one for distinctiveness.

V. THE RULES FOLDERS

When I first came to work at SPI in the mid-70's there was a sign hanging on the wall of my office. It was put there by my predecessor as Managing Editor. It comes from Antoine de Saint-Exupery: *"A writer knows he has achieved perfection not when there is nothing left to add, but when there is nothing left to take away."*

Following this dictum, we reworked the rules to reduce them to the minimum. Each rule is honed-down so that there is nothing left to take away. Unavoidably players may have to read and re-read some rules many times, and brevity is the key to clarity.

We spent most of a year working on the Standard Rules Folder for this entire Library of Battles, working the rules over more than most wargames can afford, so that we would have one and only one fairly-set booklet for the whole series.

We were lucky to have Mark Simonitch put his hand to the rules folder, adding illustrations to clarify special aspects of the game, re-writing certain passages and reorganizing the entire booklet. Mark gave his approval: "After deciphering the rules I began to like the system—the combat system and table is especially good." That is high praise considering the source. The Combat table is similar to the original, although we have added new bombardment and cavalry charge tables. Overall, the combat system with its many "retreat" results (now up to Dr4) allows for the kind of back-and-forth, seesaw battles that typified Napoleonic warfare. One big change to the Combat Results Table is a new results category called "Shock," an idea we stole from Mark's game *Ardennes '44*.

The Historical narratives included with each game in *The Library of Napoleonic Battles* provide the political background, a description of the armies and their leaders, the approach to battle, and the fighting on the day of battle. This fulfills several functions:

1. It explains the importance of each battle, what each side was trying to achieve and what was known of the enemy prior to the battles.
2. It provides the information from which our games were derived, our understanding of the situation and the results of our research.
3. It helps the player understand the game better, to make sense of sometimes obscure rules and to help him answer any questions about the rules and set-ups (and that saves us the staff time of answering questions).
4. It immerses the players into the situation, providing them with the motivation to get their forces moving in the right direction.
5. It provides the basis for solitaire study of the situation.

VI. THE CARDS

We introduced cards to provide the special kind of uncertainty that is a signature theme of Napoleonic military history. The lack of knowledge about the enemy's whereabouts was a key element in the unfolding of every Napoleonic campaign. Sometimes information you relied upon turned out to be false. Napoleon evolved his *Batallion Carée* formation so that he could maneuver without having to know the enemy's exact location. This formation gave him a decided advantage over his opponents with their linear formations, vulnerable to flank attacks.
You may plan your strategy around an Alternate Reinforcement card in your hand, not anticipating that your opponent has the rare "cancel" or "delay" card.

The cards provide more than a hidden reinforcement schedule. They present small rules that do not have to be remembered. Many cards in *TLNB* allow you to break the normal rules of the game.

Graphically, the *TLNB* cards have the following elements:

1. The Front face, indicating the player/ ownership.
2. The Card Title and Card Number
3. Illustration (if any)
4. Card Type and Icon
5. Movement Allowance
6. VPs gained or lost for play
7. Quantity in Deck
8. The Text of the Instructions
9. Footer, including unique i.d.

In effect, the cards are special rules taken out of the rules folder. The information—Movement, Victory, and Event—are all related to create a vivid picture of a special occurrence.

CONCLUSION

We have enjoyed a lifetime of practice to evolve our techniques in Graphic Systems Design to insure that *The Last Success* and the other *Library of Napoleonic Battles* games will be played for many years to come.

UNDERSTANDING SYSTEMS

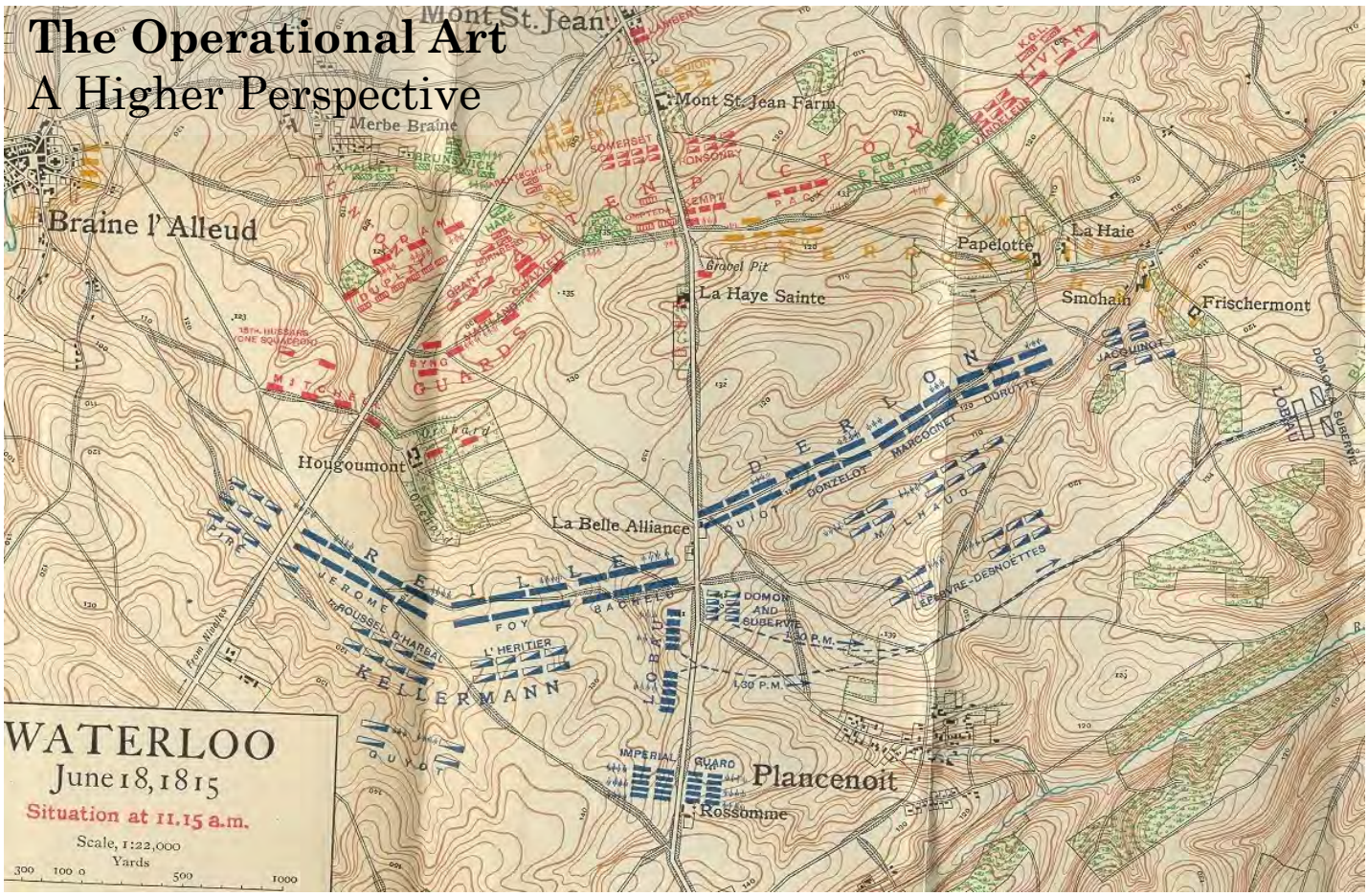
This idea of holism is inherent in the concept of a "system." A collection of great new ideas is NOT a system!

A system is a collection of guiding principles, concepts, rules, and components that interact to function purposefully as a whole.

A working game IS a system, even if the interrelationship of elements is not immediately apparent upon reading the rules, but in fact may take several playings to fully comprehend.

A Holistic approach supplies the critical factor in game design. When crafting a rule, that rule must fit within the overall design. In this way, players feel the limits of the entire system. A good designer constantly guards against allowing ideas to grow without bounds, and when that "design limit" is reached, he will take a walk "in the woods," to see the overall effect to be achieved, and then come back and consolidate the game's parts and combine rules accordingly.

The Operational Art
A Higher Perspective



The Operational Level is midway between Strategy (the overall war aims of a nation) and Tactics (action on the battlefield). Operations includes everything the leaders on both sides did to achieve their nation's strategic goals. The goal of operations in the Napoleonic era was to achieve a preponderance of force on the chosen battlefield and to insure the battle occurred most advantageously. Napoleon was predominantly the master of the operational art, and it was at this level that most of his victories were ensured —Napoleongames.com.[1]

An 18th century general only had to decide where to move the army so as to force a battle (or avoid one), and how to deploy and engage on the battlefield. By blending the strategic and the tactical levels, Napoleon developed a new, operational, field of action.[2] It was only with the dawning of the operational method that the tactical and strategic levels came to be seen as separate.[3]

By carefully selecting the map scale and drawing the boundaries of the game map tight to

1 Jomini, states in *Precis de'l art de la guerre* that "Strategy is the art of making war upon the map, and comprehends the whole theater of operations. Grand Tactics is the art of posting troops upon the battlefield according to the accidents of the ground, of bringing them into action, and the art of fighting upon the ground."

2 The term "operational art" was coined by Soviet theorists prior to WWII. Wikipedia says, "During the 18th and early 19th centuries, a synonymous term of grand tactics was often applied to describe manoeuvring of troops not tactically engaged."

3 Claus Telp has written, "An awareness that warfare in this period was waged on two levels, the tactical and the strategic level, was not to be found in Frederick's or anybody else's works." *The Evolution of Operational Art, 1740-1813: From Frederick the Great to Napoleon.* However, within a generation, this situation had changed. As Telp notes in his conclusion, "The key feature of the change in warfare was the fluent transition from a campaign manoeuvre to a battlefield manoeuvre as divisions, and later corps, arrived on the battlefield from different directions and joined combat as independent tactical formations. Thus, the dividing line between strategy and tactics became blurred, creating a strategic-tactical continuum which suggests the introduction of the operational level in the analysis of warfare of this period. Contemporaries were by no means oblivious to the merging of the strategic and the tactical levels. Guibert, Bülow and Napoleon alluded to this feature of warfare in their time.

the shoulder of the farthest man on each flank, most Napoleonic wargames prevent the player from altering the approach to battle. They present the player with just one direction to go in—directly at the opponent across the board. That might be o.k. for medieval battles, or any set-piece affair, in the style of chess or football. But Napoleon was able to break out of the box that blinded his early opponents. Whenever possible he attempted to ensure the arrival of a large force timed to enter on the enemy flank during the course of the battle.

Napoleon's real genius was in the operational art of war, arranging the circumstances so he could meet the enemy with superior numbers at the decisive place and time, on a battlefield of his own choosing.

This dimension, that has gone unexplored in most (if not all) Napoleonic battle games, happens to be the key to understanding Napoleon's methods. By giving only the historical set-up at the opening salvo, all the hard work that went into strategic planning is handed to the French players. The cardboard Napoleon just has to harvest the victory already prepared by the historical Napoleon. To develop a battlefield situation to your advantage before the first shot is fired requires a skill that marks a first-rate general.

So how is it that we see so many wargames that ignore the operational level, these games that hem-in the two sides and have units lined-up from one map-edge to the other? The reason for this is because the average wargame falls apart if there isn't a solid line of units from edge to edge. These games need that mapedge to prevent the very kind of maneuver that made Napoleon the dangerous opponent he was. These games allow the French player the gift of that strong reinforcement entering on Turn 10, just in time to turn the enemy flank. Players are so accustomed to this sort of wargame that their entire focus is stuck on the one thing that they have some control over: Combat. It is difficult for them, at first, to see the possibilities when a truly operational game comes along.

What allowed Napoleon to maneuver a part of his army separately from the main body was the Corps d'Armee system. Each Corps was a balanced force of all arms that was able to achieve limited objectives and act on its own for 24 hours. In most wargames, the unit designations are for "historical interest only," and the parent formation of a unit does not matter. However, it was because of the Corps system the Emperor was able to easily detach a part of his army on a separate flanking mission.

The flexibility of Napoleon's corps system over the command arrangements normally employed by his coalition foes depended upon the initiative of the senior French officers, selected for their ability to think on their feet, rather than their aristocratic lineage. The advent of leaders like Davout and Marmont within the corps system created a synergistic effect which dominated the battlefield. Without leaders who understood their place in the operational scheme the corps system alone was insufficient to continue the great chain of Napoleonic victories.

Representing the *Corps d'Armee*

The first characteristic of the corps was their concentration. During the design of *Napoleon's Last Battles* I was staring at the map of the Waterloo battlefield, and noticed the nice compact formations of the French corps. Sketching the corps boundaries onto the game map I found that all the French units in a given corps were well within 3 hexes of a central point; in fact, their corps frontages did not exceed 4 hexes. The 3-hex Command Range came out of this observation. I still didn't know the reasons for this but I wanted to see the corps formed into these tight formations instead of stretching out into long lines as would otherwise be the case.

Nonetheless these long lines of units, almost from mapedge to mapedge, still occur in *NLB* campaigns, so clearly there was more than Command Range to be worked out. One rule allowed a player to simply take his units out of command whenever he wished to withdraw from EZOCs. Our first solution was to change that so out of command units could not do *better* than an **Ar**; that was too harsh. Finally, we struck on prohibiting advance after combat for out of command units, and that strikes the right balance.

The second characteristic of Corps was their inclusion of all arms. Having infantry, cavalry and artillery together made the corps better, safer, and stronger than if they just comprised infantry alone. The first rule to address this was the Combined Arms attack. However, for the

most part further differentiation of the three combat arms was necessary so that cavalry would be more than just "faster, weaker infantry." Hence, the cavalry retreat before combat and cavalry charge rule that premiered with *NAL*.

I began to think about the scouting and screening abilities of cavalry, and gradually over many years, over decades, the vedette rules achieved their final shape. As Chris Moeller wrote, "Vedettes first appeared in *The Emperor Returns* (1984) as dummy markers. Their role was the usual one of dummies everywhere: to confuse the enemy about where your real army is. In later games, beginning with *1807: The Eagles Turn East,* the dummies evolved into cavalry vedettes (touted as "smart dummies"), and assumed their mantle as that fabled Napoleonic presence, the cavalry screen.

"In the three games released since *1807 (Napoleon at Bay 3rd Edition, Bonaparte in Italy 2nd Edition,* and *Highway to the Kremlin),* these daring outriders have matured into the true eyes and ears of the army." Their evolution continued through *Four Lost Battles* (the precursor to the *Library* System) where they still had a small combat value. We even experimented with Heavy Cavalry rules but later decided these were too much of a burden on the players, and as they were not necessary for the design intent they were scrapped.

To add more differentiation for the artillery the Bombardment rules were devised. These went through several variations before reaching their final form in *Four Lost Battles*.

Types of Actions

US Army Manual FM 100-5 lays-out 20 different types of offensive actions, and none of these are exclusively modern in application. The ordinary wargame can only represent a handful of these, "Attack," "Deliberate Attack," and a few others. However, we wanted to be able to simulate the full range of actions, otherwise we would be limited to including just the largest and best known battles in our series. In order to meet this challenge, we set out to design a full range of subsystems in addition to movement and combat, Leadership and Command, Demoralization and Reorganzation. Among the subsystems that have been added to the game design since *Napoleon's Last Battles* are Hidden Forces, Repulse, Shock Combat, Bombardment, Cavalry Charges, Vedettes, Baggage and Pontoon Trains, and March Orders.

The "Forms of the Tactical offense" according to FM 100-5 are the following:
• Movement to Contact • Approach March • Search and Attack • Reconnaissance in Force • Meeting Engagement • Attack • Hasty Attack • Deliberate Attack • Spoiling Attack • Counterattack • Raid • Feint • Demonstration • Exploitation • Pursuit • Envelopment • Turning Movement • Infiltration • Frontal Attack • Penetration

An even greater challenge to the designer is presented by situations where one side has to gradually retreat, such as at Vauchamps in 1814.

Cards

Card events help us to create the conditions for some of these (see "Forms of Maneuver"). The cards create unpredictable conditions on the field that mirror the chaos of battle.

Command and Control on the Battlefield

The commanding officer of a formation (general or marshal in charge of a corps) has a suite of officers with him—his general of artillery, of engineers, and his chief of staff, assisted by a dozen or so orderly officers awaiting missions—normally to carry orders to the divisions, brigades or regiments. While the office of the chief of staff is set up in a house further to the rear, these officers are located in open ground within full view of the entire corps (or as much of it as possible). Control erodes when subordinate units move out of view. The officers might be on horseback or on foot, with their mounts ready nearby so that they can arrive at any important point quickly.

Command Range in the game is established as 3 hexes for officers, a distance which could be covered on horseback in 10 minutes. A Corps officer might be able to see some units beyond 3 hexes but getting orders to them in time would be impossible—orders are out of date before they arrive. Anything beyond 3 hexes falls outside the C3 loop so those units are on their own initiative. The C3 Loop for a corps might look something like this [note the duration of the loop is one hour].

C3 LOOP
00:00 order dispatch
00:10 order received
00:15 troops move out (up to 3 hexes)
00:30 enemy contacted
00:45 combat result obtained
00:50 report sent to commanding officer
01:00 report read by commanding officer

In the longer Approach to Battle scenarios and the campaign games, command works differently. A unit doesn't need fresh orders every hour if it is far from the battlefield but it can continue to march each turn under a single march order until it reaches its assigned destination. Similarly in a General Retreat, individual units do not need any orders to follow the mass exodus of their army toward their supply base.

"It is often in the system of campaign that one conceives the system of battle." —Napoleon[4]

Grand Tactics on the Battlefield

David G. Chandler makes an important distinction between Grand Tactics and simply "Tactics."

> We must pass on to consider the Grand Tactics [Napoleon] employed to achieve success at those supremely critical moments of warfare—the hours immediately prior to, during and after giving battle. Grand Tactics in the Napoleonic era comprised the science and art of handling men, horses, and guns during the crucial moves when close contact had been established with the enemy. It was not concerned with the confused and shifting techniques of actual hand-to-hand fighting, for these belong to the realm of tactics.[5]

TLNB follows Chandler's definition of Grand Tactics. Actual matters of tactics were resolved below the scale of TLNB, down at regiment and battalion level, and hence have no place in a brigade-level simulations. From the Grand Tactical perspective it is assumed that the Majors and Colonels in charge understand when to change formation, when and how to maneuver. Although brigades are made up of regiments, a brigade doesn't deploy all at once. The regiments are acting sometimes in concert, sometimes independently as circumstances require. A whole brigade should not really be thought of as being in square, even if all of its constituent regiments are in square at a given moment.

Napoleon learned the techniques that he would later use to gain his signature victories from the textbooks of the time, especially those of Henry Humphrey Evans Lloyd and Jacques Antoine Hippolyte, Comte de Guibert.

> The Welshman Lloyd taught him that battles should be fluid and not rigid, that surprise is the best way to demoralize an enemy and place him at a disadvantage. One idea of Lloyd's is frequently echoed in the *Correspondance:* "A battle is a theatrical piece, with a beginning, a middle and an end." ... Frederick's conduct at Prague was to color much of Napoleon's Grand Tactical thinking, for it inspired him to undertake the task of devising a system of battle that would compel an adversary to break the continuity of his line, and thus expose himself to a fatal blow.

Guibert preached the need to select the correct target for attack with the greatest care, the importance of advancing into battle in a number of small columns for the sake of mobility but of deploying for the actual fight, and the advantages of the compromise *ordre mixte* battle formation over both the *ordre mince* and the *ordre profonde;* all these tactical ideas found an important place in Napoleon's thinking.

Napoleon was trained as an artillery officer and during his wars the destructiveness of artillery on the battlefield increased ten-fold.

"It is necessary to have as much artillery as the enemy. Experience shows that it is necessary to have four guns to every thousand men" —Napoleon

---

[4] *Correspondance,* Vol. XII, No. 10032, p. 230.

[5] This and the following quotes are from David G. Chandler, *The Campaigns of Napoleon,* pp. 178 ff. Note that Chandler's definition of Grand Tactics is substantially different from both Jomini and Wikipedia (see above, FN 1 and 2.)

"Missile weapons are now become the principal ones ... It is with artillery that war is made."

—Napoleon

Napoleon believed in fighting mobile battles and trained his forces to understand the decisive impact of maneuvers on the battlefield—these maneuvers can best be represented at the Grand Tactical level. He believed in the use of shock combat to demoralize the enemy.

> Among the most important of [his ideas] was the concept of the offensive battle—based on the all-out attack—which aims to end the war at one blow. This was indeed Napoleon's strategical as well as his tactical ideal, drawn from the teaching of Frederick the Great, who in turn based his precepts on the practice of the great Persian general Cyrus, who perfected the idea of the maneuver battle. ... Only three times did Napoleon definitely fight defensively—at Leipzig in 1813, and at La Rothière and Arcis the following year—but on each of these occasions he only resorted to such second-rate measures after the dismal failure of an initial attack.
>
> Napoleon was committed throughout his military career to the idea of attacking the enemy, thereby winning the advantages of disorganizing him, unsettling his plans and retaining the initiative throughout. ... Generally speaking, Napoleon's attacks were completely successful only when he stung his adversary into ill-conceived and ill-timed counterattacks.
>
> The enemy must be thrown off balance from the very first moment and thereafter kept off balance. To help achieve this Napoleon adopted the advice of Turpin de Crissé—"It is very important to know the genius, character and talents of the enemy general; it is on this knowledge that one can develop plans..."
>
> He often launched an immediate, though frequently short-term, spoiling attack, aiming thereby to pin the enemy, preclude the possibility of his refusing battle by means of a night withdrawal, and at the same time disrupt the foe's battle formations by involving him in "spoiling" actions with a view to exploiting their disarray the following morning.... Napoleon was from first to last determined to dominate and overawe his opponent, building up a moral superiority which was frequently more useful than mere numerical advantage.

The Emperor always sought to attack the flank and rear of the enemy.

> As in his strategical system, so in his grand tactical formulae did Napoleon place the utmost importance on achieving an envelopment of the enemy. ... The aim of the flank attack, as employed in almost all the Napoleonic battles from the humble Montenotte in 1796 ... to the fully developed concept employed at the battle of Bautzen in 1813, was always to create an opportunity for total victory by disturbing the foe and upsetting his balance and morale.

The difference between a sweeping strategic turning movement and a more limited grand tactical outflanking maneuver.

> There is, however, an important variation to this basic idea of turning the enemy's flank with the aid of an independent force, which Napoleon employed when he was not sufficiently strong to be able to afford troops for this role. This alternative was the tactical outflanking movement. The difference between the two is important, though at first glance apparently insignificant. A "turning" movement could be executed only by a fair-sized force—at least a corps in strength—which as capable of moving into action independently of the main body. Such an attack, properly timed, could lead to the destruction of an enemy if the "turning" force was able to place itself well in the foe's rear athwart his line of retreat. An "outflanking" movement, on the other hand, was productive of less dramatic results.
>
> As Napoleon well knew, everything depended on the correctly timed sequence of initial concentration, appearance of the turning force, crucial bombardment of the key enemy sector, and finally the loosing of the devastating main attack.

Three types of Napoleonic Battle

It is possible to distinguish between three different types of Napoleonic battle ... the battle based on the simple frontal attack, the double battle, and the enveloping or "strategical" battle. There is no doubt that the third was his favorite...

The Frontal Attack

Napoleon was prepared to fight a straightforward [frontal attack] to exploit favorable circumstances. On other occasions, too, a battle of this type was forced on him; Marengo (June 1800) is one notable example. Similarly, at Borodino, because the Grande Armée was to weakened by strategic consumption to permit a full-scale enveloping attack against Kutusov's exposed left flank (or so Napoleon asserted, though Davout was of a different opinion), and because Prince Poniatowski's tactical outflanking move round the Russian left failed to make ground, the Emperor was forced to accept another full-scale battle of attrition. Leipzig in 1813 is another case in point.

The Double Battle

Quatre-Bras and Ligny form another good example of a double battle, closely associated in this case with the strategy of the central position. Lastly, the famous battle of Waterloo should in reality be designated a double battle, although, as at Jena-Auerstadt, this was due to force of circumstances rather than to deliberate design. A better title would be "Waterloo-Wavre," for Grouchy's failure to pin down Blücher in the secondary action at Wavre away to the east of the main battlefield had a most decisive effect on the outcome of the day.

"It is by turning the enemy, by attacking his flank, that battles are won."—Napoleon

The Strategical Battle

The true Strategical Battle… was employed on numerous occasions between 1796 and 1813, and it can be said to provide the real "moment of truth" in Napoleonic warfare. Like his favorite strategical maneuver, his ideal battle centered around the concept of an enveloping attack, designed to shake the enemy's nerve and to induce the weakening of his main battle line at pre-selected, critical point… Envelopment, breakthrough and exploitation formed the main elements of the Napoleonic strategical battle.

Stages of the Strategical Battle

On the report of his cavalry screen that the enemy army was massed in its immediate vicinity, Napoleon would order the nearest major formation (usually a self-contained corps d'armée) to make contact with the enemy and at all costs pin him down in his present location, thus providing a fixed point on which the rest of the French army could concentrate.

Advantages of the Corps d'Armée System

The corps d'armée system, besides permitting this fine degree of maneuverability and adaptation, also permitted a single corps to take on several times its own number of enemy troops for a certain period. For each corps had its own components of infantry, cavalry and guns, and was, in fact, a miniature army.

The nearest supporting corps would be arriving on the scene to reinforce their embattled colleague, and the enemy general would find himself, to his surprise, involved in an escalating battle of attrition against ever-increasing numbers of French troops.

Hidden Forces concealed by Vedettes

All this while, concealed behind a screen of cavalry and unseen by the pre-occupied enemy, the troops of Napoleon's enveloping force would be hurrying toward a designated spot on the enemy's flank or rear. … Napoleon habitually gave command of this crucial operation to his most trusted subordinate, for everything depended on the arrival of these troops at exactly the right place at the right moment if the effect of its intervention was to be decisive.

Timing of the Flank Attack

Now came the critical problem of judging the correct moment for the enveloping force to reveal its disconcerting position on the enemy flank. [Napoleon] had to judge the moment when all enemy troops were indeed committed to the frontal battle.

Then the *attaque debordant* would spring to life. A roar of cannon away on his hitherto secure flank would cause the enemy general to look apprehensively over his shoulder, and before long the spyglasses of his anxious staff would be able to detect a line of dust and smoke crawling ever nearer from the flank or rear. … Napoleon would of course launch a general frontal attack against all sectors of the enemy line to coincide with the unmasking of his flanking force and thus pin the foe still tighter to the ground he was holding; or he would be compelled to find troops from somewhere to form a new line at right angles to his main position to face the new onslaught and protect his flank. As all reserves were (ideally) already committed to battle, this could be easily and quickly effected only by deliberately weakening those frontal sectors closest to the new threat. This thinning out of the enemy front is what Napoleon termed "the Event."

The Evenement: Attack Upon the Hinge

The second act of the battle drama, the decisive attack, now began to unfold. Its aim was to launch a surprise attack with fresh troops against the newly weakened "hinge" of the enemy's hairpin battle line in such strength as to ensure a breakthrough and the rupture of the enemy army into two disconnected parts.

The moment having arrived, the hounds were slipped from the leash. "At his signal the massed batteries of the Guard Reserve dashed to the front at a gallop, unlimbered within 500 yards of the enemy, and proceeded to tear with extreme rapidity a hole in the opposing battle formation with case shot."

If all went well the enemy line would quickly crumble and then a fresh reserve of cavalry would be launched against the retreating foe to prevent their reorganization off the battlefield.

The design intent of the TLNB System is to allow players to enact the entire sequence as described by Chandler, or a variation thereof, so that a historical progression of battle is possible.

One important feature of ***The Library of Napoleonic Battles*** (TLNB) that allows us to "zoom-out" is the choice of scenarios offered. You can select the ***Day of Battle*** (DoB) scenario, which is where most wargames start out; or you can play the ***Approach to Battle*** (AtB) scenario that usually begins with the troops in their positions about 24 hours earlier. Here you see the armies as they march into contact. What is so interesting about the transition from maneuver to battle? Napoleon combined strategic and tactical moves into one seamless whole, so we want our games to afford players the chance to discover how this actually worked — hence the Approach to Battle scenarios.

Napoleon won on the day of battle because of what he did before the engagement, not because of tactics or superior weaponry, but because of how he carefully arranged in advance for the battle to occur. He employed his forces operationally, and then selected the place for his dispersed army to unite and achieve a decisive local superiority.

The Day of Battle represents the opening of the battle as it transpired historically. The opposing armies are in their historical starting positions with a chess-opening kind of feel. But non-historical alternatives still open up. [6]

The AtB scenario, on the other hand, gives you a much broader picture of what the opposing armies were trying to do. You are not locked-in to the historical deployment—you have the freedom to try to fight the battle your own way. The AtB gives you the freedom to try your own strategies and to ask "what if?" That question "what if?" is one of the reasons for the great appeal of wargames: *not* to find out what happened in these battles—you can read about that in a book—but to find out what *could* have happened. The AtB allows us to find out what could have happened, and to ask "what if?"

With a DoB scenario you're in a situation where you see the combat develop based more or less on the same strategies that the historical commanders employed. To use a musical analogy, in DoB the orchestra is already seated with the sheet music arranged on their music stands, and the conductor has just mounted the podium. Conversely, in an AtB scenario only part of the orchestra is even on stage, the producer may not even have decided what piece they'll be performing that evening, and the conductor may not yet be in the theate. In essence, DoB is simply a performance piece (e.g. can you recreate Napoleon's victory at Austerlitz?), while AtB gets to the very heart of the "Operational Art" (e.g. how do you lure a numerically superior enemy into a situation where you don't just win the battle but decisively crush him and force an end to the war?).

In the AtB you are trying to come up with a completely different plan of maneuver which might achieve a better result. When you play a DoB scenario of Austerlitz you see why the Pratzen Heights and Sokolnitz Castle were key features that the combatants fought over so ferociously. But when you play an AtB scenario you have the option of seeing if some other terrain feature elsewhere might have impacted the course of the battle in a different way: what if Napoleon had defended forward, deploying on the Pratzen plateau itself, rather than pulling back to lure the Coalition forces into a trap? With a DoB scenario you have no way of knowing how those alternate strategies might have worked out.

The flip side, of course, is that your "Battle of Austerlitz" in an AtB scenario might not resemble the actual engagement at all. A purist would argue that this AtB Austerlitz teaches the players nothing about the history of the battle, gives them no real insights into how the forces and terrain interacted. And there's some validity to that contention. How can you call it a game about Austerlitz when the battle might well occur nowhere near the actual battlefield?

[6] The physical size of a game correlates directly with the breadth of its narrative possibilties. For example, *Napoleon at Waterloo* and the Quatre Bras folio from *NLB* have fewer units and less elbow room than, say, the Eylau DoB scenario from *The Coming Storm*, a scenario that yields non-trivial choices among courses of action even through it starts with most of the deployed forces ready to lock horns.

These two types of scenarios give players different insights into history. One is more about "how" and the other about "why." Which of those approaches you prefer is subjective and depends on personal preference.

TLNB is intended to show Napoleonic warfare without scripting or straight-jacketing rules. The DoB scenarios start with forces in position and the fighting about to begin—this is, of course, the exciting part. But the AtB scenarios allow players to wonder what would happen if they, as the commanders, could make changes to that situation prior to the battle but within the historical context. The players get to make some of the same operational decisions their counterparts did before the armies clash next day, providing an opportunity to simulate and experiment with how the forces arrive and deploy.

Some might think "Gee, no fighting. Looks pretty boring." But there is tension as the two sides decide where to engage and with what force—a kind of deadly dance with both antagonists trying to lead, switching partners and tempo as the emerging *pas-de-deux* dictates. The AtB scenarios and associated mini-campaigns give players greater appreciation for the challenges faced by the commanders than the more straight forward DoB scenarios: akin to comparing the view through a picture window versus peeking at a keyhole.

For example, at Jena, the AtB scenario allows the Prussian player the (somewhat risky) opportunity to attempt to throw Lannes's isolated V Corps back across the Saale, possibly destroying a large part of his corps in the process; or, more prudently, the Prussian player can try to squeeze space near Jena to hamper deployment of French troops on battlefield, gaining time to crush Davout. But in the DoB scenario, which begins a day later, that opportunity had evaporated because the rest of the French army has already concentrated in the vicinity of Jena.

The approach phase of a battle lets players see how battles develop, giving them first-hand experience in shaping the parameters of the engagement. They get to see what prevented Barclay, at Leipzig, from pitching into Napoleon's flank while he was still lining up all the constituent parts of his army just so; to appreciate what determined the length of an army's front line, or why a particular piece of ground was chosen. Players make those same early decisions about deployment and routes of approach, shaping what the battlefield will look like and how the battle will unfold – perhaps along historical lines, perhaps not.

At the same time, AtB scenarios are not wild "free play" situations—there are limits to how much a player can accomplish in terms of maneuver. Even so, there's still plenty of decision-making to do, for better or worse. You get a much more complete picture than ever before.

AtB scenarios call for a different set of skills than DoB. You have to figure out what your opponent is likely to do, and figure out the best way to counter that while still affording yourself the flexibility to react in case he does something different. Will you be taking the offense or will you play defensively? You will need your own plan of battle. What are the critical avenues for advance? Where are the strongholds? What reinforcements can you expect, and when and from where are they most likely to arrive? What information can you get from your vedettes and light cavalry, and how can you deny that same information to your opponent.

With the fog of war and the uncertainty that the cards may bring, you face the frustrations of trying to command an army and get them into a position to gain advantage once battle is joined.

The AtB is your window of opportunity to gain such a position, for once battle has begun (as is the case in most DoB scenarios), such maneuver is typically not an option. You will need to...

- **Use your Vedettes Skillfully**

Vedettes simultaneously perform two critical functions: conducting reconnaissance to discover where your opponent is and what he is attempting to do, and covering your own forces to prevent the enemy from gaining the same information about you. How effectively you employ your vedettes will in many ways determine the shape of the upcoming battle. Interspersing the occasional light cavalry brigade into your screen to gain advantage in the vedette skirmishing can be invaluable, but it also means that you may not have that unit available to support the fighting along the main line (costing yourself a combined arms bonus at a key moment).

• **Coordinate the Movements of the Separate Parts of your Army**

The successful commander does more than just rush all his troops into action. He carefully coordinates their movement, using parallel routes of approach to avoid traffic jams while keeping all his forces within mutual supporting distance. He also strives to have friendly forces available to converge at the decisive points on the field from different directions in an effort to keep his opponent off-balance. Executed correctly these measures achieve a synergistic effect and are the absolute foundation of a successful operation.

• **Select the Battlefield**

Choose a position that is not too large in extent for your force. If you are outnumbered by the enemy you will need a defensive position that cannot be easily outflanked, with plenty of room to the rear, clear of heavy woods, rivers or other obstacles. There should be defensible features such as ridgelines, towns, chateaux, etc. The best position is of no use if the enemy is close by.

• **Deploy on the Battlefield**

Decide whether you will maintain advance strong points in front of your main line. Do you want to deploy cavalry on your flanks to protect yourself and threaten the enemy's flanks, maintain it in readiness to react to enemy moves, or use it in such a way to create the false impression of your intentions? Will you keep a central reserve, and if so where will you deploy it and who will command it? Ensure you position your forces so as to keep everyone both in supply and in command.

Contributors to this article included Lance McMillan, Gene Rodek, Chris Moeller, Aaron Tobul, Dave Demko, Forrest Atterberry, Derek Lang and Jason Roach.

Recovery and Reorganization in TLNB

by Kevin Zucker

In the Library of Napoleonic Battles, Recovery in game terms simply means moving units from one box to another, as a way to insert the Initiative check into the reorganization process. This die roll takes place before Reorganization, which is when you actually put the recovered unit back on the map.

I like having the recovery die roll because it builds unit quality into the reorganization process, using the Initiative Rating, just like any other activity the unit might do on its own.

Units which fail the Recovery die roll can still keep rolling each turn until recovered. Only demoralized units and French minor allies have to roll during the Reorganization step itself. Units that fail the second die roll are PEU—they don't get to keep trying.

What is the difference between recovery and reorganization? Recovery means the men are present, but the unit hasn't been patched back together. Reorganization, on the other hand, means the broken battalions have been amalgamated, re-officered, and re-supplied. Hence it takes an officer Reorganize.

Having the men all present and accounted for, but unorganized, without officers to tell them where to go, counts for nothing in game terms. They need more ammunition, weapons, battlefield promotions, replacements, a rousing speech, musicians, and only the Corps officer can supply these things. That is called "Reorganization."

When a unit is "ordered," this refers to the unit's footprint—battalion, and company formations, in serried ranks, with their officers and flags. If the ranks were not dressed, the disordered unit would be incapable of complex maneuvers. More about unit formations ... http://www.napolun.com/mirror/napoleonistyka.atspace.com/infantry_tactics_4.htm

The Saxons in 1806 were minor allies of the Prussians. One of their brigades (Cerrini) was destroyed at Saalfeld and the survivors went to Jena where they were waiting for supplies and equipment. They hadn't eaten in three days. When a rumor went up that the French were in approaching, panic broke out and the brigade just dissolved. Those men were recovered but not reorganized.

Another example from the Peninsula

Half of Maucune's division escaped over the mountains, throwing away their packs. He regathered his division in Miranda de Ebro.[1] The distance is 51 km. But the division reformed... or at least a brigade of it.

That men throw away 75-lb. packs when trying to run up a hill is obvious, but they will need new packs—at least a cartridge box and a musket—before they can be usable. If they are cavalry, they will need new mounts. Regiments sometimes did try to have spare mounts around while wounded soldiers gave up their mounts to dismounted soldiers.

When men throw away muskets, on the other hand, there is little hope of their return to combat any time soon. This we could say is the primary sign of—not just a demoralized unit— but a unit that is going to fail at Reorganization.

There is no data available to tell us what chances a demoralized unit had of returning to the colors. The only data we have are Corps parade state taken once or twice a month. When you have no data, then you keep trying until you get a number that works.

Another thing to understand is the nature of a unit in this period. You should not think of a Napoleonic regiment the same way you think of a WWII Regiment, for example.

Muskets were very inaccurate and in order to maximize their effect, battalions had to fire and move as one. Anything that knocked the formation out of shape could negate the unit as an entity. That means a unit could cease to exist in game terms while taking only a minor loss, or even just getting jostled by disordered troops.

In war, anything can happen at any time: very *unlike* our games. In war, there are no rules that may not be broken. Any charts and tables we provide are by their very nature inaccurate—by providing results that are too exact.

Now things like Movement Allowances and manpower, you can get hard data on. But for all the "soft" numbers, reading the memoirs of unit commanders is very important. Ultimately the best way to evaluate the reorganization and recovery process is to see whether it works in play.

[1] Digby Smith, 18 June 1813

Another factor in the reorganization complex is the relationship between the front and reverse (reorganized) side of combat units. We chose a reduction of one-third in strength (a range of 29% to 40% for all units above the strength of 2). If we knew there was a difference among units we could have set the reduced strength at a different fraction of tota;l for example, for all "4" initiative units, and a different proportion for "3s," etc.

That might sound like a juicy area for investigation until you start to list the intangibles, including the intensity of the combat in which the unit was lost. Was there artillery or even combined arms being used against the unit? Was it cav.-vs-cav.? You could really go into all the factors, consider the weather (infantry units crumble more during the rain), on and on.

But that would be too heavy a design load on the players. Besides, a very tough unit could have a larger proportion of wounded and killed than a very poor unit, simply because it would stay in contact exposed to casualties, for a longer time.

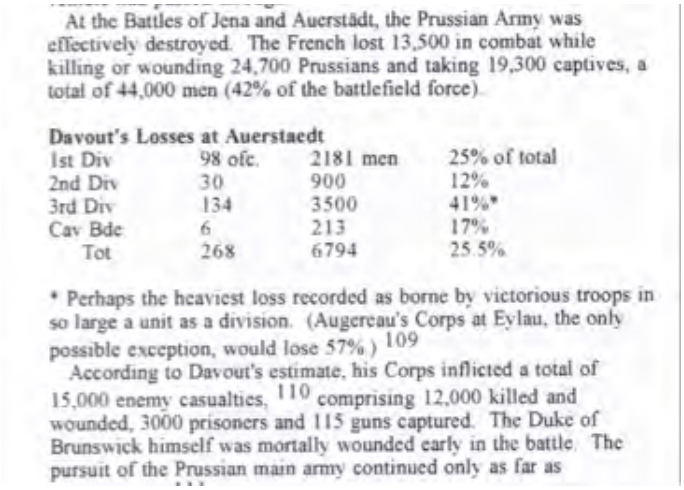
Other Examples

Olsufief's bloodied survivors were still awaiting their reorganization in Bergères the day after Champaubert (on 11 February 1814).

There isn't often data on reorganization, but sometimes we get lucky. The excerpt, above right, is from page 25 of OSG's *1806* Folder (1998).

When Maude says "41% is perhaps the heaviest loss by victorious troops in a unit so large as a division," that leads me to the proportion between 29% and 40%. What is the magic of these proportions?

In the most violent clashes, it is disproportionately the officers and the old guys in front (the "cadre") who take the losses. (At other times it is the conscripts who suffer.) When you approach 50% losses, you can imagine very few of these brave souls still standing.



At the Battles of Jena and Auerstädt, the Prussian Army was effectively destroyed. The French lost 13,500 in combat while killing or wounding 24,700 Prussians and taking 19,300 captives, a total of 44,000 men (42% of the battlefield force).

Davout's Losses at Auerstaedt

1st Div	98 ofc.	2181 men	25% of total
2nd Div	30	900	12%
3rd Div	134	3500	41%*
Cav Bde	6	213	17%
Tot	268	6794	25.5%

* Perhaps the heaviest loss recorded as borne by victorious troops in so large a unit as a division. (Augereau's Corps at Eylau, the only possible exception, would lose 57%) [109]

According to Davout's estimate, his Corps inflicted a total of 15,000 enemy casualties, [110] comprising 12,000 killed and wounded, 3000 prisoners and 115 guns captured. The Duke of Brunswick himself was mortally wounded early in the battle. The pursuit of the Prussian main army continued only as far as

Augereau's VII Corps Losses at Eylau

Augereau's worst-hit regiments were broken up after Eylau; they lost 57%+, in game terms, PEU.VII Corps had 12,561 infantry men at Eylau (all the cavalry was detached). The corps lost 7,286 men (58%), including 2,000 prisoners. Two days after Eylau, the seven regiments mustered 5,275 effectives, plus the intact cavalry and artillery.

14th Line at Eylau

The 14th Line was one of the VII Corps' worst-hit regiments. This unit lost 39 officers wounded or killed—over 60% officer casualties. The 14th Line had 2 battalions at Eylau, with 1,752 men including about 65 officers. I have posited that at 40% losses a unit dissolves (unless it has just won the battle). The 14th Line lost 60% of its officers, many of its units being PEU. Overall, the Corps lost 58% but losses continued to mount as the French pulled back through the winter mud. When these troops were transferred to other regiments on the 4th of March, 24 days after the battle, the 14th Line had only 4 companies—only 1,400 effective infantry, plus stragglers. With its cadre decimated, the regiment was dissolved. This was a rehearsal for 1812.

My idea is that an "elim" will mean 30-40% RIF, not less.

Challenges in Wargame Design
Problems and Solutions

John Thiessen

Many aspects of wargames have become second nature to both players and designers, such as hexes, calculating combat odds, zones of control, movement phases, etc. From time to time efforts emerge to tinker with or modify these standard elements, successful and otherwise. Variations in combat calculations have brought forth an alternative procedure termed the Differential Combat Results Table. Perhaps it was a try at making the math easier, as the differential CRT uses subtraction rather than division. Unfortunately this was one of those tinkerings that is a failure.

The standard way of determining combat, using an odds ratio, makes sense because the opposing forces are compared. A ratio can reflect the degree of strength preponderance one side has compared to the other.

Differential calculations, however, do not compare the forces involved in combat. This is a major flaw since it is important to know the relative size of the attacker and defender. A differential only shows a surplus or deficit after one force's strength is subtracted from another. The differential does not consider the relative strengths of the forces involved. Example: 12 men attack 2 men, and also 10,012 men attack 10,002. In the first case an overwhelming odds is presented whereas in the second case the two forces are almost equal. Yet a differential CRT presents these combats as identical, that is, a +10 differential, because a differential only shows the surplus or deficit, not a comparison of forces involved. Then again, say you have 6 strength points attacking 2, and in another combat you have 12 attacking 4. Both are 3:1 attacks, yet a differential CRT portrays them as completely different: the first at +4 and the second at +8.

Napoleonic era battles are presented in the Napoleonic 20 series by VPG. Here we can see, with the unfortunate use of a differential Combat Results Table, 3 infantry strength points attacking 1 strength point, and nearby 7 attacking 5. A good three to one attack develops in the first case, but about even odds exist in the second case. Yet the differential calculation treats them exactly the same, both situations must use the +2 column on the CRT. Not a good reflection of the combat situations, though an old fashioned odds based table would do that well. OSG's Napoleonic *"Days"* Series has a similar one mile per hex scale, and that series uses an odds based CRT to good effect.

In the game *DMZ*, a hypothetical scenario involving North Korea invading South Korea, a pair of attacks, while both at two to one odds, are treated distinctly differently. For instance, a North Korean corps with a strength of 4 attack 2 strength points, and nearby 20 strength points attack 10. The first combat is placed at +4 column while the second at +10. Both attacks take place at two times the defender strength, yet they are placed at wildly different columns on the combat table.

The distortions made by differential CRTs exist in all games that use it, so the above examples show the same problems that reoccur in any other game using this method.

So, a differential CRT doesn't do what some designers and players think it's doing. Forces are not being compared, only a differential is being presented. The fundamental mistake is believing that a differential is just another way of comparing forces and calculating odds.

Perhaps a differential is thought of as easier to calculate. This may be true, but is also irrelevant in a wargame setting, as combat is an important aspect of historical gaming. Odds calculation was part of wargames from the early days of Avalon Hill and SPI, when games were mass marketed to a wider audience. Calculating odds was accepted then, even when wargames were a new entity.

The solution to the inherently flawed differential CRT? Stop using differential CRTs. If easier math is desired, a game can include a preprinted odds ratio table, similar to what Avalon

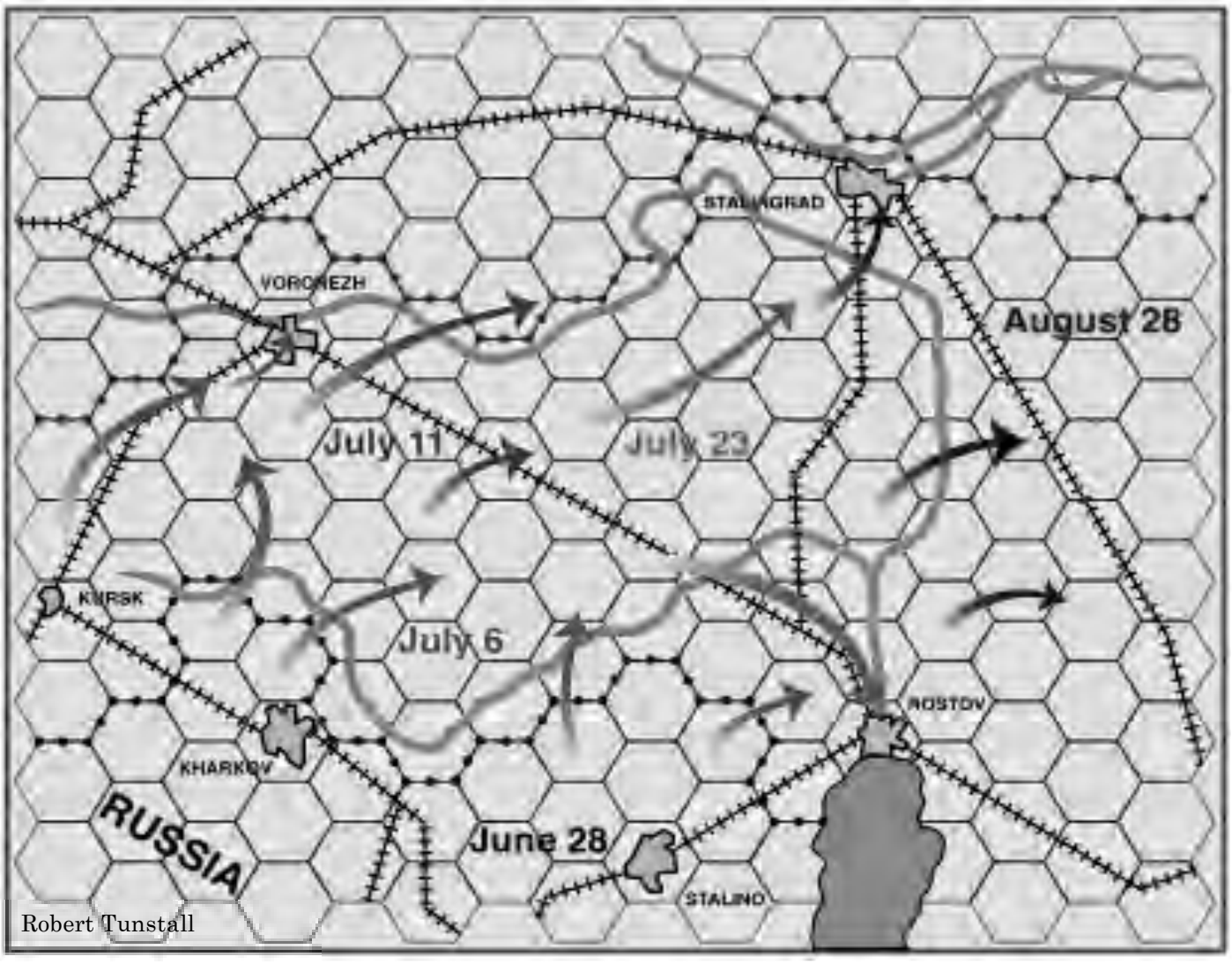
Hill did years ago. On such a table, all the odds are precalculated. Just compare the two forces' numbers and find the result on a matrix. No math is required. Also, small inexpensive calculators are easily available now, unlike in the 1960's when the hobby was beginning.

Part 2: Time Per Turn (TPT)

Certain aspects of wargame design seem to be adequately understood by designers and players, such as orders of battle, maps, and movement rates. There is, however, one area of wargaming that has often been mishandled, and that is time per turn. What this means is the amount of simulated time portrayed in one game turn. For example: an operational level game might have a TPT of one day (one game turn equals one day of historical time).

Like maps and orders of battle, time per turn is a critical part of historical wargames. Yet inappropriate TPT is a big problem, throwing numerous games off track. What should happen is that a game designer takes into account the game scale and subject matter when establishing time per turn. An analysis needs to be made of what was accomplished historically in terms of game turns. The game can then model historical achievements fairly accurately.

A game turn should not portray too much time, and this is the common TPT problem in many games. Unfortunately there are many examples of bad TPT. For example many strategic Ancient era games exist, but so many of them have times per turn that cover twenty, fifty, or a hundred years, thus making them useless as far as any history and realism. Turns covering such time spans cannot portray the activity possible for such subjects. Alexander the Great's conquests took about ten years and the route went



Robert Tunstall

| *Russian Campaign* Game Map

from Macedon, to Egypt, to India, and beyond. Such events need turns of about a year, or even more than one turn per year, given the hex or area scales of many ancient games. *Ancient Conquest II* deals with this period, but at about 20 years per turn. Alexander would not be pleased to be reduced to one battle in all that time. Severely restricted movement and combat does not do justice to the historical situation.

Ancient Conquest I spans 60 years in a turn, even though the hexes are about 20 miles. At this scale even one year per turn would be pushing it, more than one turn per year may be better. A good deal could happen in even one year, but cramming 60 years in a turn makes the game historically meaningless. Ramses' Egyptian force moved from the lower Nile to near Kadesh in the Syria region, where the famous battle was fought, then moved back to Egypt, all in less than a year. To be clear, the problem in *Ancient Conquest* is its TPT, not the welcome simplicity and playability of the game.

Or take another example of poor TPT, a World War Two eastern front game at 16 miles per hex. *Fire in the East* is such a game, and has an incredible TPT of only two turns per month. The scale and subject require around four to eight turns per month. Having only a couple turns per month cannot possibly recreate historical activity. Infantry can only attack twice a month in this case, and that is woefully inadequate. Narratives and maps of operations dealing with this front show that the scope of movement, attacks, and advances in a half month could be more than game turns allow in this title.

SPI's *World War I* has a map of about 55 miles per hex and is a strategic look at WWI, but features an inadequate 6 months per turn. As any player of the game finds out, the movements and counter-movements that happened historically in 1914, in the Balkans, and on the eastern front, are not possible in this game. Yes, the turns in *WWI* allow three combats per turn per side, so that helps, but maneuver still remains hopelessly chopped off at the knees.

The Russian Campaign by Avalon Hill is considered a classic presumably for reasons of nostalgia and the popularity of eastern front WWII games, but game play provides little historical value, mostly due to the bizarre time allotted per turn. At about 34 miles per hex this situation requires two or three turns per month. Yet the games shoves two months' time into one turn. Although two impulses (functioning somewhat like turns) are provided within each turn, they do not allow for the amount of ground that was gained in reality in two months of time. The hexes represented could be advanced over even by infantry units in about two weeks if successful, arguing for a turn representing about a half month. And then there is the question of response by the other side. Waiting two full months before a response by the opponent is too long a time for this scale of operations.

The importance of time allotted to a game turn is shown in the Avalon Hill classic *Third Reich*. Change the turns of this game to one month of historic time, rather than three months as published (keeping Strategic Warfare quarterly), and realistic campaigns are now possible. This game has 60-mile hexes, a scale well-suited for one month turns. The events of France 1940, Norway, France 1944 and the eastern front can be simulated. Infantry type units can move into the Netherlands, Belgium, and France in 1940, counter-move, and have combats on a monthly basis, rather than only once per quarter year. This greatly improves realism and models events much better.

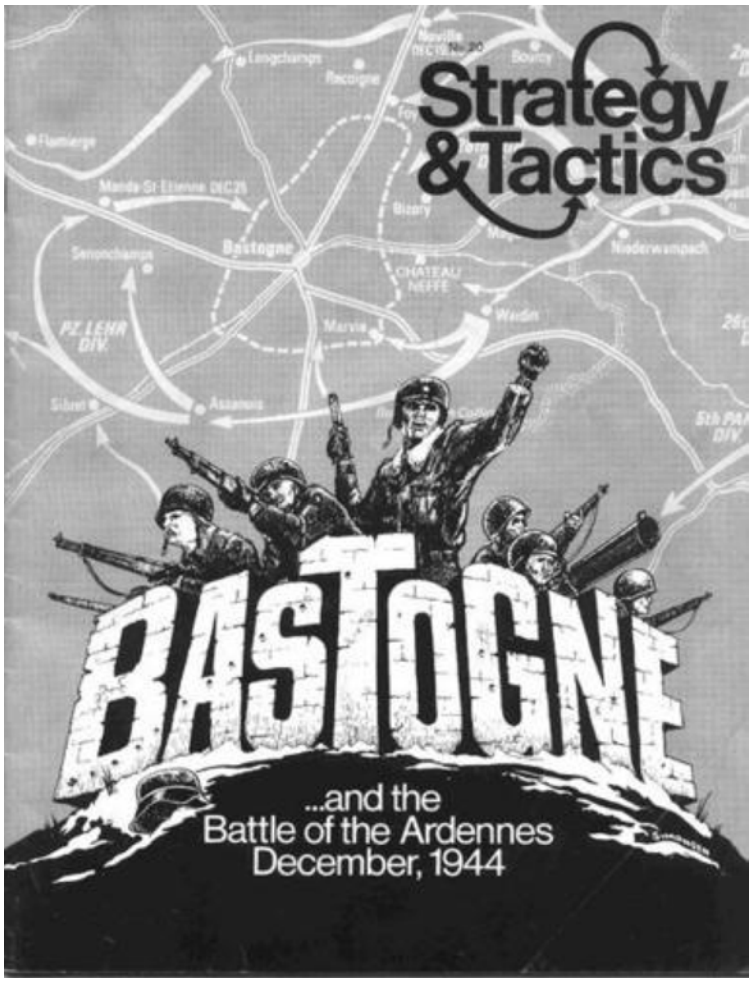
Having a correct time per turn does not increase complexity. If the previously mentioned games had been published with a good TPT, the different turn times would not add an atom of more rules and not a bit of complexity. This is a case of where having accurate numerical values, as in movement rates, combat strengths, and time per turn, gives good realism without adding complex rules and procedures.

An example of good time per turn is the Napoleonic brigade series by OSG. This has one hour per turn at a scale of about 525 yards per hex. This allows a good amount of movement and combat for the scale and subject, depicting the flow of historic action well.

In fact, incorrect time per turn is one of the most common game killers, breaking some of them and rendering others hopelessly unrealistic. The solution to this problem is for designers to choose a time per turn that allows for movement and combat that adequately reflects the historical situation.

The Simonsen Way

By Redmond Simonsen



Redmond's principles, prejudices, and graphic production standards, in his own words. Sources include chapters in Wargame Design *(Hippocrene Books, 1977), various* MOVES *magazine editorials, interviews and other writings.*

When I first began designing wargame systems, not much had been done in the way of systematizing the interface between the rules and the actual play of the game. Before I became professionally involved, one of my hobbies was to take an existing game and build it a graphic system.

I've always considered myself to be more technologically oriented than most artists and I suppose this inclination shows in my work. Games are after all, paper machines. With proper engineering they should reduce the amount of work that the player must perform.

Deciding how much to support the play of the game must be based upon the complexity of the game, benefit of the system, the effort required to execute the system and its commercial feasibility.

Graphics & Physical Systems Design

The more graphic engineering the artist can build into the game equipment and rules, the easier and more enjoyable becomes the play of the game.

Examples of this are: the Production Spiral used in SPI's *War in Europe* game system; Turn-Record Tracks with built in information on special events; Phase Records that are themselves diagrams of a complex sequence of play (such as in SPI's *Fast Carriers*); game maps with the set-up printed directly on them; integrated combat results tables (with terrain effects built in). A good physical system is characterized by its organization of game information to such an extent that the presentation actually accomplishes some of the "work" of using the raw information. It is possible (and often is the case) that a game is well-designed graphically, but no serious attempt at physical system design is evident.

When a designer attempts to aid the player by providing him with a graphic device, of any sort, he must be careful that the neat little system he comes up with doesn't actually add complexity to the game system—watch for:

1. Excessive use of abbreviations
2. Too many markers operating on a single register (sometimes a pencil and paper is better)
3. Systems that are so cramped by lack of space that they become difficult to use
4. Systems that are larger than the playing map or that take longer to set up than the game itself
5. Any system that takes longer to operate than the maneuver portion of the game-turn.

There is no easy formula for developing graphic systems that aid play. Most of the really good ones are stunningly obvious — once you see them in operation. Much of the success one will have depends upon being able to project oneself into the position of the player who will have to deal with the finished game. Whenever possible, the graphic designer should actually play the final version of the game using the test components. Unfortunately, this is sometimes difficult to do since games take a lot of time to learn and play — and the artist doesn't have a lot of time in a commercial environment.

The better the graphic design, the more likely it will not be noticed. Since, in game design, the overriding mission of the graphic designer is to communicate the substance of the game to the user, heavy-handed or flashy images that call attention to themselves (rather than their message) are actually detrimental. If the typeface was eccentric or exotic in design it would be hard to read and would detract from the message rather than convey it.

Signal to Noise Ratio

The challenge to the graphic designer is clear: make the information the player uses clear, organized, accessible, and pleasing to look at for long periods of time.

To use a military metaphor, the player is an unspecialized demolitions man defusing a complex bomb and receiving instructions on how to do so via a radio. The game is the bomb, the game designer is on the other end of the radio and the artwork is the radio.

If the radio is faulty, the unclear signal may break the concentration of the demolitions man (with unpleasant results). Now the qualities of a good radio are fairly obvious: good signal-to-noise ratio; adequate range; reliability; and good design of human factors (ease of handling, etc.).

Metaphorically, these qualities translate fairly well into the qualities of good graphic design in games — what is not so clear, however, is exactly what constitutes a good signal-to-noise ratio in graphics or just what value to place on "reliability" (which translates as consistency of format). And although the gamer is not vaporized when faulty graphics cause him to "detonate" the game he's playing, the fact that it has indeed turned out to be a "bomb" is certainly unpleasant.

Virtually every gamer has had the experience of struggling through what might be an otherwise good game, hampered by the fact that the organization and design of the components prevents him from easily understanding what he is about — and thereby losing concentration and interest in the game.

Many non-artists have difficulty in separating that which looks good from that which works well. The two are not mutually exclusive — but neither are they necessarily mutually inclusive. I am an advocate of form-following-function.

It is sometimes difficult to separate poor (or good) graphic design factors from poor (or good) game design factors. There is a great deal of feedback between the two. Of course, no matter how good the graphics and physical system, they cannot turn a weak game design into a strong one (although they can sometimes cosmetically hide an inadequate game design, at least for a while). But the reverse is possible: bad graphics and poor physical systems can ruin a good game.

Game Maps

The best possible combination is a well-designed physical system which has an overlay of just the right amount of mood enhancing decoration. Usually, the more complex the game system, the less decorated it should be. When counters carry several different values and symbols; when the terrain is highly varied, when the mechanics of play are very involved, it is then that decorative effects should be kept to the bare minimum.

There are some elements of decoration that I am dogmatically opposed to. First on my list of such elements is the placement on maps of extensive terrain that has no effect on play whatsoever. Second on the list are orders of battle that go strictly by historical designation without giving the player the option to ignore the designation and set up the game and the reinforcements purely by unit type and value.

The graphic designer (who should of course be basically familiar with the game) can often draw out of the developer/designer important pieces of information that can be successfully integrated into the map design. There is no magic formula for creating a map that is not only pleasant to look at but which, more importantly, serves and supports the game system.

Game Map Symbology

In game map design, symbols are most often used to characterize a "point" feature — something that resides in a single hex or location. Such things as cities, resource centers, industrial

sites, forts, railheads, airfields, and ports are examples of terrain features that can successfully be represented by the use of symbols.

Symbols are usually pictographic, i.e., they actually look like stylized versions of the feature they represent — or they are simple drawings of objects associated with the feature being represented — for example, a resource center might be represented with a pick and shovel symbol. Non-pictographic symbols are used when the feature being represented has no obvious object with which it is well associated or when the number of other symbols on the map calls for the use of abstract symbols to avoid confusion. Stars, for example, might be used to denote capital cities or arrows to indicate invasion hexes.

By changing the color and/or size of the symbols, more variations can be achieved if truly necessary. Symbols can be combined with each other to form ideographs that convey more complex messages than any one symbol could. For example, a map shows three types of installations (ports, fortifications, and airfields) each of which must be characterized as being "major" or "minor" and also be identifiable as to which player possesses them originally. One could use twelve different symbols, but a better solution is to use a symbol in a circle to indicate a "major" installation and a different color to show ownership. This way by using only one more symbol (in conjunction with three basic installation symbols) and one color change one creates a simple system that is easy for the player to remember and easy for the eye to spot on the map.

When using symbols, the designer must remain conscious of the fact that too many symbols, or symbols that lack recognition value, may actually confuse the player rather than convey the information.

Moreover, symbols suffer from their trait of being obscured by the counters occupying the hexes containing the site being symbolized. This, incidentally, is an important consideration regardless of terrain treatment — how much will the counters affect the visibility of the playing surface?

One solution (which I often use) is to fill the hex with the feature so that even when it's occupied, the terrain is still visible around the edges of the playing pieces. This gives the map a somewhat more abstract appearance — but I feel that the sacrifice of naturalism is worth the additional utility gained by this technique.

1. The number of different symbols should be kept to a functional minimum. Don't make arbitrary distinctions between items that, in the game, are treated identically. For example, if all fuel resource sites are operatively the same, don't show petroleum sites as little oil wells and coal sites as little picks and shovels. Instead, use a common symbol that evokes the "fuel" concept rather than the irrelevant fuel type.
2. To be effective, symbols must be simple and well designed. A complex, cluttered symbol does not contribute to player information retrieval. Most symbols are best treated in silhouette form.
3. The symbol should be evocative of the basic concept of the thing for which it stands. The test of a good symbol is how well it is understood without recourse to a key or legend. Whenever the artist is doubtful of the recognition value of his symbology he should show them to an associate without telling him what they mean, and ask that person to quickly interpret the symbology.
4. The symbol should reproduce well in the map environment. Even if the symbol is effective in isolation, unless it works in the context of the map, it can be a bad symbol. Also, when several symbols are used, they must all work well together. They should have a consistency of style and approach to make them into a total system.

The "perfect" game map surface would combine the characteristics of both mounted and unmounted maps: it would be rigid; one continuous piece without splits; fold to compact size yet opens perfectly flat; have a homogenous cross-section; and be truly durable. As yet there are no such perfect surfaces that can be made cheaply enough to be commercially viable. There is some promise though in the new plastic laminates that are coming into the stream as replacements for paper in certain applications. Until some designer (I hope it is I) comes up a better solution, the gamer will have to cope with the less than perfect surface for this all-important component.

The designer should never lose sight of the fact that most gamers are deeply influenced by the game map: a good map goes a long way towards creating a positive impression of the game.

Since the map is the most constantly used component, it should be the most effective in doing its job of providing the basic environment for the game.

Counters

As a general rule, the more tactical the game, the more information will be displayed on counter; the more strategic, the less information. If, however, a game becomes very tactical an information threshold is passed which demands that data be removed from the counter (as in the example of the air games where much is done on a player's "control panel" that is separate from the game's counters). One might say that the extremes in scale result in very simple counters and the middle-grounds produce most variation and problems.

To use a military metaphor, the player is an unspecialized demolitions man defusing a complex bomb and receiving instructions on how to do so via a radio. The game is the bomb, the game designer is on the other end of the radio and the artwork is the radio.

Rules & The Case System

Let's face it: rules are not exactly light reading — the number of concepts and procedures to be explained in detail can hardly be dealt with in a few easy paragraphs of colloquial English. The closest analog to a set of rules would be a set of computer program instructions.

The rules are means to an end — and they must be highly organized and efficient means to serve the complexity of wargame play.

Rules writing is inescapably technical writing — not literature. Its object is unequivocal communication — not entertainment. The entertaining part is supposed to be the play of the game.

One must be honest about the limitations of the rules generation process — to create flawless rules on the first go-round is virtually impossible unless the game is so simple as to be irrelevant. Beyond simple typos and plain oversight, there will always be the possibility of alternate interpretation of given statements — because the player is not a computer: he's a thinking human who brings his own background and mindset to the reading of the rules.

My favorite fantasy (regarding rules) is to have a master file of hex-grid wargame rules that would cover every possible situation that could occur in a game. These master cases would be precisely and lucidly written and organized into a data retrieval / word processing system so that entire blocks of rules could be called up electronically by keying in a string of code numbers.

The developer would then add whatever minimal necessary names and dates and the whole body of rules would be automatically typeset. Every case would have a master reference number and a computer program would make sure that every case number that needed cross-indexing would get it.

It would be a boon to editors and gamers alike to have such a system working for them. The clarity and preciseness of the rules would take a quantum leap forward and the flexibility of development in game systems would increase mightily. Game testing could proceed with more finished sets of rules. Annoying minor typos could be forever banished. Laborious typesetting tasks and long production times could be reduced. Ah, the millennium would arrive for rules compulsives such as I.

March Rates in TLNB

Kevin Zucker

I have been thinking a lot lately about the basic parameters of the game as a possible insight into the pace of operations on June 15th. Should infantry really be able to cover 8 hexes of road, turn after turn? Or is that rate unrealistic?

The average walking pace for a fit person who is not carrying any weight is about 3 mph. At 4200 yards our game allows infantry to march 2.39 mph on roads in road march.

525 yds x 8 = 4200 yds / hr = 2.39 mph

If you ask an infantry soldier, two and a half miles per hour is a realistic speed for a grunt carrying his own kit. It also allows for halts and unexpected stops. The *halte des pipes* was 5 minutes on the hour.

The fastest route march for troops on the march was 90 paces per minute. When Marshal Lannes's corps crossed into Poland they increased to a route march between 85 and 90 paces a minute.

90 x 55 min = 4950 paces / hour

I take a pace as 5/6 of a yd.—4125 yards / hour

525 yards / hex = 7.87 hexes / hour

The game's 8-hex Movement Allowance allows troops to travel 91.5 paces per minute if they move all 8 hexes on the road. Eighty-five paces versus 91.5 doesn't sound like a great difference, but it might not have been maintained for Lannes's whole 30 kilometer march to Stargard in unknown hostile territory, with all the incumbent delays, alarms, and confusion.

Lannes's thirty kilometers is a long march for one day; 22 was the normal day's march (Napoleon's dividers were set to 7 to 8 leagues.)

The men needed a whole day off every third or fourth day, or indeed as many halts as possible. In most battle games you aren't moving at top speed very long.

The 8-hex march rate was considered burst-speed, not a long-term moving average. On the 15th of June 1815, if we don't have any Prussian roadblocks, then we see the French fantassins burning up the macadam. A normal days march of 22 km could be made by our cardboard foot-sloggers marching flat out in TLNB in under 6 hours.

22 km / 13.75 miles / 46 hexes / 5.76 turns

That is the intersection of the theoretical maximum and the practical average. Now none of this matters in a one-day battle game. You can see that the problem becomes noticeable only when you have these columns going across whole map sections. A 22 km march will take you from Charleroi well into the Foret de Soignes. In TLNB, uncomplaining cardboard ends up moving their theoretical maximum.

The first step to regulate this would be to take away the March Orders available to the French on the 15th. That way forces would either have to be under command or move by initiative.

The effect of the windings of the roads deduct 20% when counting paces. There have to be some allowances from the theoretical rate for other kinds of obstructions. The Prussians built several roadblocks that it took the French an hour or so to clear. Wagons could be blocking the streets of a town, etc.

DESIGN FILES

Victory Conditions

Kevin Zucker

The current Victory Conditions go back to the Days series game '1806.' I was having problems coming up with an all-encompassing set of conditions for the disparate scenarios in that game and turned it over to the developer. David Collins worked out the first draft of the idea—a list of 4 factors contributing VPs in a nuanced way. We gradually added items as the TLNB series took shape, but in such a way as to maintain overall balance.

Combat Casualties. As a player, your main way of influencing events is by the use of your combat units. Everything else plays into that ability to attack and defend. The game will actually be won in the combat arena, anyway, so limit VPs to the player in light of the inherent benefit of controlling the board.

Location VPs. You don't want to give them out just because a town has an important location. It should be a place that you want the players to fight over, in the contested zone.

Rule of Thumb. No more than 35-40 points available for VP locations. The median would be 15 VPs for a half map, 30-35 VPs for a full map, total, for locations. At one time I was against the use of location VPs and I never did use them until TLNB. I thought they were a cheap and artless way to get the players to fight historically. Now, I have partly changed my mind, and I find them useful, when used sparingly as part of a larger formula as one of several factors. Only those VP hexes that are in dispute should be scored. You shouldn't get VPs for hexes that you didn't have to fight over. That way VP locations will not dominate the game, casualties and baggage trains will remain important.

VP hexes are situation-specific.
Q-B for example is a cross-roads. It should be worth VPs, but Gemioncourt, Sombreffe, these should not count in a battle of Fleurus. Even though the commander in the field had established a certain operational goal, it doesn't mean that he has to get all the way there in the scope of two days. He has to make good headway.

Baggage trains were included among the original three VP factors in 1806. Troops almost always went into battle hungry, and didn't eat again until the night. The commissariat really only tried to feed them in between battles. Corps baggage trains don't really include foodstuffs primarily. "Supply" in TLNB doesn't represent beans as much as bullets. "Out of Supply" means a morale problem, one that hunger, lack of firewood and low ammo supplies would exacerbate. The Army-level wagons aren't even represented in TLNB; these other wagons were attached to the "Center of Operations." They may be off map near the printed Supply source.
The whole reason that the Corps baggage trains are included is to measure victory. This marker represents a place that should be secure. The troops know that things are bad if the enemy are in the baggage. The capture of that location, usually in the rear, is a morale disaster (that you deduct VPs for), much more than the actual value of the provisions.

DESIGN FILES

Principles of Design

Design is the creation of a plan or convention for the construction of an object, system or measurable human interaction. Design has different connotations in different fields. In some cases, the direct construction of an object is also considered to be design. Designing often necessitates considering the aesthetic, economic, and sociopolitical dimensions of both the object and design process. It may involve considerable research, thought, modeling, re-design.

Redmond Simonsen is my inspiration as well the one who encouraged me to leave the path of music and concentrate on games. (See old OSG discussion about Redmond at the link.) http://archive.li/jEtUy

Redmond had a corner office at SPI, overlooking busy 23rd St and Park Ave South. He had a large drafting table with a bright swivel-arm light above it that was always on, where he worked on cover designs. He had a portable desk with a typewriter, generally with a piece of paper in the carriage. He had a couch that he slept on during deadlines and a gaming table with a box of dice next to it. He went through a lot of dice in one game. He made up his own words to Tin Pan Alley songs and sang them loudly. He liked technological gadgets and always had an expensive camera lying around. He was just a little too serious about everything. But he was reliable and I never saw him lose his temper. I probably would have had a meltdown myself if I had ever witnessed it. He was a perfectionist. He had bad ideas about nutrition and he was blasé about the environment. He was a materialist and worshiped Science.

I was reading "Black Elk Speaks" and he mocked me, saying that I as a European had no business trying to wear garments that weren't made for me, as if I were betraying my own heritage and background. I should be engaged in building up Western Civilization, not tearing it down or opting out. He persuaded me that the progress of civilization would inevitably bring solutions to all of the problems inherent in our stage of world history; and I should jump on instead of trying to stop that train.

Redmond would have been 75 this year; he was 10 years my senior and I looked to him as a mentor. Even though I have "disabused" myself (one of his favorite words) of most of his ideas, in the gaming realm he seems to have landed on top of a wellspring of creativity that constantly flows. If you can find that wellspring, what it is for you, then creativity is not a chore—it's just there for you in the morning. Redmond was like that.

His plate was full. He had official tasks within the company, and he had to design a constant stream of products, two magazines, an issue game, a quad game, and one full-sized game every two months. That's five covers, five maps, 3-4 counter sheets, etc.

The issue games and the magazine (S&T) were on a tight schedule, every 60 days. At the same time, the issue game is like your flagship—it has to be the best, to entice the player to buy the other games coming out. I think most players held low expectations of the issue games after "Scrimmage" which was universally reviled. I suppose if you polled the readership they'd say we only had one hit in six issues. I think the best issue games were the ones we called the "fifth quad," that had the benefit of a series rules folder and just needing minimal playtesting.

> "Man is a small creature and the Earth is great and enduring albeit prone to dramatic changes and catastrophic shifts. It will be here long after we are gone and it won't miss us much. The political fad misnamed "Environmentalism" is just the old 19th Century biblical "subdue the Earth" in new, Green clothing. The Earth is not mankind's theme park."
>
> —RAS 4/9/01

SPI started devoting more time for development of issue games, and especially more playtesting. My office, when I became Managing Editor, was the first door at the entrance to the art department, and that was where the R&D staff brought their finished manuscripts. Whether game rules or magazine articles, I would start a ledger record for that project, and just check off the steps until it was in final paste up, in position on 16-up page forms. I think the issue was 64 pages, so there were 8 big illustration boards of 8-page signatures all laid out in imposition order. With my semi-photographic memory, I could remember every page and what was on it, which helped me a lot at last-minute read-throughs. I always

stayed late on the night before our printer would come in to pick up the new job.

As Managing Editor I had to see that the galleys got proofed and the corrections set and pasted in. Each step on the ledger, all the way through.

But the first step was for me to read the game rules and make notes in the m.s. as I went. It usually took me three or four days to go through an entire game, along with whatever other projects were underway. A lot of times, I re-typed the entire rules before handing them over to our typesetter. I found that typing it really forces you to get to grips with the material.

In reading the rules, you would find all sorts of inconsistencies, when paragraphs refer back and forth. My solution there was to state the actual rule only in one place, with the secondary rule simply a paragraph reference. (Sometimes it is unavoidable to elaborate on the procedure in more than one place.)

Redmond came up with starting each Major Section with a General Rule and Procedure. A Procedure explains the actions performed by the player in a step-by-step fashion. Writing it this way challenged the designers to re-examine and reorganize their thoughts.

All of this was to try and ensure that the player could play the game with minimal irritation. I often found that I felt I understood what the designer meant, even if he didn't say that. So I would have a lot of conferences with the designers, or even brief Q&A sessions, when I might be discussing four different projects in succession while a line formed out in the hall.

I felt that I had to be a "player's advocate." Even though I understood what my friend Frank Davis had written, most people don't know Frank, and they might need some help.

At first I worked as a game "developer" myself (as there was only one "designer" in that era). But I quit for a while and when I came back, I was working 4 hours a day at the front desk (and studying music the rest of the time).

Redmond came by the desk and asked me if I wanted something to do in between calls and signing for packages. I think one of my first tasks was to help him install the framed box covers for all the games in the hallway leading to the R&D Department. Soon after he dropped a rules manuscript off and asked me to look at it. It was a Russia game, by Steve the computer guy (his IBM 3 took up a whole room back then).

The first thing noticed was that the organization of the rules was very poor. The rules were written in a stream of consciousness apparently just as the thought occurred. So I reorganized the rules, unscrambling the ideas and separating them into appropriate subjects.

There were as well a lot of typos and grammatical errors to correct. I developed my own format, and to streamline things I had evolved the standardized "Movement Rules," for one example, so whenever possible I would stick in my standardized paragraphs for how to do Improved Positions or whatever, and this, of course, messed with the designers heads. However, there was a strict hierarchy in the development process at SPI. Once the designer turned over the game, the developer was in change and made all the decisions. "The designer proposes, the developer disposes," as Jay Nelson put it.

Just like that, when the Art Dept. got a hold of your game, the developer was reduced to an advise and consent role. He absolutely dare not try to add anything – no new last minute ideas. Fix things, edit things, sure, but nothing more. If you polled the designers you'd find a mixed response about my influence on the product. However, I had the support of both principals of the company, Redmond in particular, since he was my direct supervisor, and he approved – mostly.

Even though we didn't talk about it, there were some guiding principles that he promulgated and I respected (see sidebar on next page), even if I kind of chafed under the paragraph numbering and for a while, when at OSG, dropped the case numbering system. But the numbering system is back with TLNB and it really does make things easier for the player. Our system worked the best on games that were of moderate complexity. When the monster games started coming through the pipeline, there were a number of spills. As deadlines came and went for "Highway to the Reich," Terry Hardy chopped a square "window" in the sheet-rock wall between his office and Jay Nelson's, so that they could consult and ask questions as they typed. Terry wrote the odd-numbered major sections, while Jay simultaneously wrote the even-numbered ones. As ridiculous as it sounds, the game was just too big for one person. It had four 22" x 34" maps, 2,400 counters, and 32 pages of rules.

What was much worse, the individual sections were being turned in to me piecemeal and I was expected to turn them over for typesetting as

they came in, without having read the whole rules beforehand. I don't know what major cash-flow crunch caused this stubborn insistence on production, when the games had doubled or tripled in size, without any additional development time. That really pissed me off, and I felt that the result would be a disaster, which it was — it required a second edition. That didn't go on very long, and in January of 1977 I resigned.

After I left I didn't see much of Redmond, visiting him occasionally in his office after the company moved (never auspicious for a publishing company). In this case, the warehouse department was moved to New Jersey, in order to economize on expensive city real estate. Carl Jacobsen, who managed the parts department, was blind. He memorized where all the parts for each game were put on the day they arrived from the printer. After the move he had to make a long commute every day to work, memorizing each step along the way. It must have been a rough transition, and there was a lot of slippage out of that New Jersey facility.

I moved on and used the skills I had honed at SPI to run my own company. At first, I set out to make my mark, adding details like autumn foliage at Leipzig, the Study Folder, including more historical detail, and trying to provide more ways to use the game than just playing it.

Because of computer-aided design now we have the ability to add detailing, such as leader portraits on the counters, that wasn't possible in those days, but the principles haven't changed. Redmond is still hovering over everything we do.

Redmond's Advice to Graphic Designers

Present the game components to simplify the process of play, facilitate the player interface, and make routine chores less onerous.

According to Simonsen, form follows function. The design is a result of a process of refining player actions to their utmost, and the goal is to maximize playability. There are no extraneous design elements—no decoration for its own sake—only what is needed for play or what enhances play.

The player wants to play the game first and foremost; absorbing the history is the result of play. Decoration is unnecessary information that can distract the player from the information he needs. Some of the worst examples: terrain on the map that has no effect; set-ups that don't allow the player to ignore unit designations.

Redmond goes so far as to suggest using a 4-digit code to identify each unit rather than take up space showing its actual historical designation. Designations of course are one area where OSG has gone our own way, instead of pursuing rigid adherence to utility.

In general, the designer should give the proper weight or emphasis to further the play instead of providing too much "historical flavor." Redmond urges the graphic designer to create hierarchies of information, so that the Strength and Movement numbers on a counter are the most visible; rivers, roads, and objective hexes are similarly prominent on the map. You wouldn't want the terrain patterning to obscure the hex numbers, for example. Redmond wants the player to immediately "grok" the components by their graphics, and he wants all the components to bear a visual relationship to each other so that they all fit together in one coherent whole—functionally and stylistically. That is what he means by emphasizing the difference between "Physical Systems Design," and mere "Graphic Design."

As one recent example at OSG, we needed a new marker for Roadblocks. I wanted to use the most universal symbol for this, the crossing gate arm that has been used at border crossings even in the 19th century. Everyone else in the project demurred. For my second idea, the crossing arm had become a chopped-down tree. Still they felt it was lacking. Finally, Charlie came up with the final design. Does the counter tell you immediately what it is and how to use it? It should.

Victory Locations in TLNB

At one time I was against the use of location VPs. I thought they were a cheap and artless way to get the players to fight historically. Now, I have partly changed my mind, and I find them useful, when used sparingly in a larger formula as one of several factors. —KZ

Victory Conditions are artificial, like endings in the movies: a neat and tidy way of winding things up (see sidebar). In real life, things are never this simple and clear-cut—events never cease happening and their effects linger long afterward.

The current Victory Conditions go back to the Days series game *1806*. I was having problems and turned it over to David Collins, the developer, who worked out the first draft of the idea—a list of 4 factors contributing VPs in a balanced way. From that game three things carried over to TLNB (26.11), and others joined, gradually, without disrupting overall balance.

As a player, your main way of influencing events is by the use of your combat units. Everything else plays into that ability to maneuver, attack and defend. The game will actually be won on the map, so no need granting a lot of VPs to the player over and above the inherent benefit of controlling the board. This is a Napoleonic precept—defeat the enemy army and in due time all secondary objectives will be obtained by default.

Most of the time the award for units eliminated will not be more than 10 VPs; there are more VPs at stake for captured places, baggage, and cards. A player will juggle all these factors to come up with a win, without focusing too much on any one category of VPs.

Victory conditions are based on a balance of 8 different factors (26.11). VP locations are only one of those 8. We added these additional dimensions to the victory evaluation as a way to double check who really won. These same victory conditions have worked well in all types of battles, delaying actions, meeting engagements, or all out attacks.

Naturally, if you have obtained no VPs from Enemy SPs Eliminated, or Enemy Corps Demoralized, or Captured Enemy Baggage Trains, then the control of VP hexes will take on a greater significance. But how did you get in that situation?

Napoleon had determined on taking Brussels, or had set about to threaten Brussels, hoping that the Coalition would fight a battle to preserve it. Our VP

Victory: Games & Reality

When designing a game we usually wait until the end of development to work out the Victory Conditions. Naturally we need to see what is feasible, what might be too simplistic. We want the Victory Conditions to reflect the actual strategic situation. Here we need to step out of the operational level and see the big picture. We say the French won the historical 1807 campaign because they defeated the Russians at Friedland and pursued them off the map. But what were the Tsar's goals? He succeeded in making life difficult for Napoleon, and cost him 100,000 men. Was he already looking toward the next campaign?

Webster's defines "Victory" as 'Final and complete supremacy or superiority in battle or war.' This situation rarely applies anymore; certainly it did not apply in July of 1807. In the ancient world, one big battle decided the war, and usually one army would fail utterly once its line was broken. So the term "Victory" had an objective correlative that was unambiguous.

How many times is "The Fall of the Enemy Capital" trotted out as a Victory Condition? Yet in 1805 and 1806 the Fall of Vienna and Berlin did not stop the fighting. We need to question this way of looking at Victory, and to foresee outcomes on the days after.

Hollywood has a schematic way of approaching endings devoid of real resolutions. In a video game, you shoot the terrorists, they fall down and you score points. In real life, those "terrorists" had a family, and now you have their hatred, more terrorists. Our cardboard troops march through a blank zone—where are the civilians?

I've heard it said that all movie endings are artificial; it is also said there can be only one natural ending, but that is still one more ending than real life has to offer. In the "typical" movie, the guy has an immediate goal. For her, that ending is just the start.

Victory conditions are susceptible to the same criticism as movie endings. In real life there are no endings, the camera keeps rolling, something else happens. We "win" the war and take Baghdad, but then what? The screen doesn't go dark, the people don't leave the stage. So we have a way of perceiving reality that is seriously distorted by the forms of entertainment that we have learned our habits of mind from. There is no closure, there is only a temporary hiatus.

—WDM Summer 2008 Issue

locations in NLG were selected to place the players in a similar situation.

While orderlies may carry their commands on horseback, the command range is based on a visual (LOS) distance—roughly. In order to exercise effective tactical control of his units he needs to be able to see them, or hear them, or see them by moving a short distance.

A galloper can go 5.6 mph or 18 hexes in one hour. But in one hour, the turn is already over. The leader's order cycle is less than 15 minutes, and that means deciding, composing and dispatching the command. That means the real distance for the orderly to cover is only what can be covered in 10 minutes. (Unless we are talking about a pre-planned movement which could be dispatched hours in advance.)

VP Locations

Players will find themselves drawn to the VP locations and may expend much effort attempting to take them. The ideal would be 15 VPs for a half map, 30-35 VPs for a full map, total for locations. We have set the limit for VP locations of no than 35-40 points on a fullsize map.

The trick is to provide VPs for objectives of military value, such as a cross-roads, bridge, or church with a wide view of the countryside. You don't want to give them out just because a town has an important location. It should be a place that you want the players to fight over, in the contested zone between armies.

Mt. St. Jean

Tim Clayton, in his excellent treatment, reveals Napoleon's preferred scenario—"the Belgians would join him and eject the king of the Netherlands from Brussels and Louis XVIII from Ghent. This would bring down the hostile Tory government in London, the Whigs would make peace, and without British finance the other allies would lose their enthusiasm for war." [1] In other words, a strategic victory.

The opponents: Louis XVIII, Willem I, House of Lords

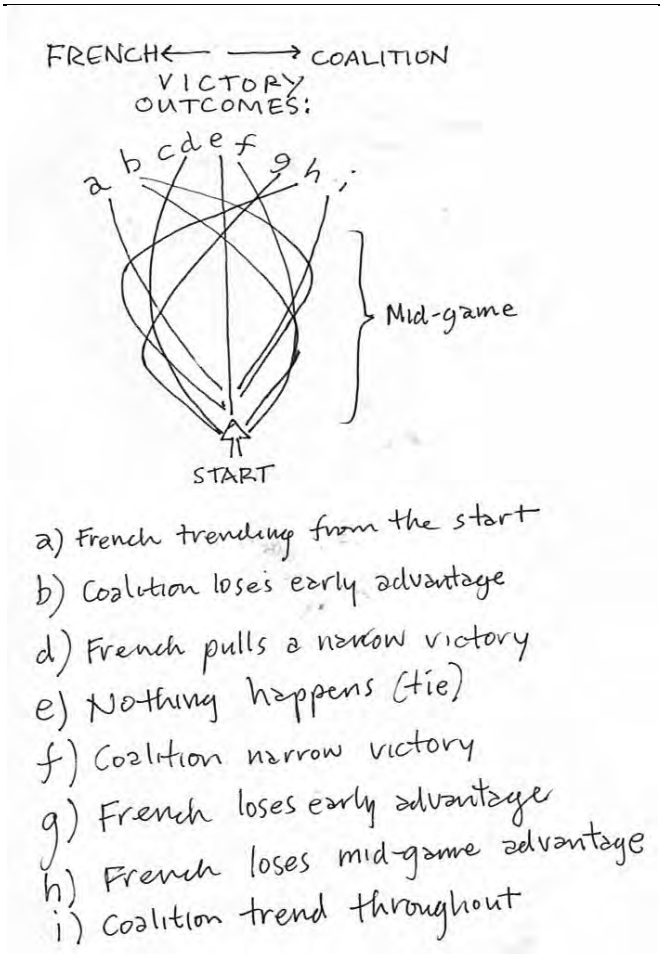
We placed VPs on and around important road junctions on the main highway to Brussels. That way, we can evaluate the French victory when just playing the 16-18 June. *(Spoiler alert:* we haven't heard from any French Player yet who has gotten into Brussels.)

Mont St. Jean, with its 10 VPs is the focus of the road net—five major routes focused on that hill just before the Fôret de Soignes. We have discussed elsewhere how the road net forces Wellington to concentrate his troops there. Mont St. Jean is important in VPs because it really is the key position on the battlefield, both to the defense and the offense.

VP locations are usually selected to portray the operational intent. On the NLG South map, they all lie in the path of a maneuver from QB to Ligny or vice versa. Having this lane of movement open would have given Napoleon the central position, and controlling the central position is the key to this campaign.

Napoleon's precept seems to tell us to let *battlefield losses* tell the whole story. The problem is, in most Napoleonic battles, losses on the battlefield were roughly equal. It was not *until one side retreated* that Pursuit off the map would bring the graveyard of armies (cf Abensberg, 1809). So, at a certain VP level, your strategic intent is judged thwarted, and concomitant unbalanced pursuit losses.

[1] Tim Clayton, *Waterloo,* p. 43



For an explanation of the above diagram, see p. 13.

Reorganization in the Campaign Games

Vince Hughes

An interesting aspect of the games in campaign fashion has been the reluctance to try and reorganise units from demoralised formations. A 5 or 6 on a die-roll will PEU them where as a non-demoralised formation does not suffer this hazard. It can be a shrewd decision to leave them in the awaiting reorganisation box so that they return in the next battle/scenario. This however depends on the scenario and how long it may yet have to run.

As a result, we are seeing demoralised formations stay demoralised for longer periods and either exited to preserve them or posted to the rear out of harms way or guarding possible raiding routes. It effectively is an in-built happen-stance that is preventing the regular occurrence of the oft mocked wargame phenomena of the rubber-router. (those units routed and come back 2 or 3 times for more).

All units, dem or non-dem, first have to roll less than their initiative when in the Awaits Recovery box to get to the awaits Reorganisation box. Once there, non-demoralised units can be brought back on without a roll, whilst demoralised have to run the 5,6 gauntlet.

The reorganisation roll is only an in-game feature for these demoralised units and as I say they must avoid a 5 or 6 otherwise they will be PEU. In *La Patrie,* all units that are awaiting reorganisation at the scenario's end can come back in the next scenario in their reduced state and therefore will not have to roll. It can mean the formation is no longer demoralised when the figures are adjusted. The downside of this tactic can be if you needed these troops in the previous battle but instead left them in the re-org box to avoid that PEU chance.

I think so far that has served well. In a longer, say, two-day battle, it might be too long to leave them in the re-org box if they get there too early and therefore chances will have to be taken. But note the difference in a one off day of battle or approach to battle scenario. Players will roll every time for them as there is nothing to lose.

Originally published on talk.Consimworld.com

Accuracy is Not Enough

Kevin Zucker

As a designer, part of my job is to explain why, in the course of design, certain choices are made. I often find out hidden assumptions and unexplored questions.

As a foundation-stone for building a good replica of a battle, having very accurate maps and Orders of Battle are indispensable. However, depending upon what kind of battle and what kind of game experience we want to create, we can design several kinds of structure on top of that foundation.

As the game project gets underway, for many months we are working just on creating the maps and counters. We want all of the details to be correct, and we want a true representation of the overall fighting ability of the two sides.

Since the TLNB series has a well-polished rules folder, you might assume that after the counters and the maps are created, you are ready to move on to playtesting and polishing. The fact is, you haven't designed the game yet at all. Correct numbers on the counters are just the start.

"Design" is the process by which you turn game components into a game. As the designer, you should know everything about the battle, the generals, and the armies. You should understand the strategic and tactical styles of the different generals. As designer, the actions of the opposing generals should be your guide.

Just like in music, every good composer re-invents the wheel, so each general re-invents his own path to victory. That path should be available to the player. That doesn't mean he necessarily has to follow the historical strategy used, but often we discover that the accidents of terrain and maneuver tend to limit the player's options to basic variations of the actual campaign, and not some wholly new departure. Usually, when players discover a completely new and different strategy, it is often an ahistorical one revealing a flaw in the design.

Because of accidents of history, each battle has its own "personality." As soon as you have a set of counters and a map, you can begin to explore the personality of the battle. Each design decision you make from this point on will hopefully bring out the critical details that make that battle unique. A meeting engagement should have a different feel from a delaying action, for example. But two different delaying actions, with different forces, generals, and terrain, will give a different experience.

Each battle has its own "plot twists" or key ingredients. Quite often intelligence on the forces available—even on one's own side—is subject to the Fog of War. (This was the case at Lützen, not at Bautzen three weeks later.)

Design Choices

A critical design choice for TLNB is the placement of VP locations. This choice should reflect real-world conditions—advantages such as a height, a view, or a cross-roads—usually, but not always, a town hex.

Framing the Battlefield: The alignment of the map is a critical design decision. Exactly how the mapedge frames the terrain of the opening move and game to come, can make a big difference to the outcome. Placement of the map edges plays into the related factor of the starting and ending times. Usually the Approach to battle begins with one side entering the map.

"Personality" Traits

- Who won the battle
- Who had superiority of forces, of cavalry, guns
- Who started the battle
- Who held the initiative

Plot Twists

- Accidents of history, time, weather, and terrain
- Outside factors, impinging grand strategy
- Was either side in a "must win" situation?
- Special stratagems or ploys, tactics
- Special Skills of the opposing generals

Rules of Thumb

- An historical outcome should be possible
- Either side should have at least a one-third chance of winning
- The best game is a nail-biter, going down to the wire

Scenario Design has three focal-points:

1. The first turn
2. The middle-game
3. Victory conditions and goals

The First Turn
The first turn set-up is the most critical factor, and everything else flows from that starting place. Choosing the exact moment for the start of the scenario is the art. If you choose the wrong moment, the game can go off in un-historical directions. Assuming that we want our scenario to show the history, we will want to put the players into the situation just at the moment, usually, when the enemy has been discovered. Prior to that moment, the approach may have been expected, but both sides were in a fog as to exactly where the enemy was going. Now, the curtain has been drawn back, and it is the moment to drop the pieces onto the map.

You might think that it is enough to find a situation map showing this moment, but that map doesn't say who has the initiative and who should move first. Sometimes we need to adjust one side's position to place the forces into the right phase of the Igo-Ugo of events. Most historians narrate things with a natural stop and start in both armies, so we want these pauses to occur correctly. This will determine how you set the forces. Which side should be the one that blunders into the other? Which one was in motion at the time the two forces discovered each other?

To create a successful scenario, there should ideally be action right away. Not more than one turn where only one side is moving.

The Mid-Game
On the Victory Outcomes Chart on page 11, each line moving upward on the chart represents the shifting fortunes in one playing. Line "e" in the middle, has very little drama, but a game where the advantage changes back and forth many times *(like a caduceus)* is a kind of ideal to shoot for that tends to make for a nail-biter.


e

The Special Rules are a good place to bring in the personality of the scenario. The Special Rules in TLNB always include:
- Damaged Bridges at Start
- March Orders at Start
- Map Area in Play

Additional factors may add command restrictions, combat modifiers, unit restrictions, reinforcement entry rules, set-up rules, exited units, demoralization, guard commitment, supply sources, additional VP costs, Improved Positions at start, etc.

Victory Conditions
If one side is outnumbered, can VP locations give them a chance? Can they delay the enemy and prevent their reaching them? Are the VP locations in balance? Does one side have an advantage?
Rule of thumb: 15 VPs on a ½ map, 30-35 VPs on a whole map. Do the VP locations represent realistic goals and do they sway the action in the historic direction? *(see WDM Nr. 10, p. 6 for more).*

The Last Turn
Shortening the game may help the side on the overall defensive. Keep suspense 'til the last.

Scenario Design in Napoleon's Quagmire
The Spanish Armies were trounced repeatedly by the armies of Napoleon, and they are hands-down the worst army we've seen in the system so far. Are they TOO awful? They have the worst unit initiatives in the system, very weak combat strengths, terrible officer initiatives and minimal command. It's hard to imagine any nation having worse ratings than these. This is as low as the system can go in almost every category. The Spanish have the further disadvantage, because their formations are so small, that they demoralize quickly. It might take a French Corps all day to demoralize, while a Spanish division might easily demoralize after just a couple of turns of combat. Combined with the small size of the divisions and weak brigades, the game seems to show that the lack of any Corps structure was a major handicap.

These things hamstring the Spanish player, yet they are based on the historical facts on the ground. I assume that the Spanish troops and their leaders could not perform in larger packets. If there was a way to combine those brigades into larger formations, I presume they would have done it.

So it's not just the initiative ratings that make life so difficult for the Spanish player; the Spanish Army by nature is inferior in all these ways. But, I have to ask, how could they have won? Did I overlook something?

Later in the war, the Spanish eventually learned not to engage the French at all, but only to snipe, attack stragglers and reinforcement columns, and leave the main line battles to the British and Portuguese. However, they did win some battles in 1808, and several more in 1809. They had a string of victories in May-June, and also prevailed at Tamames, where they had a 2:1 advantage in numbers. Ney's Corps was commanded by a substitute officer, Marchand. They also fought a defensive battle. Fighting defensively is a key for the Spanish.

DESIGN FILES

Map Layouts

Kevin Zucker

Exactly how the mapedge frames the terrain of the opening move—and game to come—can make a big difference to the outcome. I've recently settled on a few rules of map layout:
1. The main highway the troops used should bisect the map longitudinally.
2. Failing that, the main obstacle (river or stream, etc) should run perpendicular.
3. Mountains and Rivers running along—or just off—the mapedge = always good.

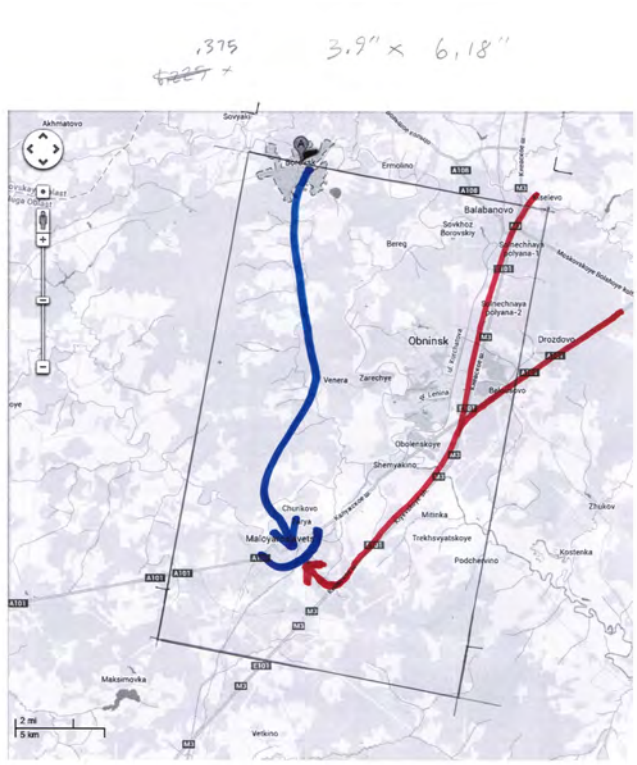
The main thing to be avoided is that important battle where one side can anchor their flank on the mapedge. Unless there is some obstacle there, that can very easily warp the outcome of the fight. So when we don't have any obstacles of that sort, then we want to make sure that the mapedges are as far away from the center of the action as possible. That is why places like Quatre-Bras, Maloyaroslavets and Ocaña are all near the center-line of the map.

Maps that are flush with the compass grid are suspect. If we stick to an ordinal east-west and north-south mapedge, then obviously we cannot achieve the optimum layout. It is necessary to accommodate the battlefield front lines, as well as routes of advance.

I have been looking back over the 7 or 8 volumes, and at the half-size maps especially, to see how well they meet this criteria. Maloyaroslavets got a B+. It doesn't really meet the first criteria, and the town is just a little bit off of dead center. It is a very strange Approach to Battle since both sides are entering the same mapedge (with a river between).

Ocaña and Almonacid are very similar, with the Rio Tajo running along one end of the map and a major city close to the centerline.

Above is the original map concept for Maloyaroslavets. The concept was changed from full-size map (shown in sketch) to half-sized (as published). The approach to battle was first mapped as a full-sized map, with the two armies marching along parallel routes to the south. However, the two sides would be marching parallel for a long time. So we lopped-off the top half of that map corridor. By rotating the map 45° we could have arranged for the opposing entry hexes to be on different map edges.



Not only that, both French Exit hexes would be on the same mapedge. However, that would place the French exit hex a lot further away from the fighting. In this case I wanted to keep the exit hexes within easy reach. Either way there is substantial unused terrain in the corners. But that is preferable to have any edge too near the action.

In the published version, the main highway runs diagonally across the map, so that orientation maximizes the amount of that particular road that can be included. This is the road that the Russians used to enter the map, and the same which Napoleon wished to follow homeward. (For those who are not familiar with this battle, it was a fateful one for the French, at the outset of the retreat from Moscow (24 Oct 1812).

Another key question that I was never able to answer fully, is how far in flood the Luzha River was. Obviously, if it was depicted as a river as far upstream as Maloyaroslavets, would totally change the way the game plays out. According to photographs posted on the web, the river floods the whole valley in Springtime, but this was a dry Fall, so we made it 50% river, conveniently drawn to prevent action near the mapedge.

DESIGN FILES

What is Scale-Appropriate?

Kevin Zucker

Contrary to long-established wargame practice, it is not appropriate for a theater commander to make deployment decisions for each division in the army along the entire front. Historically that would not be possible or desirable. That's just not the role of the theater commander. However, we gamers tend to think it is natural, because that is how we've grown accustomed to playing.

Bringing that question to *Four Lost Battles,* we have seen that Ney was not even aware of the situation across the whole battlefield of Dennewitz, and made the decision to shift Oudinot's Corps at the critical moment based on the perspective of a brigade or division commander. Vandamme, at Kulm, didn't know who he was facing or what his own reinforcement schedule was. So we have added hidden movement to avoid the effects of too much "eye in the sky" and of course the cards deal with the unknowns in force structures.

Traditional wargames grant the players instant access to all the deployments of both sides and also provide instantaneous and perfect command and control of all friendly forces. It took a finely-tuned headquarters and a determination not to wade into the battle sword in hand (like Ney was wont to do) to obtain good information about the conditions on all parts of the battlefield. It took dozens of aides de camp coming and going constantly to insure the flow of information and orders back and forth to headquarters. Even with perfect "order acceptance" there still had to be a time-lag between the receipt of the latest info at headquarters and the execution of the next set of orders. In fact, the time lag would be such that any orders would be out of date by the time they arrived, and only a formed reserve or a unit not in contact could be controlled remotely. Hence, at times the Army Commander has to intervene on the spot if he wants to achieve timely control of events on the ground.

That means that the Army Commander, represented by the player, in reality had no ability to affect the deployment of his forces once they were engaged with the enemy, unless he chose to go there in person. But if he made that choice, he had to do so in the hopes that he had chosen the decisive bit of terrain. It was always common for a general to assume that the most important events were taking place in front of him. (Napoleon at Jena has to be the best example of that, since it took hours, even after the battles had died down, for Napoleon to be convinced that Davout had faced the bulk of the Prussians at Auerstadt.)

It is clear, then, that the overall commander (in whose shoes the player stands) has little or no control over what happens when one of his brigades engages an enemy brigade. All he can do is line them up and point them in the direction he would like them to go.

This fact runs counter to the fighting spirit of the grognard, but he should not take the model of the passionate, aggressive, but often ignorant Marshal Ney. He had better concern himself with intelligence, command and control. That is where to put your focus to win.

Setting Limits in Wargame Design

Kevin Zucker

Someone asked why, in TLNB, there is no fixed limit on the number of SPs that can cross a bridge in one turn. After all, we know for a narrow bridge that should be around 8,400 men moving in parade ground formation in one hour.

Just because no limit is stated in the rules, doesn't mean there is no limit.

Of course, setting limits on activity is what we designers do: every factor on every counter is a limit. Further limits grow out of the terrain; sometimes the limits are of man's action. How far can you walk in one hour with a 50 lb. pack? How fast can a horse travel in an hour? Artillery in the mud? How many men can cross a bridge in one turn?

Good game design means keeping the number of artificial limits (needing to be memorized) to a minimum. After all, the nature of the hex grid together with the movement and stacking rules pretty well insure that 3 stacks will be the most that can cross a bridge in one turn—possibly way more than 16 SPs.

The question is, is this important enough for a rule? At times yes, this limit can be important. A player may be crossing in the proximity of large enemy forces. That is why we do set limits for units *retreating* across a bridge, under pressure from the enemy.

But we, as designers, have to guard against a tendency to load the design down and load the player down. Make his burden too accurate, and it won't be fun anymore. Real warfare is not fun. Wargames are not real warfare. A player will be more profligate with his Army's manpower (I assume) than he would, were those lives real.

A wargame can straddle that divide, but it isn't a comfortable place to sit. A game *must* be fun, or people won't play it. *Habit of Victory* is one very accurate game, but never received much play.

Proximity to the Enemy in Reorganization

Reorganization refers to the return of Combat Units (at reduced strength) to the map. In previous games that have Reorganization, there is a specific minimum distance allowed between reorganizing officers and the enemy (or just to enemy cavalry). After wrestling with this issue for many years, I began to see all such limits as arbitrary, and kind of rules overkill, in that the psychology of the player will produce a safe distance, considering the map situation. Player psychology plays a role here.

In TLNB there are no set minimum distances. This doesn't mean there isn't a game logic to moving back to safer terrain as a practical matter of play. The original rule was written to fit the Prussian retreat after Ligny when a whole series of games wasn't foreseen.

Since then OSG has produced titles on the majority of Napoleonic Battles. Just in the last eight years we've done 40 battles. One thing I've learned is that each battle is a different animal. If Waterloo is the Elephant in the room, just about every member of the animal kingdom is represented.

Making a set of rules that covers them all is something of a miracle. The way we have achieved that is by writing fewer rules, not more.

Lots of people assume that a designer's job is to write rules. The truth is the opposite. He "unwrites" rules. On my first game I was constantly tempted to toss stuff in, just because it was interesting. These days, I try to minimize the rules however I can. In a way, each new rule added is a failure of design. In a perfect world, a new rule would springboard on an existing rule. The complexity of the game would be in its play, not in the extension of its rules.[1]

I found that in different battles reorganization happened differently. Sometimes it took place right at the front. Often, troops would rally

[1] from the Designer's Notes to *La Patrie en Danger*.

behind their cavalry or artillery a short way back. Sometimes the troops would actually leave the battlefield; sometimes they wouldn't stop running for miles.

I don't have NLB in front of me, but the rule from an older version of NAL is as follows:

Proximity of Enemy Units
Coalition Leaders within ten (10) hexes of an Enemy Combat unit may not attempt reorgan-ization. For French units the distance is seven (7) hexes.

Seven hexes is two miles. The truth is, there is no one distance that would be valid for all battles and all armies. This is getting into the gray area of crowd psychology, a lot more amorphous than the ricochet effect of cannon shot or the effectiveness of musketry at 500 yards. John Keegan talks about this on page 172 of *The Face of Battle*, a book which I remember reading while working on *NLB*. If you wanted you could craft a rule to cover this aspect of warfare—which Napoleon classed among the most important ingredients of victory. This would take in Morale, control of VP locations at the moment, losses inflicted by both sides, the state of the overall ebb and flow of the battle and how it was perceived by the soldiers at a given moment; all the factors we already tally-up at the end of play.

The problem is, if correctly done, the side that is losing the battle will have an additional handicap— watch out for the snowball effect. It is double jeopardy; and that's the reason I took it out.

However, psychology is still in play, in the psyches of the two players. The player's action will be conditioned by his perception of the overall swing of battle and as such he will settle upon the appropriate distance in his own way—not stuck to a hard and fast limit.

Andy-
Re: minimum distance away from the frontline for the reorganization process. I would argue that if to be installed it shouldn't be the 6 or 7 hexes it was in NLB, because it is too unrealistic (your officer was either up front to manage fighting or way back to manage reorganizing).

But I read two far more interesting things out of the article, which my attention had been focused last time already:

1. Intentionally reducing odds in combat (as it was allowed at NLB). I do hate the Ex-results on the CRT (even though I think they had to be in there), so I mostly always intentionally reduce the attack strength to a 3-1 (ommiting the Ex).

2. My most favorable topic „command & control": You started a very constructive way of „ordering system" in the 1st edition of NaL (where Cav Charges had been introduced by you first time, just to mention) by giving the overall commanders some sort of „orders" (defend, attack, etc.) which had been shown on the map's periphery having influence on the things Corps officers are able to do.

You left the scene of NLB/ NaL and marched off to the Days- and Campaigns-series leaving me behind while you tested all sorts of logistic and hidden movement topics which I couldn't deal with as a mostly everytime solitaire player. So my thoughts circled around the „c&c"-topic and military profession made me thinking of c(3)... Why shouldn't the first thoughts of the NaL order system not being brought into a more sustainable part of the NLB-/NaL-system without interruption or spoiling playability of the game?

3. Out of this the article brought up another item of my „old" c(3)-thoughts. Using couriers for transmitting orders to elements far out from the frontline (out-of-command).
Thoughts to get discussed: shouldn't the number of order options of a commander [number in brackets] being transferred into the number of courier counters (if in reach of 7 MP, light cav max distance) the element (officer, unit, stack, etc) is „in command" or gets the order issued or will get it next player phase...

Andy wrote-
Thoughts to get discussed: shouldn't the number of order options of a commander [number in brackets] being transferred into the number of courier counters (if in reach of 7 MP, light cav max distance) the element (officer, unit, stack, etc) is „in command" or gets the order issued or will get it next player phase...

Kevin-

Of all the many variables that go into a Commander's Rating, the main consideration was how they performed. How effective was he in this battle? You are not so much looking at each commander in isolation but you are trying to show the difference in the C3 on the two sides by the total number of commands on both sides. This is the most obvious and easiest way to balance a scenario that isn't working.

A Commander has one (short) Command Radius for a battle, and a longer distance to formations that are just marching. It is easier to keep the latter in command than the former. Their orders hardly change from one day to the next. The radius for command factoring in the limitations of battlefield conditions, when your enemy is over there doing things, forcing you to react, etc.; when an officer is being ordered to do something in the battle evolving, orders could easily be outdated by the time they arrive. There are so many instances of orders going astray, arriving too late, being mis-read, and all other SNAFU's combined. There is practically one in every battle.

I don't fully agree with the suggestion that a Commander's Rating would be limited by the number of orderly officers he has available to carry messages. In the Approach to Laon, 1814, Marshal Ney is sending dispatches every ten minutes to Marmont, and all these orderlies subsequently fell into enemy hands. The Marshal is squandering his command rating on the one thing uppermost on his mind—obtaining support from Marmont—and takes his attention away from events in front of him. He could have been thinking of other solutions, taking other measures, even if of a defensive nature.

A Commander's Rating is based on more than his ability to write and think clearly; draft, process and deliver the order. He has to have a staff with an officer of engineers, who maintains the daily situation maps; a chief of artillery; an officer in charge of situation reports of each unit; he has a chief of intelligence, who provides assessments on the enemy; and plenty of gophers. (Berthier's huge bureaucracy isn't part of the essential or "battle" headquarters.) Even Corps-level commanders such as Davout have a staff of specialists headed by a Chief of Staff, working together to make their boss's reputation.

If, in the course of the game, you want the advantage to swing back and forth from one player to the other, then the commands on the two sides should be relatively balanced. If one side is on the overall defensive, they can survive with fewer. Overall we have probably given the advantage to the French by keeping the Allies commands low. If I am honest, I have a pro-French bias. I remember Derek fighting to keep the British initiative at 4.

I have no complains about a House Rule allowing the player to intentionally reduce the attack odds. But I still stand by the Ex, even if it isn't perfectly built.

43. Louis de Narbonne

A debonair, imperturbable and gracious ancien régime gentleman, he replaced Talleyrand as the emperor's favorite confidant. Able to move with perfect ease in aristocratic circles.

He assisted in arranging Marie-Louise's marriage to Napoleon. Never concealed his misgivings about a march on Moscow, while believing it to be France's mission to restore a strong Poland from Poznan to Danzig..

Cate, The War of the Two Emperors.

COMBAT: Horsemanship

Battle	Sword	Firearm
Awareness 5	Analytical 4	Courtesy 5
Magnetism 4	Intrigue 3	Oratory 5
Glory		

card no. 36

Re: "Orders" in NAL: I never got any feedback on this rule (at least that I can recall now), and I concluded the Orders System didn't work very well. I wasn't happy with some things about it. I did try to rework the orders system, and ended up looking to role playing games for inspiration. I actually created a set of role-playing cards for the leaders, that was supposed to go into *Highway to the Kremlin*, but it was only partially sketched-out. Above is a card from that prototype. I envisioned officer ratings in Horsemanship, Sword, Firearm, Magnetism and Glory, among others.

—Kevin

Chris-

We have a *lot* of experience with couriers. We use the 14 MP speed. Because you often have to ride "the long way around" to get to your counterpart (or risk being captured by roving vedettes, house rule), we find it often takes several turns to get a message out. Trying to write a note that

will remain valid 3+ turns from when you write it is challenging.

Andy wrote:
> *(if in reach of 7 MP, light cav max distance)*

7 MPs is for a regiment or brigade. If a messenger can change horses, then he can travel farther. Maybe 14 hexes in a 60-minute timeframe.

However, in battlefield conditions, there isn't more than 15 minutes of ride-time in a 60-minute C3 cycle. That is only 4 hexes.

If you read accounts of these battles, you become aware of how important it is for the Commander to be in visual LOS of all/most of his corps assets. Otherwise he doesn't see that unit, what threats it might be under. He has to rely on the written messages from that unit and decide whether to send reserves that way.

The 3-hex range works for command as well as LOS.

C3 Loop for the Napoleonic Battlefield:

Evaluate latest reports, and visible battlefield.	1 min.
Send Orders	5 min.
Travel Time	15 min.
Time for the unit to move/attack	24 min.
Report received back at HQ.	15 min.

Courier traveling at 5.6 miles per hour can cover 4.69 hexes (2464 yards) in 15 minutes. (Daytime pace allowing for wrong turns.)

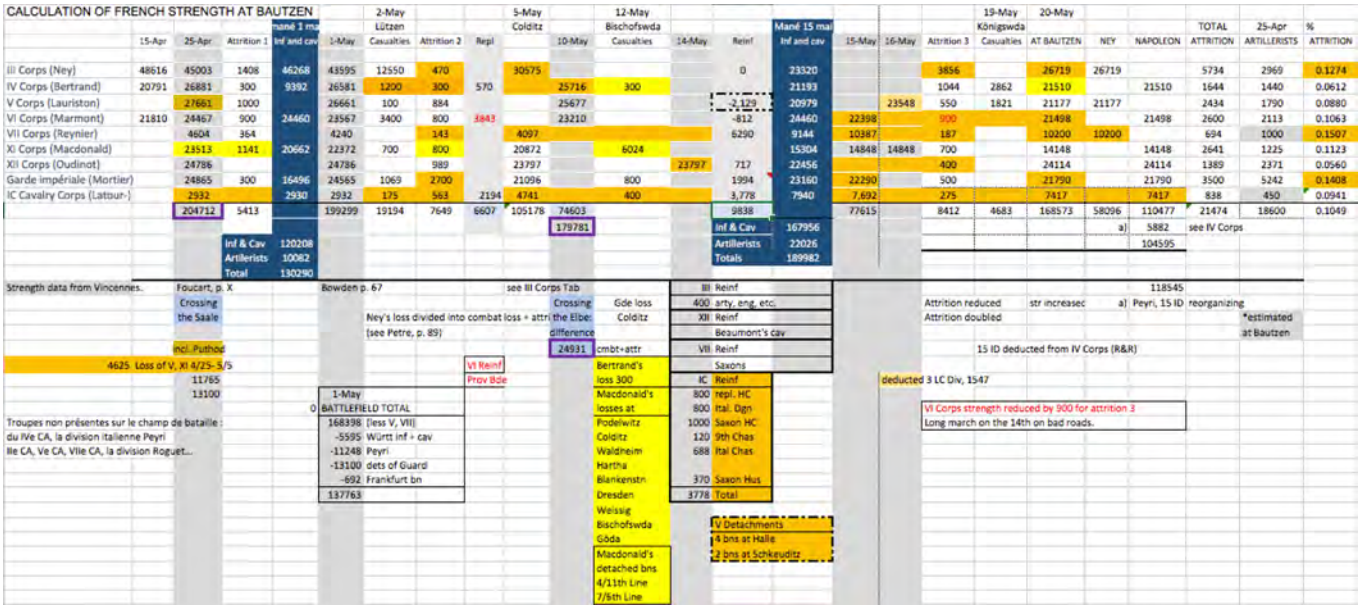
Troops left at Dresden

Le Registre d'ordres du Maréchal Berthier, pages 117-122

Jean Foisy

May 18th: General Durosnel received 3 orders:

First order: *(part)*
Monsieur le général Durosnel, vous conserverez après le départ de l'Empereur
1- Cinq bataillons de troupes westphaliennes commandées par le général Lageon formant, en présents sous les armes, y compris les détachements qu'ils avaient dans les places en arrière, et qui rejoignent, 2.200 hommes présents.
2- Les dépots des IVe, VIe. VIIe, XIe et XIIe corps d'armée. Je ne connais encore que la situation de ceux des VIe et XIe corps qui sont aujourd'hui de 800 hommes.
3- Le dépôt général de cavalerie établi à Dresde dont la force aujourd'hui est de 600 hommes et 725 chevaux.
Total, non comprisles dépôts des IV, VIIe et XIe corps dont la situation n'est pas encore connue 3.600 hommes,725 chevaux. Avec ces forces, général, vous devez garder la tête du pont, nos ponts, la ville et vous servir de la cavalerie du dépôt général pour garder les bacs en-dessus et en-dessous de Dresde.



SCENARIO DESIGN

Designing the Long Game

Chris Moeller and Kevin Zucker

In the last year I've begun to think about the long arc of the story line, as it pertains to battles and AtBs. Like the good chess players, I have rather belatedly begun to think about opening, mid-game, and end-game. Otherwise we focus too much on the outcome of one particular decisive battle and not enough on the set-up and development stages of play. Joseph L. White, in a recent Consimworld post, seems to be talking about a similar process…

> …experienced wargamers tend to read the map as a whole then process the detailed moves/ decisions in chunks as they work through a turn.

How does that work, I wonder? Is there a constant scoping out and then zero-ing in? Let's say you are attacking and lining up the order of your attacks. You usually do the subsidiary attacks first, then the main ones. This implies that at different stages of the game the player is engaged at different levels, gradually scoping in on the final assault that will break the enemy line.

OPENING. *The topography and forces. Intel.*
I think of Chess, where the advantage of moving first looms so large. That is something similar you are giving out when you assign "First Player." A good opening involves intelligence goals: locate good ground to fight on, determine the size and quality of the enemy, figure out where he is and isn't strong, note anything that might constrain his movement or fighting ability (and your own).

You're looking at the whole map, determining where the main fight will occur—getting your forces to the right place is the focus of this stage. Like in Chess, you don't start with your high powered pieces but you are content to just build a position.

MID-GAME. *Execute the Plan, deception, scouting.*
The mid game comes once you've discovered those things, or waved them off as undiscoverable in the time you have. You've chosen your ground, you've committed to a strategy, now you're working on deception, speed and mass, surprise, preparing your forces for the main event. This is mostly movement, scouting, screening and deception. You're acting to prevent your opponent from gaining information about you, as you increase your understanding about him.

Combats become more frequent. Getting your ducks ready before you launch the all-out assault on that one key piece of terrain. Will your risky strategy pay off or will your overconfidence get you annihilated? Or do you play it safe and suffer a thousand small cuts? Your attacks either come off as planned or they don't.

END-GAME. *The big battle*
The end game consists of the climactic battle, usually lasting several turns. Here you're looking for local advantages, shifting forces here and there as needed, managing reserves, attempting to demoralize the other player… to convince him that he can't win or retain the initiative, taking risks to that end, and exploiting any small advantage that could tip the balance drastically. These include aggressive advances after combat, charges, following up on moments of good luck, etc... Then comes the final act: La garde au feu!

ZOOM-IN AND OUT
With two-dimensional computer war-games, you can't look at the map the way you look at it in three dimensions. You have to zoom out to see the whole thing, but the details are unreadable, and confined to one perspective. You zoom in to see the details but lose your larger context. With an analogue map, if you stand up, you see the whole thing, you see all of the relationships, you can change your perspective but you still have the whole map in your peripheral vision. The details remain in context. That's very important to understanding the various relationships in play. How far are my forces from one another? How large and small are they? How does the road net affect the relationship to one another and to the enemy. Where are the choke points? I hold all of those things in my vision when I lean in to set up attacks or holding actions, to structure my stacks, vedette screens, etc… I can glance over and refer to all of those "zoomed-out" things while also zooming-in on a detailed situation.

In the game "Go," the early phase of play is *joseki* in which you are placing stones on a relatively empty board. The player is building a large structure, one play at a time, which will only become obvious in

the future. Go has always appealed to me because it's about shapes. My visually-attuned mind works better with shape-relationships than lines of force. A game like the Campaigns series which has vast distances and few forces is much more satisfying than a computer version of the same. The shapes, the interactions between masses, are lost when you're zooming in and out. You need the physical object to really get a feel for the interactions between the forces in play.

> In our game of Montmirail, I hadn't stopped to deploy in the historical positions Sacken had taken up, flying straight from road march column directly into battle without taking time to deploy—very unhistorical. A General would want all of his troops gathered in line of battle prior to meeting the enemy. In Sacken's case, if he engages with his troops still strung out, he cannot bring his dominant power to bear and exposes his lead formations to defeat in detail.
>
> —*Chris Moeller, WDM Vol. III, Nr. 3*

That was faulty opening play on several levels: I saw a river, but I didn't see all the bridges. I saw a map edge, but neglected to note that French reinforcements were coming in all along it. I saw a strong advanced position, but didn't notice how the road net didn't support it. I saw my own powerful force, but didn't understand its weakness relative to the French.

What was the actual General Sacken thinking?

1) I know there is going to be a battle.

2) I need to deploy far enough forward to link up with the Prussians

3) My forces are still in RM column, so I need time to develop a position.

General Nathan Bedford Forrest said "get thar the *furstest* with the mostest." Even if you don't have overall superiority, you can gain local superiority by moving quickly. With a small, compact army you can grind up a strung out column.

Elements of a Good Mid-Game:

If we want to design a close contest, where both sides have chances, and either can gain the initiative as the front lines move back and forth, how do we craft that into the mid-game?

RESOURCES: Resources for gaining and protecting information. In addition to the standard rules (vedettes, hidden forces) there are also battle-specific resources such as terrain features, unit mix and type, leadership. I.Ps, bridge trains,. For example, make sure there is least one Commander on each side at start.

OPTIONS: A variety of map and force options for players to choose. A variety of supply sources will allow for different axes of advance The way you draw the map can affect the mid-game very strongly. Include the most main roads possible, try to align map edges with some kind of difficult terrain. That way, the player isn't constrained by an artificial boundary.

One of the issues with *Sun of Austerlitz* is that it's pretty much a one-vector advance for the French… everything happens along one really optimal axis of advance. *TLS* has similar issues, but has greater variety because of the different phases of the campaign (Austrians pushing in beginning, French pushing in the middle).

Reinforcements are another mid-game element. In the Eylau advance to battle, Ney vs. L'Estocq add variability to what would otherwise be a fairly obvious end-game situation.

Crafting the Mid-Game: VPs

Look where the armies are likely to be at the end of the game. VPs bring out the important road junctions and overlooks. Usually the VPs are somewhere near where the battle is likely to be. For example, at Lützen, if the Prussians hold one of the four villages they can win a marginal victory.

Something I'm discovering (in our current game of *NaC*, playing Schwartzenberg) is the value of patience. It is VERY HARD for me, as a gamer, to do nothing and wait, turn after turn. Choosing when to act and when not to act, that's tough. We think that acting is something you should be doing. "What should I do now?" I spent the first 8-9 turns of our game hovering off-map. The threat of my arrival held Napoleon in place while the other two armies advanced, and frustrated his opportunities to smash us separately and gain critical victories, but at the cost of me doing nothing. I had a similar experience retreating as the Anglo-Allies in NLG. Surviving and pulling back doesn't feel like much of an accomplishment. Slowing down the enemy's advance, making him pay in time, doesn't feel like a victory.

Those are valuable lessons… discover the value in frustrating your opponent's plans. Learn the value of a threat-in-being.

Playing the Spanish in *NQ* is maybe the biggest challenge in this regard. You can't just do nothing and wait, yet you can't advance and maneuver. So much of those battles involve playing with your opponent's mind. Can you scare your enemy enough that he will hesitate for an extra turn before plowing you under? You have to be both very patient and very daring, but the wrong timing can leave your army entirely destroyed.

General Retreat, and Proposed Combat Table Revisions

Kevin Zucker

Back when we designed 4 Lost Battles, and the cards were first developing, cards were seen, first, as a way to vary the Reinforcement Schedule, but second, as a way to shorten the rules, by putting onto them things that rarely happened. We then realized that the option to take a GR should be uncoupled from the card, but we decided to leave the card in the deck. In retrospect, that was probably not the best answer.

What would a proper GR rule be? In all fairness, it should provide a tool for the disadvantaged side to salvage their fat from the fire. Not losing was sometimes enough.

Even though Wittgenstein did not win, Bautzen served the Allied cause well, as it cost the Emperor twice as many men, and in retreat the Allies were approaching their supplies while Napoleon has no LOC at all and attrition is about to go through the roof, so that by June 1st the Allies outnumbered him.

Given the overwhelming forces against them, the Coalition Player will need that General Retreat order. It's like "Honor" required fighting when what the army really needed was to just retreat. As if some unwritten code that you cannot JUST bug-out. That is what we tried to juggle with in the arcane VP formulae.

Some players have a house-rule that the GR card is not placed in the main pack *until* the owning player elects to have it included.

When it's not needed, the GR Card can be played for the Movement Allowance. We just ruled that way. Remember that you can GR without card. The card gives you an extra GR if you cancel the first one.

Players do not like it when they are winning and then are forced to GR. A player should not have total control either. There were times when off-site events might force a retreat.

• You can cancel a GR even if you are forced to play it. Spend that turn dressing your lines or something.

• There are no forced movements just because of the GR.

• A General retreat can (theoretically) be used as a temporary "pull back" order, such as Hohenlohe at Jena. "The Prussians and Saxons could not withstand the pressure, and began to give ground, whereupon Prince Hohenlohe ordered a general withdrawal to the ground between Gross and Klein Romstedt. The withdrawal began in good order, but then dissolved into chaos as Napoleon unleashed Murat's massed squadrons." (Chandler's *Jena*, p. 63)

PROPOSED COMBAT TABLE REVISIONS

We have been testing a revision of the Combat Results Table substituting Dr* results and taking out the Ar*.

My greatest concern with this change is that the game will become somewhat less attacker-friendly. This will change the game. There *should* be lots of combat. Dr* means the defender, instead of taking a Dr, gets an extra bite at the apple. This makes the defense stronger.

On our first proposed table *(page 12 below)* instead of 7 Dr* results there are only 5. The one at 1:1 is balanced-out by an Ar* at 1:1. More battles are probably resolved at 1:1 than any other odds, especially when attacking chateaux. This means either side can benefit from a Shock at the most-common odds.

I'd be in favor of adding more Ar*, so that the effect is neutral, favoring neither the attacker nor the defender. We should consider adding more Ar* to balance the effect.

What is an Ar*?

I think we have to visualize in as concrete terms as possible. The French Imperial Guard at Waterloo, having received the final Dr result, had started to turn around and fall back, but just then, trumpets blare and drums roll, and the general gallops up and rallies the men for another attempt.

What does this look like for the Defender? Remember, there must be some kind of LOS obstruction—woods, town, or crest. So then, there is a sudden surprise encounter. The British Guards stand up facing the French at lethal range. That is the Shock Moment.

So it seems to me that either Ar* or Dr* ought be provided for.

A general of ordinary talent occupying a bad position, and surprised by a superior force, seeks his safety in retreat; but a great captain supplies all deficiencies by his courage, and marches boldly to meet the attack. By this means he disconcerts his adversary; and if the latter shows any irresolution in his movements, a skillful leader, profiting by his indecision, may even hope for victory, or at least employ the day in maneuvering — at night he entrenches himself, or falls back to a better position. By this determined conduct he maintains the honor of his arms, the first essential to all military superiority.—Napoleon, *Maxims*, XVIII

What is Shock?

Shock is any combat other than the flat and level line/column/square fight, where battalions are not lined up in rows and columns. The occurrence of Shock Combat is very random; worse troops may get the upper hand, if they are alert, intelligent and responsive. Sometimes, as in an ambush, Shock Combat *can* be planned, but such plans often go wrong.

Some troops excelled at this kind of helter-skelter warfare; others could not function well. Any troops might be involved in a Shock Combat, depending upon circumstances. Prussian and Russian jäger excelled at Shock, as did the French infantry generally, and Austrian Grenzer, marksmen raised from backwoods provinces. Inexperienced troops without *elán* and the Prussian line infantry pre-1807 would not be placed in a town.

Reconsidering the "Ar*" Result

The Ar* makes low-initiative troops easy to kick out of a town, for example. But we concur—a low initiative rating indicates that a unit is not very good at "cohering" and performing unsupervised tasks invisible to their officers. All writers agree that it was just in this ability that the French troops generally excelled.

A unit's Initiative Rating is a combination of leadership—plentiful officers, good CO—and troop quality: training and doctrine, morale, well-supplied, confident and intelligent troops. Initiative means more than "élan;" but you can see how troops with a lot of élan and little training could still fight well in a town or in woods, even if they were not very good in regular combat; whereas low élan/poorly trained troops might congregate in the wine cellars and get completely drunk.

Now that we have had some experience with the revised table, we need to evaluate whether the defender now has too much help. What if the old Ar* was actually a needed balancing effect to take away some of the defender's inherent advantages?

[That is, almost all terrain benefits the defender; the defender also gets the rounding advantage.]

Let's assume, for now, the ideal wargame should be balanced, nearly 50/50. In most battles, as we know, one side is usually defending mostly and the other attacking mostly. The original *Napoleon's Last Battles* was biased toward the defender, 60/40 let's say. In concert with the 5-high stacking in TLNB, the Ar* gives an advantage to the attacker, to somewhat compensate for the defender's inherent advantages. It may have even moved the balance to the other side, 40/60.

I really just pulled those percentages out of the air, but wargames being wargames, it *must* be fun for the attacker or there is no game. We are even seeing games such as Bautzen where the attacker is on a roll. Maybe the defender needs the help more?

Testing of the new table with the Dr* result is ongoing. So far, the test team has found, after 60 instances of all types of the Shock Combat result. The Dr* with its 6 changes meant 10 per cent of results were changed.

COMBAT RESULTS TABLE (CRT)

Die	Probability Ratio (Odds) Attacker:Defender												Die
Roll	1:5+	1:4	1:3	1:2	1:1.5	1:1	1.5:1	2:1	3:1	4:1	5:1	6+:1	**Roll**
1	Ar	Ar	Dr [c]	Dr	Dr	Dr2	Dr2	Dr2	Dr3	De	De	De	1
2	Ar2	Ar	Ar	Dr* [b]	Dr* [b]	Dr	Dr	Dr2	Dr2	Dr4	De	De	2
3	Ae	Ar2	Ar	Sk	Sk	Dr* [b]	Dr	Dr	Dr2	Dr3	Dr3	De	3
4	Ae	Ar3	Ar2	Ar	Ar	Sk	Dr* [b]	Dr* [b]	Dr	Dr2	Dr2	Dr2	4
5	Ae	Ae	Ar3	Ar2	Ar	Ar* [d]	Sk	Sk	Dr [c]	Dr	Ex	Ex	5
6	Ae	Ae	Ae	Ar3	Ar2	Ar2	Ar	Ar [e]	Sk	Ex	Ex	Ex	6

Attacks at greater than 6:1 are treated as 6:1; Attacks at worse than 1:5 are treated as 1:5. "Ar*" or "Dr*" may be Shock If you obtain a Shock Result, proceed to compare the Initiative Ratings of the best units on either side on the Shock Combat Table, and apply the Combat Result.

NOTES:

a) The CRT above is the same as the Test Table with changes noted.
b) In the Test Table Ar* results have been removed, and Dr* added in each column.
c) From the Test Table remove the * at 1:3 and 3:1
d) At 1:1, add Ar*

Regarding the test statistics above, the defender is only advantaged 10% of the time, but in the old table the Attacker was helped 10% of the time. That is a 20% spread. We are moving it from the attacker to the defender.

If we want a truly balanced Combat Resolution System, then I believe the "*" result should be, at least, equally distributed to both sides.

Right now I am not convinced, we could be making the game less lucky for the attacker. The inherent advantages of defending are terrain and "SP rounding." Rounding will give you the benefit of a few SPs in the course of each turn. Terrain will increase part of the army's combat strength by x1.5 or 2.0. Let's say half the army has no terrain benefit, the other troops have been helped greatly by the Terrain Effects on Combat.

The Combat system with the Ar* functions to undo a bit of that defender advantage. That and the 5-high stacking... Those two things were needed to break open the game.

I think, in most games played, the player attacking has an advantage, whereby a passive defense doesn't work. An active defense is more historical. Attack and counterattack, back and forth, that is how we have it now. I would have to be very cautious about giving the defender that much of an advantage. A 20% shift means 1 game in 5 would change.

When you are occupying a position which the enemy threatens to surround, collect all your force immediately, and menace him with an offensive movement. By this maneuver you will prevent him from detaching and annoying your flanks, in case you should judge it necessary to retire.
—Napoleon, *Maxims*, XXIII

Attacking should be fun. I am afraid that any change will make defending a more advantageous tactic. Right now I think there is a tenuous balance overall for all the 38 battles. Bautzen appears to be an exception, but I hadn't noted any strong patterns of one-sidedness in playtesting.

The following Proposed CRT revision *(next page)* has five Ar* and only three Dr* results.

COMBAT RESULTS TABLE (CRT)

Die	Probability Ratio (Odds) Attacker:Defender												**Die**
Roll	1:5+	1:4	1:3	1:2	1:1.5	1:1	1.5:1	2:1	3:1	4:1	5:1	6+:1	**Roll**
1	Ar	Ar	Dr	Dr	Dr*	Dr2	Dr2	Dr2	Dr3	De	De	De	1
2	Ar2	Ar	Ar	Dr	Dr	Dr*	Dr*	Dr2	Dr2	Dr4	De	De	2
3	Ae	Ar2	Ar	Sk	Sk	Dr	Dr	Dr	Dr2	Dr3	Dr3	De	3
4	Ae	Ar3	Ar2	Ar*	Ar	Sk	Dr	Dr	Dr	Dr2	Dr2	Dr2	4
5	Ae	Ae	Ar3	Ar2	Ar*	Ar*	Sk	Sk	Dr	Dr	Ex	Ex	5
6	Ae	Ae	Ae	Ar3	Ar2	Ar2	Ar*	Ar*	Sk	Ex	Ex	Ex	6

Attacks at greater than 6:1 are treated as 6:1; Attacks at worse than 1:5 are treated as 1:5. "Ar*" or "Dr*" may be Shock (Sk). If you obtain a Shock Result, proceed to compare the Initiative Ratings of the best units on either side on the Shock Combat Table, and apply the Combat Result.

NOTES:

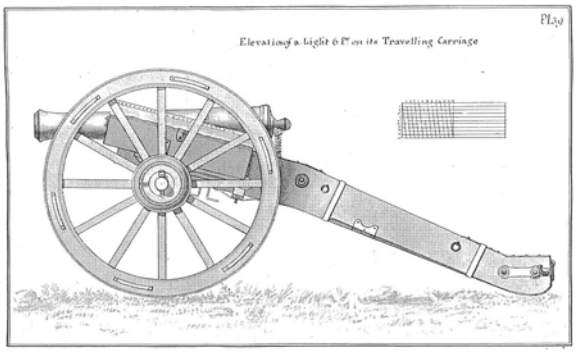
a) The CRT above shows changes from the official table in red or green.
b) In the Test Table above Ar* results have been reintroduced, and Dr* limited to only three columns.
c) The Ar* result was removed at 1:3 odds or worse.
d) It was pointed out that the Ar* result alleviated the problem of Chateaux not helping low-initiative defenders
e) Most attacks on Chateaux will be at those odds at or near 1:1.
f) By taking away 3 Ar* and adding 3 Dr* results, the number of Shocks should not increase too much.

New Bombardment Table

How it works, what it says about history, and the incentives it gives to players.

by Christopher Moeller

BOMBARDMENT TABLE							
		Bombardment Strength					
Die Roll	10+	8-9	6-7	4-5	2-3	1	< 1
-1, 0	S	S	•	•	•	•	•
1	Dr	S	S	•	•	•	•
2	Dr	Dr	S	S	•	•	•
3	Dr	Dr	Dr	S	•	•	•
4	1R	Dr	Dr	Dr	S	•	•
5	1R	1R	Dr	Dr	Dr	S	•
6	1R	1R	1R	Dr	Dr	Dr	•
7, 8	1R	1R	1R	1R	Dr	Dr	Dr
9+	De	1R	1R	1R	1R	Dr	Dr
Key							
1R = Reduce one Combat unit (attacker's choice); may retreat also.							
De = Defender Eliminated			• = no effect				
Dr = Defender retreat. On successful initiative check may convert result to 1R instead of Dr.							
S = Suppressed. Modifier of -1 from target's initiative in the following combat step.							
MODIFIERS: (see Notes to Combat Tables)							



British light 6 pdr. Gun on a double bracket field carriage

The new Bombardment Table above has been developed by the entire OSG team through a series of long discussions and is very similar to the one in current use. Most of the results are actually unchanged. The table has two new columns and one new line. In addition to the added columns for "10+" and "<1" (less than 1), and the new line (9+) at the bottom, the new Bombardment Table also contains a new result, the "S" (Suppressed) result. Suppression fire forces the defenders to keep their heads down. Suppressed units have a -1 Initiative modifier in the coming combat phase (in case there should be a shock in that hex).[1]

In addition, the new interpretation of the "Dr" result (for this table only) allows units to check their initiative, and if successful, they may stand in place and take a 1R instead of retreating from the hex. This is similar to the concept in the *Campaigns of Napoleon*, where the combat result may be taken as a retreat result or a Combat Strength loss. There are several factors at play here:

The Attacker can affect his attack by:

1. Increasing the number of guns (modified by terrain effects and weather)

2. Increasing the modifiers to the dice roll (mostly from cards: +1 for Grand Battery and Point Blank Fire, and from being in Square).

The Defender may be affected in three ways:

1. Miss: target is unaffected
2. Retreat: target is forced to retreat (unless initiative is rolled, in which case there is an option to lose a step instead)
3. Reduction: target loses a step of strength

Let's look at how these factors interact with one another, and think about what they represent.

The number of guns firing.

The more guns the attacker brings to bear, the less likely he is to miss. That seems intuitive: the more guns firing, the more likely an effect on the target. Second, once 4 SP's are firing, half of the results will be retreats, the remainder will be a mix of Misses and Reductions. As the number of guns increases, the more Misses are converted into Reductions. At 10+, half the time you're causing Retreats, and half Reductions.

This is modified by terrain and weather effects, which neutralize a proportion of the attacker's strength (firing into a town, for instance, effectively neutralizes one third of his bombarding strength). Terrain and weather influences two things: the more "rough" the terrain or severe the weather, the more misses will occur and the fewer Reductions will occur. (Retreats remain the same until you drop below 4 Strength Points.)

At 4 Strength Points and above, you're retreating the target half the time. The rest of the

[1] Thanks to Aaron Tobul for the Suppression idea.

time, you're either reducing him or missing altogether. At 3 strength points or less, this flips, where there are no more Reductions, only Misses and a dwindling number of Retreats.

So, at low strength (3 SP's or less), artillery is mostly Missing. When it hits, it causes Retreats. At 4 SP's and up, Reductions are introduced. They begin to replace misses, until at the top of the chart, half of hits are causing Reductions and half are causing Retreats. Bigger bombardments replace more Misses with Reductions. Retreats remain constant.

It's as though the Bombardment Table is actually two different tables, with 4 SP's being the break point between them. On the low end, increasing the number of guns increases the likelihood of a Retreat result. On the high end, the odds of a Retreat level out at 50%, and you are now beginning to convert misses into Reductions. This seems to imply that, in terms of severity, reductions are somewhere in-between a miss and a retreat. As you fire more and more guns, your target will be reduced rather than emerging unscathed. Why then, does the lower half of the table contain only the Retreat result, and no Reductions? What is it saying? It seems to suggest that the Reduction result is something that only happens during high-intensity bombardments. At low intensity, formations may give way to panic, but are unlikely to be physically mauled by the artillery fire.

[Ed. Note: If that hex is key terrain critical to hold, a 1R result may be preferable to a retreat.]

Modifiers to the Roll

The second way a bombardment can be affected is through modifiers. These are actually rather rare. They're either the result of charges, or of card play. Play of a grand battery card or point blank fire card will cause die roll increases. At the low end of our table (3 SP's or less), each modifier eliminates a Miss and adds a Retreat. As more guns show up (4 SP's or more), this begin converts more misses into Reductions. At 10+ SP's, it switches to where *Retreats* begin to be converted into Reductions. If we see Reductions as a "weaker" result than Retreat, this is counter-intuitive. Possibly the 7,8 result on the 10+ column should be a De?

The Results

Miss, obviously, is the best outcome for the defender. Every column reduces the chances of a Miss by one. Defensive terrain and bad weather increase the likelihood of this outcome.

Retreat can be either a non-event or catastrophic (for a unit that's surrounded). That's another reason for the new rule allowing units to check initiative in order to avoid retreating. For units that make their roll, a Retreat is now either non-event, bad (a Reduction), or catastrophic.

Reduction is always bad for the defender. It can be worse than a Retreat, or better (if the unit isn't surrounded). This is something that begins to happen more and more frequently as the number of guns goes up. It's clearly a function of large numbers of guns pounding away.

DESIGN NOTES:

Logistics is the Key to Landpower

Kevin Zucker

The title, above, was provided by Andreas E. Gebhardt, a great friend and military man. It says it all.

In the current TLNB rules, the game ends with the close of day after the big battle. We don't have the tools to properly replay the pursuit stage of a campaign (after the battle stage). Simplifications in the treatment of Logistics are hindering the TLNB Design Intent of stringing campaigns together in weekly periods.

We have been working on this problem so that our games can better reflect the full campaign. The After the Battle Stage are the days between battles—when troops are resting and reorganizing, and a lull has fallen in the fighting. For example, in March 1814 we have Napoleon fighting a small battle at Reims, just after a big setback at Laon.

Definition of LOGISTICS
1: the aspect of military science dealing with the procurement, maintenance, and transportation of military matériel, facilities, and personnel
2: the handling of the details of an operation; the logistics of a political campaign.

First known use circa 1861 in sense 1

Both logic and logistics ultimately derive from the Greek *logos*, meaning "reason." But while logic derives directly from Greek, logistics first passed into French as *logistique*, and then into English.

Origin and Etymology of LOGISTICS
French *Logis* lodging, maison.
French *logistique* art of calculating, logistics, from Greek *logistikē* art of calculating, from feminine of *logistikos* of calculation, from *logizein* to calculate, from *logos* reason.

For game purposes Logistics encompasses everything that isn't combat: Marches, Attrition, Leaders, Replacements and Reinforcements, etc. We have under development a new rule covering the role of baggage trains in the reorganization of armies after a major battle (see below).

Logistics in the game are expressed in terms of VPs. The most expensive unit to lose is baggage and losing a supply source is the same in terms of VPs.

What are VPs all about?
The Victory Point process is an attempt to evaluate the status and condition of the two armies for continued operations. Winning the battle is only half the battle! You have to win the pursuit; you may even have to win another battle. The VP levels at the end of the battle are not just about who won the battle today, but are supposed to predict the future operations of the two armies.

Unlike in the *NAB*-series campaign games, where Supply and Administration have such an important impact, here the effects of supply and admin are reduced to a few rules regarding baggage; they are also indicated as an effect on VPs.

These armies were at a disadvantage if they had to fight two days in a row. This is the reason why major battles were interrupted by what we have called the "Truce" days: at Leipzig and Waterloo, the 17th, at Borodino the 6th. Here the troops are being reorganized, the armies are licking their wounds, supplies are being brought up,

officers promoted from the ranks, battalions consolidated. These functions need to be taken care of on the day after a major battle. Troops can fight on an empty stomach for one day, but not two. Armies brought enough ammo for two days of battle, but not more. Troops need food and rest.

The "'Undeclared Truce Days" rules, below, are an attempt to fill-in the missing details of what the armies have to do on their "day off" from battle.

30.6 Undeclared Truce Days

During the 11th-12th there was no combat as both sides were engaged in Recovery and Reorganization. Blücher was sick. Napoleon was allowed to slip away without pursuit.

30.61 Skip Truce Days: For a more historical and quicker campaign, skip the 11th and 12th entirely and move to the scenario start for the 13th. Use the historical set-up positions for the 13th, and implement the other scenario information as provided in 30.1–30.5.

30.62 Reduced Strength Units

Indications of ® or eliminated on the Initial Set-up for the 13th should be ignored. Losses will depend on the outcome of the fight on prior days. Carry your losses forward from the 10th to the 13th. EXCEPTION: All units in the UAR, and all baggage trains, are automatically reorganized prior to the start of the 13th.

30.63 Play-out the Truce Days (OPTIONAL): If you decide to play-out the 11th and 12th, draw two bonus cards each day. Leaving your forces in position from prior play, continue with 9 AM, March 11th using the Night Turn Sequence (2.2). Carry your losses forward from the 10th to the 11th performing recovery and reorganization as usual, until every eliminated unit is attempted, or the day sequence recommences. The following rules (30.64–30.67) apply when using this option.

30.64 Combat during Truce: If any unit enters an EZOC, Players switch to the Day Sequence immediately. Any formation which takes part in combat on a Truce Day has to roll for each of its units still UAR at that moment to see which ones will become PEU (30.67).

30.65 Baggage Reorganization: During each Reorganization Segment (22.2), of Weather check turns only, the Phasing Player may automatically reorganize one lost baggage train. The recovered Baggage Train enters as a reinforcement at any friendly Supply Source (not in an EZOC). VPs awarded to the enemy for the old baggage are not lost. Only a Commander or the appropriate Corps Officer may reorganize a baggage train. If the Corps baggage train is not on the map that Corps's reorganizing combat units are subject to a die roll (30.67).

30.66 Reinforcements during Truce:

Reinforcements arrive as specified on the TRC; each may be assigned a march order at the time of arrival.

30.67 Baggage Train Movement: All Formations must recover any units awaiting reorganization before their baggage trains move away from the current friendly supply source. If the Formation's Trunk Line (17.43) is increased, roll for each unit of the Formation still on the Reorganization Display: on a die roll of 5 or 6 move the unit to the PEU. All units that are out of supply (or lack a baggage train) upon reorganization must also roll as above.

Artillery Reaction Fire (ARF)

I can't tell you how much fun I'm having playing Bautzen with the new ARF rules… so many interesting things to think about defensively (and offensively). It's really important, on the attack, to attempt to account for where the defender has his guns deployed. Recon becomes vitally important.

By Christopher Moeller

Here's an example of decision making on offense and defense. I want Sass's corps to defend Malschwitz

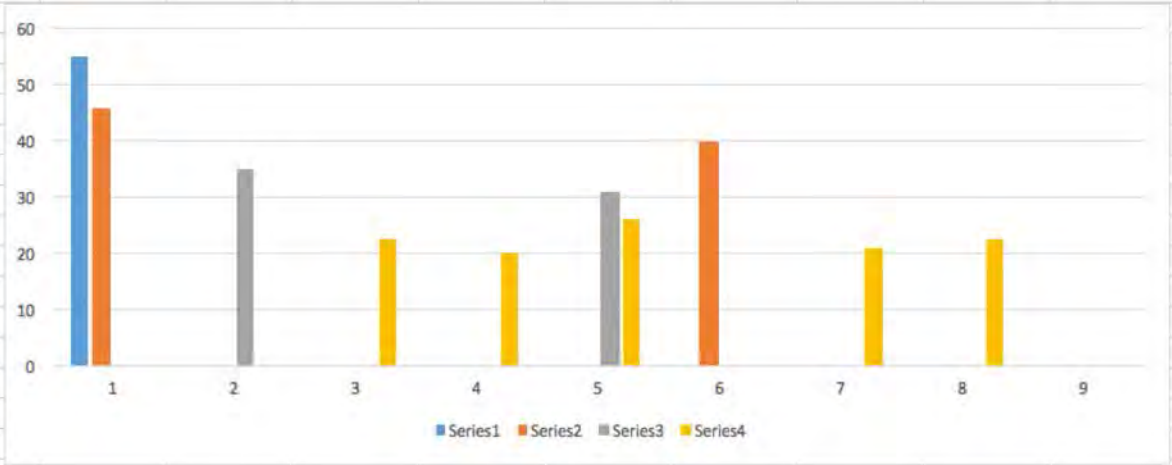
These (next page) are the start hexes. Langeron's guys (assuming they activate) will be moving to the Windmuhlenberg (3508). The two infantry in 3312 will head to the chateau of course. What about Zykr and the guns?

(Next Picture) Magdenko will cover 2911. Avril's 16th Div. could move up to 2811 and prevent any bombardment, but that means he will have to either include Magdenko in his attack, or send a diversion against him while someone else goes after the chateau. Either way, Magdenko's guns have pulled some people off of the attack. Meanwhile, Wassilev will cover 2911 from the other side. Zykr will attempt to keep the attackers from engaging Wassilev (Zykr's a 1, so he's effectively useless, but he's behind a crest, so there's a good chance he'll remain hidden from the french and maybe act as a lure or deterrent. Regardless, see what interesting problems and opportunities are presented? So much more satisfying than just sticking as many bodies as you can in a hex and keeping your fingers crossed for a good die roll. It's a better story, and it FEELS right. Feels historically right. feels like the picture I'm getting from reading all the 1813 stuff. The writers were always talking about the guns… "six enemy guns showed up, and stopped the assault until six of our guns arrived and drove them off."

And look what an interesting problem is presented to the attacker. If I were the French I'd want to get some light cavalry into 2811 and 3011 before I did anything else. Alternatively, I'd bring up some large guns and pound away at those batteries while my infantry prepared out of range. Or maybe I'd head along the lake on the west and get into those woods before advancing on the town under cover from that direction. On the other hand, if I'm in a rush, I'll just bring up some big stacks, pas-de-charge head first and take my licks. I think a lot of players will do that at first (since there was no disincentive in the past) and feel ROBBED when one of their big units gets reduced, or their attack is broken up by a retreat. That's where gnashing of teeth will come in, but it's okay. Everyone will have to rethink how they play. And I think the play is better. It requires more finesse and patience (or bloody-mindedness if you're on a tight schedule). Can't wait to try Borodino again!

And this is how you get around that defense (below). Of course this supposes perfect intelligence, and emphasizes how important recon work is (because you can stumble into hidden guns). It should penalize the french in 1813-14 for their relative lack of vedettes. Even with this clever attack, Sass held the chateaux :)

				ACCURACY TESTS				
				RANGE IN YARDS				
PERCENT	600	874	950	984	1039	1093	1200	1350
100								
90								
80								
70								
60								
50	55							
40	46					40		
30		35			31			
20			22.5	20	26		21	22.5
10								



NOTE: If we disregard column G, it appears that there is little change in accuracy at ranges over 900 yards, hovering around 20-26%

My Road to Hal

By John Devereaux

When I first started thinking about this expansion about a year ago, I decided to record my thoughts for other fledgling designers and developers – a kind of mistake avoidance journal. After all, I thought to myself, "this will be an easy, fun project". I should have realized then that "Easy" is relative and "Fun" is subjective. "Hard" and "Work" would have been better used terms.

Expansion Design Philosophy

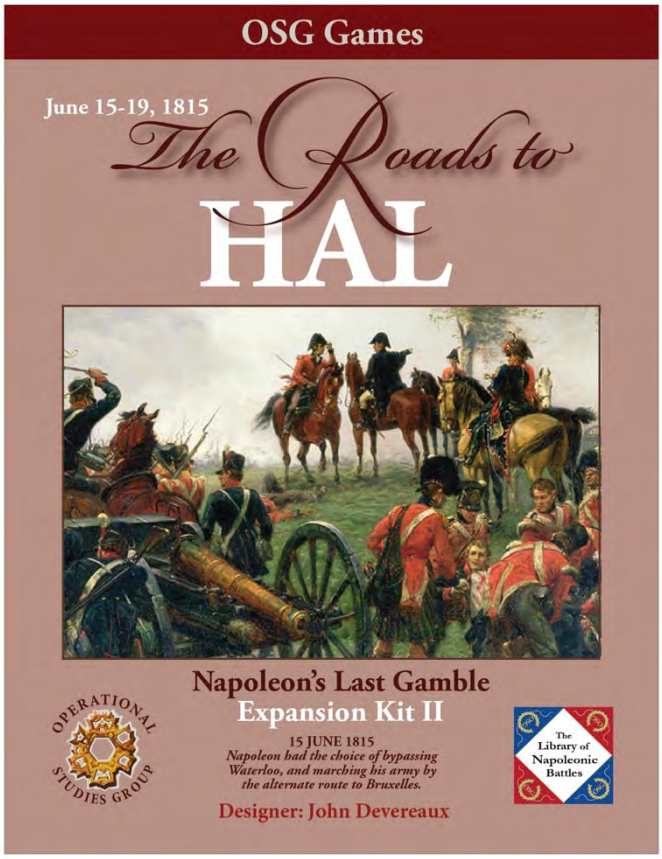
The initial idea for the expansion was triggered by watching the videos that the Thursday Night Gamers had produced for the NLG Extended Campaign Game scenario. Near the end of the game, the French attempted to flank the Anglo-Allied forces west of Brussels. The strategy was correct, but one could see that the game map border would prevent the flanking attempt from succeeding.

In addition, I remembered the thoughtful consim-world post from Tim Carne entitled "The Forces at Halle (Hal)". Much of his post dealt with how to involve the Hal forces without a map extension. But I thought, what if there was an extension map? Not only would the Hal forces become more relevant, both Napoleon and Wellington could be significantly challenged by the new options that would be available. A flanking attempt might succeed! This kernel of an idea triggered a few days of high level research to answer three key questions:

1. Was there a good source map that could be used for the extension map?
2. Could an order of battle and arrival for the forces be constructed using the new map?
3. Could interesting scenarios or situations evolve that would spark a player's interest?

When I could answer all three questions with an enthusiastic "yes", I then started to think about the overall design.

The design philosophy for "The Roads to Hal" expansion is minimalist - to integrate into the original NLG game system - not create a host of new rules. For example, in the Hal Alternative Campaign Scenario, the new expansion map setup and arrival



times would need to change for the Anglo-Allied Army, but not for the French or Prussians, as their initial setup positions were unaffected by the new map. The few, new rules would be scenario driven.

An Old Question Re-Surfaces

These points then triggered a very old question from 45 years ago. Why would Wellington leave 17,000 troops near Hal, while the climactic battle was fought just a few miles away? Surely, there was more to this story than he was "obsessed" or "he forgot"! To build credible scenarios this issue had to be understood in detail so that the Wellington's intentions could be simulated.

Luckily, researchers and authors, such as de Wit, Hussey and Muilwijk have recently addressed this question. It became clear that Hal was both a strategic and political concern for Wellington. It guarded the western approaches to Brussels which was the Netherlands southern capital, shielded his line of communications to Antwerp and Ostend, and protected the King of France who was in Ghent (~30 miles from Brussels). In fact, Wellington believed the climactic battle would most likely be fought

near Hal rather than Mont St. Jean. Two months earlier in April, he had ordered both sites surveyed to determine defensive positioning. This was someone who had planned for a future event, not someone who was obsessed or forgetful.

This then led to a secondary premise. Hal could have been the focal point for the climactic battle rather than Mont St. Jean. We might set the start time the same for both the historical and hypothetical options facing Napoleon on June 15th, at 2:30AM!

Once the underpinnings for an expansion were determined, a short, two-page proposal was sent to OSG which Kevin enthusiastically responded to. Then the real work began…

Additional Counters

While no additional counters are provided in "The Roads to Hal" expansion, there were several possibilities considered. First, Prince Frederik commanded the III Corps which comprised Colville's 4th British and Stedman's 1st Netherlands Divisions which were positioned in Hal during the climactic Waterloo Battle. On the surface, one would think that a commander-officer counter would be appropriate. The facts are that Prince Frederik, although he had a long and distinguished military career, was only 18 years old at this time. His appointment to lead the III Corps was obviously political, not by merit. Wellington, who was politically savvy, kept Prince Frederik "under the supervision" of Lord Hill. In effect, the Lord Hill commander game counter represents both Hill and Frederick. No new counter was required.

Second, the Netherlands Reserve Army was headquartered in Brussels under the command of Lt. General Baron Ralph Dundas Tindal. On paper, the army consisted of two newly conscripted infantry (1st and 2nd) and one cavalry divisions. The infantry divisions consisted of 20 newly raised (April 1, 1815) infantry battalions and 4 battalions of Swiss regulars. In addition, 2 foot and 1 horse artillery batteries were assigned to the NR army. While headquartered in Brussels, the battalions were parceled out for garrison duty in the greater Netherlands area relieving pressure on other, better trained troops, for the upcoming invasion of France. Wellington considered these new conscripts totally unreliable given the extent of their training. They could have no impact on "The Roads to Hal" scenarios and no new counters were required.

Lastly, there were three 18-pdr companies (Ilbert, Hutchesson, and Morrison) that were in the Netherlands. As noted on NLG's Anglo-Allied Initial Set-up Sheet, the Ilbert and Morrison companies managed munitions at Waterloo and were without their guns and the Hutchesson company was in transit from Ostend to Vilvorde. None of these units could have played a role in "The Roads to Hal" scenarios. After serious consideration, I advised Kevin that no new counters would be required for the expansion.

The Expansion Map

Placement of the expansion map is more of an art than a science. I would refer readers to Wargame Design Magazine, Vol. III, No. 12, p. 14. for the short, but informative article, "Map Layouts". As a neophyte designer, I can tell you that the competing objectives of positioning the extent of the map to fit the scenarios that you anticipate and provide at the same time the most cost-effective approach can be mind boggling. My initial idea was a single 22"x34" map that abutted the NLG "N" and "NX" maps. Sounds simple and that is what I initially proposed to Kevin. Kevin then raised several good questions concerning the terrain insets on the existing maps, and maybe it should be a two or three map expansion, or maybe the map should be canted to include some other vital piece of terrain. All good thoughts and all had to be explored.

It took about one month, on and off, to work through the various possibilities. A two to three-map expansion was found to be cost prohibitive given the amount of action and excitement that was anticipated on those additional maps vs. the cost of producing maps. The use of cutouts was investigated to cover the terrain insets, but that seemed to be a crude solution given the beauty of the original maps. Over time and trial by error, a single-map solution was found that overlaid the "N" map terrain inset, positioned Hal near the center, and allowed both Nivelles and Braine Le Comte (both vital road junctures) to be placed on the map. Most importantly, the western access points to Brussels would now available for the French Army.

Charles Kibler, as always, did a wonderful job of using the Ferraris Maps to create the "WX" prototype map. But, we had a problem. There were too many Chateaux - far too many – when compared to the other maps in the NLG set. This required a detailed study by several folks to distinguish which of the Chateaux would have given a significant defensive advantage to at least 1000 troops versus a very small walled farm that had more limited defensive capabilities. While the analysis was subjective, the results differentiated the true Chateaux hexes.

Other issues also had to be addressed on the map. Victory point hexes were determined. Roads and bridges needed fine tuning. Supply and entry points had to be added. All in all, an interesting process that can be easily taken for granted.

Developing the Scenarios

As scenario development began, several principles were adhered to:

1. Each scenario needed to include a different aspect of the campaign.
2. There should be a variety of scenario turn lengths: medium and long.
3. All scenarios must have a significant historical basis.

Three scenarios immediately came to mind as I reviewed these principles. There needed to be an Alternative Campaign Scenario that allowed full access to the "WX" map and all the options. Second, a day of battle scenario near Hal would be hypothetical and would provide an interesting "what if" perspective. And third, what would have happened at Waterloo/Mont St. Jean (Extended Waterloo Scenario) if the "WX" map were available for a westerly flanking action.

As each scenario was initially play tested, it became clear that the Extended Waterloo scenario could not work. Once Napoleon was engaged with the Anglo-Allied Army at Mont St. Jean, there was little chance to disengage and flank the position using the new "WX" map. The scenario premise was faulty and a new scenario was needed.

Inspiration came from the 10PM June 17th letter that Napoleon received from Grouchy. Grouchy informed the Emperor that the bulk of the Prussian Army was retreating East towards Namur, but a Corps sized group was moving towards Wavre. It would be possible that this group might try to link with the Anglo-Allied Army. Because Grouchy's cavalry did insufficient scouting, he missed the actual northern retreat route for the entire Prussian Army and miscommunicated their intentions. Napoleon's fate was sealed! The actual text of Grouchy's message reads:

> Sire, I have the honor to report that I am occupying Gembloux, with my cavalry at Sauvenieres. The enemy, about 30,000 strong is continuing his retreat… From all the reports reaching Sauvenieres, the Prussians seem to be divided into two columns, one taking the route to Wavre, passing by Sart-a-Walhain, the other column apparently going towards Perwez. One can possibly infer that one portion will join Wellington, and the center, which is Blucher's Army, is retiring on Liege. As another column with the artillery has retreated on Namur….

What if Grouchy's cavalry had done proper scouting? After all, he had served as a distinguished Cavalry Commander for many years. As I mulled over the situation, I thought that this could be an interesting question to explore and game. A scenario started to form in my mind that Napoleon was warned of the impending danger at 10PM June 17th. The Emperor would have surely responded by having Grouchy's force move closer to the main body for mutual protection and future offensive actions, and most importantly, he would not have started a battle at a point where he would shortly be outnumbered 2 to 1. This new scenario, born from the discarded old scenario, was named "The Turned Flank". It mirrors Wellington's critique of Napoleon's plan. John Hussey related a dinner conversation that Wellington had that is very relevant.

> "I think I should have respected the English infantry more…and that I should not have taken the bull by the horns; I should have turned a flank [Hal]. I should have kept the English army occupied by a demonstration to attack…whilst I was in fact moving the main body by Hal on Brussels."

Clearly, the third scenario had to explore Wellington's strategy for defeating himself!

Different Priorities

As the scenario development phase was winding down – as I first thought, Kevin realized that all three scenarios were 4 and 5 map scenarios which is just fine if you have an extra ballroom in your

home. Kevin asked that a 1 map scenario be developed to accommodate the mere mortals, like me, with only a dining room table and an understanding wife.

Although "The Fields of Hal" scenario has 4 maps, I determined that if it was shortened to one day and assumed that Grouchy's force was successfully delaying the three Prussian Corps, a very exciting, evenly balanced scenario could be developed. As it turned out, the playtest results for this scenario were very intense and competitive with victory usually determined on the last turn by who held Hal.

Kevin then suggested that two variants be added to the NLGX Campaign that adds the Hal forces to the NLG "Battle of Waterloo" scenario to simulate what would have happened if Prince Frederik's 17,000-man Hal force joined with Wellington.

Needless to say, the four page Study Guide was now packed with 4 Scenarios, 2 Variants, and some options to keep everyone interested.

A Discarded Optional Rule
A casualty of dropping the "Extended Waterloo" scenario, was losing an optional rule that I had developed to add uncertainty for the arrival of the Prussians.

If Grouchy's force had kept itself between the Prussian Army and the Anglo-Allied Army as Napoleon had planned, Prussian reinforcements that historically turned the tide of battle in the late afternoon of June 18th may have been delayed. If the French plays Card No. 15 "Sound of Guns", Grouchy delays the Prussians as follows: Roll 1d6.

1-2, the Prussians are delayed 1 turn,
3-4 - 2 turns,
5-6 - the Prussians do not arrive.

To counter the play of Card No. 15, the Coalition Player may play Card No. 7 "Blucher" to negate all effects. All other instructions on the "Blucher" card should be disregarded.

While this optional rule is not included in the Study Guide, I did not want to lose its effect for other players if they wanted to include it for the NLG Waterloo scenario.

Playtesting the Final Scenario Versions
After the additional testing for each of the scenarios, some set up issues had to be resolved, some rules had to be rewritten, entry and arrival points adjusted, and VP values and locations finalized. This iterative fine-tuning process took several months to complete.

What I Learned
With 60+ years of wargame playing experience, I significantly underestimated the level of detail required to design a relatively simple expansion of an existing game (NLG). There were several principles that anyone trying their hand at designing a game should keep in mind before embarking down this road:

1. Thoroughly research the campaign. You should have world class expertise on not just the map and OOB, but also the strategic situation, alternatives available to both sides, and how victory should be determined.

2. Prepare your mindset that only 33% of your research will be gainfully used. For example, I spent two weeks developing an elaborate worksheet that calculated Anglo-Allied "WX" map arrival times. While the calculated arrival times were not wildly different than history, there were enough differences that I totally discarded that approach and ended up using reverse engineered arrival times from Tim Carne's NLG research.

3. Simplify, Simplify, Simplify. Kevin was extremely helpful here. I had included some overly complicated ways for setup, attrition, and victory conditions in early drafts. One needs to be able to forget pride of authorship and accept that there are better ways to word and present material.

4. Be organized. Maintain a version history of what you did. For example, there were about 35 versions of the draft Study Guide written and circulated to the play testers for comment. Keeping everything straight is extremely important.

5. Maintain your sense of humor. Being the game designer is a trip worth savoring. Do not let the criticisms, pitfalls and roadblocks get in the way of enjoying the journey.

This expansion now gives the players **all** the options and decisions that Napoleon, Wellington, and Blücher had on June 15th, 1815.

New Bombardment Rules: Why Change What Works?

Kevin Zucker

TLNB Series Rules 7.33 changed the Bombardment process, adding the "Suppressed" result, Artillery Reaction Fire and Counter Battery Fire. The reason for this update was questioned by some: "Perhaps Bautzen should have been subject to SSR's rather than changing the series rules. Those rules had lasted for forty battles."

The Bombardment Table and rules were first introduced in *Four Lost Battles*—an odds-based table rejected by the grognards as soon as it appeared. A new table devised in 2005 was carried over into *The Coming Storm*.

I always strongly suspected that the Bombardment Table was not as bloody as the actual effect would warrant. However, I lacked the tools to weigh this exactly and I preferred to lowball, thinking that this would balance out as long as the gun strengths on the two sides were about equal relative to the overall size of the force. For example, there seems to have been a rule of thumb to try and achieve one gun on the battlefield for every 1,000 infantrymen; this number eventually reached three per thousand for the conscript armies of 1813.

Another consideration is the increasing caliber of guns between 1796 and 1815. At first the guns were smaller and the original Bombardment sequence (without ARF) would have been about right for battles where 3-lbers predominated. (We probably will want to remove ARF from the 1796-1800 Sequence of Play.)

Each battle seems to have a peculiar quirk, some unique twist, and it is often just this that gives a battle its special character. At Bautzen the French outnumbered the Coalition by two to one in infantry, but the Coalition had the superiority of guns and cavalry, also by a factor of two to one. Cavalry superiority insured that there would be no effective pursuit, and hence the army would survive a lost battle; while artillery superiority cost the French twice as many men on the battlefield: 22,000 instead of 11,000. Bautzen stopped Napoleon's train.

Our playtesting didn't discover any problem in play balance, but when the Pittsburgh crew tackled the Bautzen battle, the Coalition forces were overwhelmed. This brought a remark by Chris Moeller, "We were left to wonder what we could have done differently."[1]

We had come to the one battle where the reduced impact of artillery caused the outcome and the losses to skew too far from the historical result. This time we had the opportunity to actually measure the lack of effectiveness against a historical outcome. We found that the Bombardment Table produced only about half the losses it should. So ARF doubled their fire.

When designing the sequence of play for *Four Lost Battles,* I certainly had an eye on the *Campaigns of Napoleon* sequence of play, which includes artillery fire for both sides in every Player Turn. I noted that missing fire phase, but felt it would impact both players equally, and never anticipated a situation such as Bautzen.

With the rise of the internet I now had the tools to weigh the effect of bombardment based upon gunnery trials conducted during or right after the Napoleonic Wars, and to fix a hidden problem in the Bombardment Rules. How things went on from there was covered in *Wargame Design* a year ago. *(Please see Vol. IV, Nr. 4, pages 14 and 20.)*

We now had the higher casualties for the French at Bautzen, with artillery sending whole stacks back to their starting positions (by the old rules they would have been 3-1 or even 4-1 attacks in the combat phase). ARF showed a remarkable difference and made casualty levels much more realistic.

[1] YouTube https://youtu.be/Nsrr8piy9pk?t=542

DESIGN

The Development of Chess Took 1,000 Years

Game design for me is part story, part history. The game has to tell a story that is compelling, dramatic, with shifts of fortune... but it is a historical novel. All of the historical players need to be there, and the plot needs to follow the historical plot line and help the player "be there" in an authentic way. A historical novel can reveal the truth. That's what I like about games.

—Chris Moeller

A story can be sheer entertainment, but revealing a truth implies that one goes on a journey of discovery with the designer. We are all on this journey together. Hopefully the game will reward our efforts with a deeper understanding of events.

When people ask "why didn't you discover this in playtesting," I point to the game of Chess. Chess probably originated in India before the 6th century A.D., and only reached its final form in 1640 in France. Compare that to the evolution of the TLNB rules over a single decade.

Adding New Material

My rule of thumb when introducing new material is to weigh whether it is worth the effort for the player to deal with it. If it doesn't potentially advance his chances of winning, I either cut it away or re-design it to be more worth the player overhead.

Chrome

Just because something is called chrome, that isn't necessarily bad. Look at how chrome is used in the auto industry (where the concept arose). It is best used to bring out lines, and accentuate important parts of the design. I like to put it in places where the player would appreciate more detail, in areas that are important or can even be critical.

This is just like in a painting. The eye is invited to certain places on the canvas. Around those spots you may paint in more detail than in other places. For instance, there is always lots of chrome around bridges, since you rarely attack them but when you do it can get hairy. The player is very interested in getting across that bridge, and he is willing to put up with a 10-minute rules check or even a post on Consimworld.

A designer must be cold blooded about making cuts. You cannot get too attached to your creation. You have to discipline your ego. I learned this working at SPI, not as a designer but as production manager. I looked at my job as the "player's advocate." Remember that the player has to read those rules over and over, so I remove all the bumps. Clever asides can be in italics or better, excised.

Dead Wood

I just look for deadwood wherever I can. When writing rules I take the approach of (ideally) cutting one paragraph in every section, one sentence in every paragraph and one word in every sentence. If you look into it, you can usually do better! I find that I may struggle getting the concept into words, and when I go back, sometimes there are several sentences that are like spinning your wheels without any traction. These can often be cut out completely.

Usually my projects go through about 40 drafts on any kind of document. I may not be a natural born writer. I really have to work at it. At OSG we can have 350 rewrites over 8 years and still players will find it's not PERFECT!

I finally learned to write doing the Special Studies. That series started with 1807 (book Nrs. 2, 3, and 4). Like Chris, I am a story teller, maybe a playwright, using the experience of play to tell the story. Do not confuse the game with the rules. The rules are a secondary artifact, that's not where the story is. The story is what happens on the map - and the rules don't say that.

As a designer, or interested player, you must access three kinds of info before making any design change:

1) Use the imagination to visualize the scene *in situ*. When I have a difficult game question I automatically generate a picture in my head of how the troops filled out their positions.

2) Read the Rule (note ramifications), to see if that is or could be in line with the scene I just imagined.

3) Set-up the situation on the map. Play through the situation, and compare the outcome with (1). There should be a common point between those three different ways of looking.

What is Stacking?

Kevin Zucker

Many rules can be understood with a little imagination and common sense, but since there is no such thing on the actual battlefield as one unit stacking on top of another then an explanation is needed. If the units are not stacked one upon another then what is going on? The "stack" should be visualized as a chain of units standing behind the front line troops because that is how a division would usually engage—at first, with one brigade only. The additional support units are there to be called upon—perhaps in the same hex or very close by in an adjacent hex. What allows stacking is a leader and staff officers to coordinate this movement to and fro. The extra 1 MP is to account for the actual positioning of the "stacked" unit to the right or left or behind the unit stacked with. So a "stack" is an integrated command in battle formation.

It costs one movement point to stack one combat unit with another. Just remember that stacking is an "action." The act of stacking takes 1 Movement Point. Think of it as time need for the unit to get into relative position with the rest of the brigades in the hex. Once in formation the whole can follow the leader without any need to go around. What that implies is that the units in a "stack" are somewhat spread-out, either in column, line, or sometimes in a checkboard pattern. The latter arrangement provides the most responsiveness to a threat from any direction.

To help visualize that, a stack of more than two regular-sized infantry brigades probably extends beyond the bounds of a given hex. There must be either an (invisible) division commander or higher leader present to coordinate the movement of the larger force. Brigade commanders understood the drill to coordinate with one another, but it took the presence of a general (and his staff) to coordinate the actions of more than two brigades. For example, imagine a stack of five units moving into relationship and then setting off down the road. In an aerial photo it would look like a long column of men, with a long tail extending back 1 to 1.5 hexes beyond the nominal hex location. Hence the 1 MP cost to stack. Then, if the "stack" enters combat, it does so with two brigades in front and excess units "in reserve." All of this is unseen in play of course; it's only for visualization.

Think of the hexes in the game as the central local of the units concerned and their ZOC's as often representing that over-lapping deployment or the ability to adjust it in that direction with the approach of an enemy. A ZOC covers roughly 480 metres and musket effective area range maybe was up to 100 metres, so ZOCs are not so much about projected hitting power but the ability to manoeuvre to meet and engage an approaching enemy with some of the battalions of the brigade. Also the ZOC represents in my mind the cloud of skirmishers/voltigeurs often deployed.

Stacking is not about available space, it is about coordination. Stacking is predicated upon the presence of a leader. He and his staff bring the coordination; they have the authority to order the subordinates in the hex to take their places and go where they are assigned.

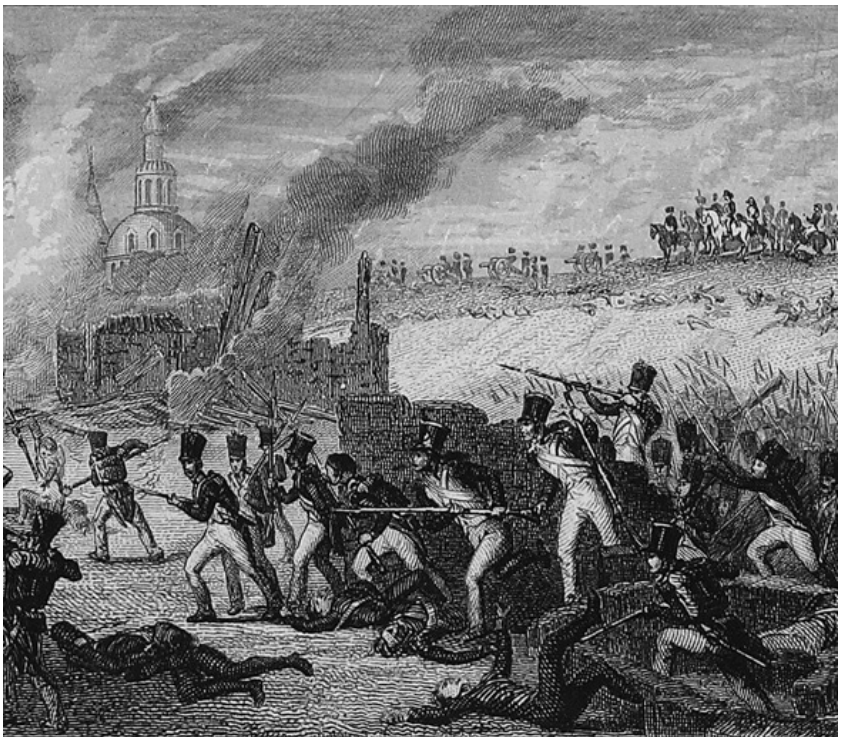
What is "Divisional integrity?" The Leader and his staff officers become traffic cops. Unit integrity means you don't have traffic jams. "Divisional Integrity" is for all divisions which do not have an on-map leader.

The stacked troops are within arms reach of their divisional general. Stacking is a way of showing that those units are within reach to be pulled in as needed, on the standing reserve principle. That is, the reserves are standing "behind" (not on top of) the front line units and can feed in regiments as others become exhausted. Their mere presence also gives confidence to the firing

line. Ultimately, the entire stack may get pulled in. The deployment area for a large stack could extend into adjacent hexes.

The Corps commander has the option to use any formation. It is assumed that the correct formation will be chosen for a given situation, but this aspect of grand tactics isn't built into the game in any way.

For a typical meeting engagement, you would have one regiment (usually the light infantry) in contact initially, with the other regiment(s) of the brigade in a supporting position. The other brigades of the division would be nearby. This is what David G. Chandler calls the "Broad Arrow" formation. See his "Campaigns of Napoleon," page 347.



I think few gamers appreciate the need to leave maneuver space within the hex. If you jammed 75,000 men into one hex they would be utterly defenseless and incapable of concerted action, an uncontrollable herd. At a bare minimum, a battalion would require open ground the size of its own footprint on all four sides. Not all ground is available for deployment; there are always obstacles within each hex that take up even more space. Besides all that, a large stack (3-5 units) has to be seen as overflowing beyond the bounds of a hex.

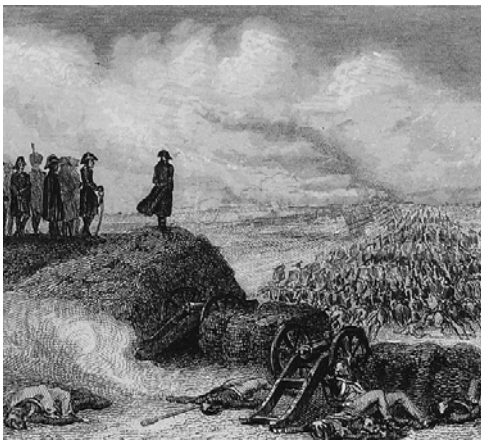
The stacking limit is NOT about available space. What does that leave?

TIME

The stacking rule gives the general on the spot (either Division or Corps officer) credit for keeping the "stacked" troops where he can have them marching to his aid in five minutes (or quicker if using a signal of some kind). Normally they would be kept beyond effective musketry range, not farther than 1 hex (525 yards) away.

Assuming the troops have been warned and are formed and ready to step off, moving at 85 paces per minute (70 yards), they could arrive in 7 minutes or less.

The usual attack might last no more than 30 minutes before it loses impetus. If there were five units to coordinate, the general would be sending orders every minute or two, sending units in and pulling other units out. He would have to delegate some of that work to his chief of staff. But that is as much "directing" as he can do. The performance of the brigades and regiments is out of his hands once contact is made (unless he is an officer like Wellington or Ney, who jumps into the middle of things).



More likely he and his staff would be standing on the route of march directing traffic.

DESIGN FILES

HOW NAPOLEONIC SUPPLY WORKS

During the run-up to battle, no food and supply is getting through. The troops were issued bread or hardtack rations at the beginning of the campaign, which they saved for the fast-moving times when battle is imminent and the wagons cannot reach them. Generally speaking the camp stove and kettle won't be operating on the battlefield (unless one side has been camping, as at Jena). In other words, your troops are going into the battle hungry.

Similarly, they have been issued enough ammo in their pouches, probably for a day of fighting, and the caissons of the artillery have 2 or 3 days more supply on hand.

When a unit lacks a supply line, there are these effects: 1. It has a modifier for Initiative; 2. The troops are less likely to get reorganized; 3. the unit may not advance after combat - this prevents them from achieving much of an offensive punch.

These are the same effects as Demoralization. So the lack of supply is more of a morale effect. The lack of supply isn't a lack of a physical thing, but a perception of the overall battlefield situation. It's more about psy-warfare.

What is this "Supply Line" supposed to represent? Is it really hardtack and powder? That would be the common-sense idea. However, there is another aspect to this line which is in the area of "command control." So the cavalry unit is over the horizon and we cannot send orders if nobody knows where it is and it is just roaming around. We have to wait for a messenger arriving back at the brigade or division headquarters with news of the unit. If there are enemy units between him and HQ, this messenger might get captured. Unlike the gamer who wants control of that unit, he cannot see where all the enemy units are. So his chances of getting through are fairly random if there is much in the way. We usually figure the messenger can ride about 14 hexes in one hour, so if you are beyond that distance it could take 3 hours for the messenger to ride out and back.

DESIGN FILES

WALLED TOWN COMBAT

Eckmühl, Leipzig, Smolensk, Laon, Ocaña, Talavera, Ulm…

The usual suspects: Vince, Chuck, Kevin, and Gene

Both armies tended to try and avoid fighting inside Fortified Towns, because it could be quite murderous, especially if the town caught fire. The preferred method was to bypass them whenever possible. Some of the most terrible fights took place inside the towns of Friedland, Smolensk and Leipzig.

GENE: Combat inside a walled town is the same as combat inside a town. Is that correct?

Combat inside a walled town isn't clear. Charleroi is a three-hex walled town. With opposing combat units inside the walled town (p33, below) the French (blue) attacking the Prussians, what combat modifiers are there? I would guess 2x for a town, but as there is no walled structure directly involved, Ar* results would not be converted as they would if it was a chateau.

Battle of Smolensk on 17 August 1812

In addition, if one cannot attack across a wall without a road passing through it, I would guess that one cannot retreat across a wall without a gate. So in this case, should the Prussians have to retreat, they would need to go south to 1511. 1610 would not be available as a retreat since there is no break in the wall.

KEVIN: Unfortunately, despite the logic, from a game rules perspective, we cannot have units in a Chateau using the Town combat mods. We'd have to re-write the rule completely. Here below is an update with limited changes to the Walled Town paragraph:

RULE: 25.76 Walled Towns: Each hex of a town enclosed by a red enceinte line is treated as a chateau hex. A unit of either side may enter or exit a Walled Town only via a gate hexside (gray). Occupying a Chateau relieves a unit of the requirement to attack an adjacent hex (10.31). In combat between opposing combat units inside the Walled Town, combat modifiers for Chateau are used.

Treat Wall hexsides as primary rivers (4.2). Combat between adjacent enemy units on either side of a non-gated, walled hexside is not permitted. Artillery may bombard across the wall. Command may be traced across gate hexsides but not walled hexsides.

VINCE: Walled town hexes WITHIN the wall all count as chateaux hexes. The trouble there was that 15.11 and 15.12 contradict about having to attack a chateau and not having to attack out from a chateau. On that question, the final resolution was that units in a walled town do not have to attack others within the town. Other than that, chateaux rules prevail.

There is no retreat through prohibited hexsides, so I'd think rule 12.34 applies. That said, being a chateau hex, any retreat result would initially be ignored and a Shock combat applied first per 15.22.

I certainly agree with you that a goose and gander approach should apply. By that I mean roads in are possible escape routes. Walled movement prohibition should apply both inbound and outbound.

KEVIN: In the illustration (opposite, below) we start the French game turn with French units in the VP triangle and the Russians boxed up where the green dot is. The third hex is vacant. Can the French units in the VP hex move into the vacant Charleroi hex? I'm invoking rule 4.3—ZOCs do not extend into a chateau hex, and so the move does not go through or into an EZOC. But, does 15.1 prevent the move? A unit that enters a Fortified Place adjacent to an enemy combat unit must stop moving. I think 15.1 does not apply because of the unique nature of adjacent chateau hexes.

Also, in our game there is a Roadblock in the woods pointing south at the north gate of Charleroi. Roadblocks do not have ZOC, nor do they block ZOC, so if I place a unit next to the roadblock and the Prussians must retreat, since their only exit would be through the gate into an EZOC, they would be removed to the UAR box and have to roll as per 12.34? This assumes that in my movement phase I can move a unit into the vacant Charleroi hex to block a retreat move there.

The Sambre at Charleroi

Charleroi, a fortified town, criss-crossed with many walls.

VINCE: Keeping it simple, all the hexes are chateaux. So, ZOC does not extend into them. However, I do stop units when they enter a walled town hex adjacent to a unit WITHIN the town that is not blocked by the wall. I also allow a unit as per 15.11 to move from a chateau that is adjacent to an enemy, but it will stop the moment it enters another hex adjacent to an enemy unit.

KEVIN: 15.1 says, "Adjacent units must attack enemy units in Fortified places. A unit that enters a Fortified Place adjacent to an enemy unit must stop."

VINCE: Although 15.1 says you must attack fortified locations, 15.12 then says, units in Chateaux do not have to attack. In other words, they contradict when it comes to fighting in hexes such as a walled city where all the hexes count as chateaux and are adjacent to each other. It was agreed that although units must stop after ENTERING a hex adjacent to one of these pseudo-chateaux, they do NOT have to attack. That way, we get extended street fighting and the need for superior numbers gathered to help push through the streets and buildings.

KEVIN: 15.12 says "units in Fortified Places are not required to attack, but if they elect to attack, all adjacent enemy units must be attacked by some friendly unit." This should apply even when all hexes are inside the wall. The multi-hex chateau (aka Fortified towns) are a whole game in themselves, or they want to be. I tried to hold to the wording we have and not introduce extra stuff. In the Series Rules (vers 7.34), 15.12 should be marked as an exception to 15.11—not a contradiction but a special case (both adjacent units in Chateau).

Fortified towns are surrounded by an Enciente wall, indicated on the map by a red line.

WHAT IS DESIGN?

How much design is contained within the rules?

Kevin Zucker

How much design is contained within the rules? You have two different series: the Campaigns and the Library. There should be one design for each series and the first game of a series drives the design. The creation of second and subsequent games in each series do not require new design, rather the maps, counters, study, TRC, etc., are researched, developed and tested. Over time there may be some evolution to the rules such as the introduction of Vedettes to NAB. But is this a change in design or, is this merely a change in mechanism at a lower level?

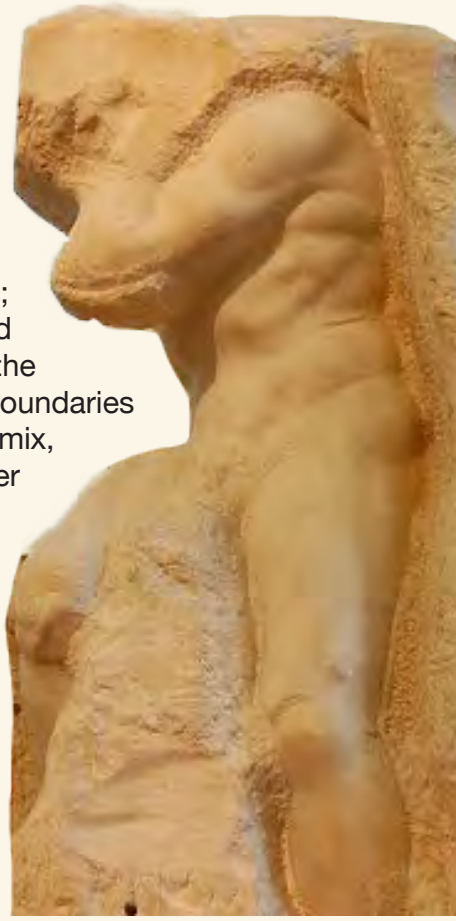
—Tim Carne

THE WORD "DESIGN" ISN'T WELL UNDERSTOOD. SOME GAMERS HAVE CONFLATED the concept of "design" with "research," and think that designing a wargame entails little more than researching the right names for the maps and counters. While those things can be important, they are not the same as design. "Designing" is what begins when you have all the basic elements already in place. Design comes *after* research; it is the process of moving the project from a collection of facts into a playable form, making a game of it.

"A design is a plan for the construction of an object or system, or for the implementation of an activity or process, or the result of that plan in the form of a prototype, product or process."

"The arrangement of parts, details, form, color, etc., especially so as to produce a complete and artistic unit; artistic invention; as the design of a rug."

The scenario designer in TLNB has important design decisions; such as, the start and end date of the scenario, the orientation and exact boundaries of the map, the counter mix, the first player, and other decisions *(see "Accuracy is not Enough," on page 28 below).*



Michelangelo's unfinished Slave

Michelangelo speaks of seeing the sculpture inside a block of uncarved granite: "Every block of stone has a statue inside it and it is the task of the sculptor to discover it." That vision is the "design" he is following, and it can become so clear and distinct as though it was already fully sketched inside the stone. Then, all one has to do is remove the excess material. Antoine de Saint-Exupéry expressed this when he wrote, "Perfection is achieved, not when there is nothing more to add, but when there is nothing left to take away."[1] At the end of the project, the design and the finished sculpture become one in the same; there is no longer a separate design. The design has become subsumed into the final project.

1 This quote was taped to the wall of my office at SPI, left there by my predecessor in charge of the copy desk.

Would you call someone a sculptor if their art began and ended with the rough-hewn piece of rock? On the contrary, the act of sculpting involves chipping-off pieces of the stone to reveal the design lying within. By the same token, the game designer doesn't feed you undigested facts and expect you to work with that. His job is to reveal the important aspects by carving away what is irrelevant or merely interesting. Many designers are guilty of "kitchen-sinking;" that is, they just include anything that appeals to them without any great concern for the experience of the player, who has the impossible task of working through this shapeless mass of bits and pieces. A well-designed game is a playable (and enjoyable) game; not a part-time job.

As far as I know, the number of true "designers" in this hobby can be counted on the fingers of both hands. Some of these began their careers at that great talent incubator, SPI; others have come along since then.

> There are three types of people, those who talk about people, those who talk about things, and those who talk about ideas.

Before I designed *Napoleon's Last Battles*, I had worked on over 50 games, whipping them into shape for art production. After that, I had a good idea of what good, bad, and ugly design looked like. Using TLNB as an example, a question would be whether and how well the basic system rules fit any of the battle games. Sometimes they fit better than others, most times a few special rules are all that is required, and in a few cases, a revision of the Series Rules was needed. *Bonaparte in the Quadrilateral* covers an early period of the Napoleonic wars when the armies were very small. A reasonable question might be whether the armies are too small, the counter density too spread out, for the game to work well at brigade level. If you examine the counter mix in this light, you will see that there are a number of regiments ("Demi-Brigades" for the French) in both armies. That would be a valid question, but arguing about the spelling of generals' names would only be an exercise in superficial materialism.

Balzac, the author of "Colonel Chabert," declared that pure materialism is a recipe for madness. Most of the world belongs to the culture of materialism, and they don't even know it. Ancient Rome was also materialistic, based on transportation, moving things. They created a network of roads that lasted for over a thousand years, that allowed for trade and the transportation of goods, just as their aqueducts moved water from the mountains to the cities. We take after them. We are concerned about the exterior, but blind to the inner content. When Roman sculptors copied Greek models, they were technically great, but the inner dimension, the focus of the original artist, went missing in the copy.

Do all wargames have a design?

Some games may just "fall together" without any pre-determined design. Are well-designed games usually better than games that are cobbled together?

The effect of poor game design can be quite obvious. A design flaw is usually revealed in play, but an excellent game design is invisible. No matter where we look, there is no actual game design to be seen. Only in play is the architecture of the design gradually revealed. For example, a reviewer might criticize the (seemingly) minimal effect of the lack of supply in TLNB. "It should be more severe than just losing advance after combat." However, when you play the game you soon realize that without advancing you cannot destroy enough enemy units to win. To use a musical analogy, when you just read the rules it's like reading the different parts of an orchestral score. They don't reveal their true synergy until the orchestra starts to play. In Systems Engineering this is termed "Emergence." The whole is more than the sum of the parts; each part interacts with all the other parts in unforeseen ways.

I think there is no way of perceiving the quality of a game design by merely perusing the components and rules. Reviewers spend an inordinate amount of time looking at the components, focusing on graphics and layout as though these revealed something essential about the game. The visible aspect is called "Systems Design," but doesn't get to the core of game design. The vast majority of reviewers only talk about the stuff in the box and never delve into design at all. One notable exception is the series of videos from the Thursday Night Gamers of Pittsburgh.

One example from OSG is the 1997 Edition of *Napoleon at Bay*. Many people had commented

on the lack of detail in combat, which was the Design Intent of the first edition: keeping combat to a minimum allowed a shift in focus onto the administrative and command areas. However, I thought I saw a way to add the wanted combat detail. Rules for reserves, troop quality, and a host of others were added, everything happening inside the hex. Only in hindsight did I begin to realize how the abandonment of the original design shape had led to an unplayable monster. All that was excised in the recent 2020 NAB Expansion Kit, to trim the game back down to the well-designed, fun to play original.

One hallmark of a good design is proper weight and emphasis on each topic. A game design is shaped from the most important topics to the least. Generally, the most important topics get the most coverage and the rules reveal the importance of each topic by how many column inches are devoted to it. Clearly NAB was breaking away from the pack who think that combat has to be the most important topic—it's a "war" game isn't it?

A designer's first design decision is how long it should take to play the game. If it's a long campaign, it might be up to 20 hours. For the TLNB battle games, I wanted these to be finishable in an evening. They often take longer, but as a practical matter for people whose gaming time is limited, I was aiming at 5.5 hours in a chair—between 30 and 60 minutes per game turn. Hence TLNB runs in real time, and doesn't take longer than the actual event. The player is in a real-time situation, making decisions under the same time pressures as his real life counterpart, not more or less. He is not deciding the formation of every battalion.

The overall commander isn't involved in tactics, so those kinds of decisions should be out of his control. Napoleon said that once the battle is joined, the only lever of control he had was in the handling of reserves. TLNB enforces this insight with locking ZOCs which limit freedom of maneuver to the units that are not currently engaged. Once engaged the player cannot affect the front line units. Keeping tight control over the kinds of decisions the player should be tasked with is a paramount concern of the designer.

Design of Charts & Tables

This is a specialty aspect of design. Some designers have it and others have to copy another game. The archetypal Combat Results Table from the early AH games was based on a conversation that Charlie Roberts had with someone at the Rand Corporation. Their combat studies showed that 3:1 odds were required in order to be fairly certain of success. But Charlie had just struck on his CRT with its 3:1 column showing only one sixth chance of complete failure. They called him out to Santa Monica and wanted to know where he got the idea.

Tables are troublesome, and they have to be correct, they have to work correctly. The structure of tables outside of the Combat Table can vary from matrix-type to a multi-dimensional table such as the March Attrition Table in *Highway to the Kremlin*. This table cross-indexes four dimensions of information—march distance, die roll, APs and force size. This table also incorporates a structural concept not to be found in the rules.

The manpower losses resulting on the table are based on the Fibonacci sequence. This sequence guarantees that there will be no "sweet spots" on the table, and it reflects the spiral form of growth in nature, even when devolving toward dissolution.

The Fibonacci sequence is created by adding the last two terms in a sequence starting with 1, as follows: 1, 1, 2, 3, 5, 8, 13, 21.

The Fibonacci sequence defines the "Golden Section," incorporated by architects and even printers and book designers. The same pattern is everywhere in nature. György Doczi described this in his book, *The Power of Limits:* Proportional Harmonies in Nature, Art, and Architecture.

Of course, we still need to set the user interface in a way that realistically reflects the final attrition result. That means the results from a long campaign should be in the realm of the historical result. This is just one example of hidden structure of which players may not be aware.

Special Rules

Each game has features unique to the situation that need their own special design. Each battle in TLNB has Special Rules to cover peculiarities of that situation. Otherwise when we finished the map and the OrBat, the game would be done and we could rest easy. Playtesting would be unnecessary (except to spot-check the set up) and there would be no design challenges on the way to pub-

lication. Thankfully it doesn't go like that.

Design is still needed. Every new situation needs to be shaped into a playable and balanced game. This includes defining the beginning and end of the game, and everything in between.

Prescriptive Rules Versus Series Rules

General Rules apply to all battles in all circumstances: A clear hex costs 1 MP. This is also prescriptive, because the 1 MP cost is arbitrary. Even more prescriptive would be, "All Clear terrain costs 2 MPs for infantry for the rest of the game." Under what circumstances would clear terrain be twice as difficult, suddenly? Perhaps an unusually heavy thunderstorm, such as they had at Katzbach and Dresden. So would it be valid to make a special rule for the Katzbach that adds the effect of thunderstorms on infantry? It was the flood of the century, so why not? We don't really know how bad it was.

When I was designing NAB, a long time ago, I lived near the reservoir in New York's Central Park, and as a good researcher I walked around that reservoir in all kinds of weather and then wrote down the number. Not too scientific, just the subjective impressions of one human. I never minded walking in the rain, but deep mud is another thing. And when you are soaked to the bone and have to fight the whirlwind as well as the enemy, that can slow you down.

Prescriptive rules are popular with miniatures players, and also with 'clockworks' gamers who like a bit of ticking chrome. I like chrome too, but only on important points, to highlight them. Every Special Rule is a failure of design, really.

Prescriptive rules have a laser focus. For example, "The French Player may not advance east of the 0010 hexrow before turn 10," forcing the game to produce a result it wouldn't other-wise produce; an action the Player is forced into.

As a designer, all your options are on the table. So you might need a Special Rule to make the game work. Sometimes special rules are justified but often they are mere bandaids, slapdash fixes that show how the game *doesn't* work. They are a failure of design; at the same time, they are indispensable. They must always be avoided, unless there is no other way.

I don't like to have more than a few special rules. This was unavoidable in the case of the extensive Roadblocks and Guerrillas. So Special Rules are often used to repair a problem that came up in play, and added in an Update.

With these exceptions TLNB Special Rules comprise a few paragraphs per battle. With bigger problems we discovered that changes were needed to the Series Rules, such as the Chateaux, Bombardment and others which showed up in the course of time.

Design Challenges

A design challenge is an opportunity to have fun with the craft. You think, "How are the British going to be able to hold on at La Coruña?" That game just clicked, as long as we were careful of the exact duration. If the French got one more turn, they would often be in the town. Fixing the start and end points is easy on the player, as it requires no additional headroom.

One problem with Special Rules—if you have them sprinkled around too liberally—the player's head will explode. It isn't nice and creates quite a mess. It is better to have some compassion for the player, who may not be interested in the special attributes of HC when attacking a bridge. Fair enough. But now we are getting to what design actually *is*—to where "there is nothing left to take away."

After *Four Lost Battles*, I had a conversation with a gamer who had played it, and he didn't like that HC rule. When I thought about it, I realized that HC wasn't where my "Design Intent" lay. It's just fun—for some—but for others, a nuisance: Keep on focus.

So it's better to go back through the rules and delete things, which is how I proceeded when it came time for *The Coming Storm.* I decided on certain rules to remove and change. I tried when possible to eliminate one paragraph in each section, one sentence in each paragraph, one word in each sentence. In that way the rules were shortened by a few pages.

Each game has its own design, particular to itself. A game's design is only revealed in play. The rules reveal none of the game's design,almost zero. *Unless* the game doesn't work as intended —then you can see where it falls short of the design, where it misses the target; but when it hits the target, there is nothing to notice. A well-designed game hits the target.

What is

GAME DEVELOPMENT?

Jean Foisy

WHILE PROOFREADING THE *NAPOLEON INVADES SPAIN* STUDY FOLDER, I NOticed my name credited to "Development." To say the least I was surprised having not being notified of my new title nor what it entailed. Asking Mr. Z what I now must do as a Developer he answered: "*Keep doing what you are doing.*" That answer was a bit of a letdown, not having clear instructions. Finally, it dawned on me...! He meant that I was already, without knowing it, doing Developer's duties.

I'll try to show what a Developer does using my past experiences from 2017 on where I began to give a hand to Kevin and what I've done in *Napoleon Invades Spain.*

To get a better knowledge of the subject I checked the Internet and found useful information and explanations in "Wargame-Creation skills and the Wargame Construction kit." from Peter P. Perla and others, published in 2004.

> *"Development takes the good ideas in a design and magnifies them; and it takes the bad ideas... and eliminates or at least minimizes them."*

This is done by Playtesting:

Test mechanics and procedures for full functionality under the full range of circumstances,
Validate models, data, and scenarios based on historical date or available prospective analysis,
Assess how well the entire package reflects reality...,
Make the necessary adjustments.

Playtesting objectives

Kevin had laid for me his objectives:
A tense, taut game down to the end
Advantage can shift from turn to turn

Play balance at least 1:3 (a side must be able to win at the minimum once in three playings)

My own objectives:

- The end result should give an enjoyable and fun game leaving the player(s) with a convincing image of what the battle simulated looked alike in the real world.
- To do this successfully both Designer and Developer must exchange info, results, ideas, etc. Without a complete understanding, things could go awry at times. Good exchange of information is the key.

How can an average cookie like me do that?

Fortunately, the TLNB series rules are done. So development is limited to the specific situations simulated in a particular gamebox. It's a lot easier to integrate the battles to already set rules than to start from scratch.

In *Napoleon Invades Spain* there are four battles, *Vimeiro, Espinoza, Tudela* and *La Coruña* and many players did playtests. I'll use playtest results to show how it was done. I'll restrict my examples to *Vimeiro* and *La Coruna,* both scenarios I designed and playtested.

The main subjects to take care, for me and Mr. Zucker are:

- the VP hexes
- ORBAT adaptations
- the flow of the scenario
- the ALT reinforcements
- the play balance.

Vimeiro playtest

The battle of Vimeiro is a strange battle. Junot decided to conduct his forces toward the British landing site, but left his best troops at Lisbon. Probably to prevent an insurrection. But that's another story! The main challenge from my point of view was to make that scenario an entertaining game. First playtests showed the French being unable to harm the British due to a deficit of Strength Points; 43 to 28. Remember Junot left his better forces in Portugal's capital. This imbalance would make a French victory quite impossible.

Here are some of the adjustments we made to attain a better balance. Some British units had their Initiative Ratings reduced from 4 to 3, thus lowering their SPs. [Tied to a reduced Initiative are reduced SPs]. We also restricted Artillery movement to one unit per turn. Quite historical since Wellington suffered a shortage of horses. Likewise the French may win immediately if they control Vimeiro at the end of any British turn. Playtest also showed a possible complete destruction of the French forces. To curb a British pursuit we made a Special Rule where upon General Burrard's arrival, the bona fide British C-in-C, the game ends.

Even with all these changes a French victory is far from certain. So we provided a French Free Setup to gave them the possibility of overriding Junot and use Lisbon's troops.

La Coruña playtests

Soult's objectives were to control of the heights surroundings La Coruña where he can put guns to bombard the Royal Navy's ships in the La Coruña Bay and Del Orzan Bay. The VP hexes were set to 1606 and 2006. These heights will be the focal

points of the battle.

The first three tests showed the French being unable to reach the VP hexes. The game starting at 2PM and the Night setting at 5PM left only three turns to reach and control those hexes. That was almost impossible since the Night Combat rule (rule 25.71) being in effect, precludes any Advances after Combat. Kevin and I toyed with the idea of adding more Day turns. Further playtest showed that it helped the French, but not to the point of shifting the play balance. Finally, an End Around the Right of Moore's Army succeeded in unhinging decisively the British line. Other players findings concurred with that.

To attain play balance some French units had their Initiative Ratings downgraded while some Brits were upgraded. In fact I had overestimated the Initiative Ratings of the French Army failing to take into account that they were at the end of long and difficult pursuit in bad weather while Moore's men was seeing the end of their misery with both Bays full of Royal Navy's ships. The British setup was also altered to give a more depth to the defence.

Summing up

These two examples(Vimeiro and La Coruña) were used to show some of the adjustments made to attain a "taut and enjoyable play" and play balance.

The adjustments made were mostly:

- Some Initiative Ratings were modified but these Ratings didn't alter the Orbats per se, Initiative Ratings being the subjective part of Orbats creation.
- Reducing movement of some units
- Modifying setups
- Changing Victory conditions
- Using Special Rules to help a side
- Changing the starting or ending turn

Those kinds of adjustments are, to me, the core of the Developer's job; taking into account the playtests results, the suggestions made by playtesters, adapt and conform them with the intent of the Designer.

SCENARIO *Design*

Kevin Zucker

A LARGE AND VOCAL MINORITY THINK OUR GAMES SHOULD RUN according to history, and are willing to put up with special rules that force the game into a historical pattern. To me, however, every special rule is a failure of the game design. I am against pushing the course of the scenario into a historical rut with special rules. The historical result should be possible, but not necessarily likely.

We do, after all, have plenty of restrictions on a player's ability to respond, mostly modeled by Initiative, where his forces won't always do what he would like. We also have hidden movement, which provides, it is true, only a tactical ignorance of enemy dispositions, not a strategic one.

Many historians seem to think it is their job to prove why the outcome of the battle was inevitable. But designers may need a more flexible approach. I don't want to tie the gamer's hands and force him to pursue a more historical course of action. Instead, I want to give the player the situation at the given start time and allow him to assess the situation and do his best to break out of the historical pattern of the battle. (Just like the ads on the old AH boxes, "Now YOU are in command.") I regard every Special Rule as a failure of

Dîner de Tilsit entre l'Empereur Napoléon, le Tsar Alexandre Ier de Russie, le roi de Prusse, Frédéric-Guillaume III et le grand Duc de Berg. (Crédit: ©Rue des Archives/Tallandier) *Rue des Archives/Rue des Archives/Tallandier*

the basic system; though every game has them, I try to keep them to about three or four per battle. Otherwise they become a burden.

The outcome of the battle was not preordained. The ultimate goal is a game in which both sides have a chance to win—and where the outcome remains in doubt until the last turn. That increases the excitement and interest level.

I am against "Hands-tied" rules, "Command stupidity," and other mechanics to force a historical outcome. If there is no real external factor impinging on the general that we can incorporate into a rule, then the player ought to be free to exercise his options and pursue any course he chooses (at least in a separate scenario if not in the main one). We have done a rule for Archduke Charles's epileptic seizures, where epilepsy is the "external factor," but that is verging on the kind of rule I am talking about.

The player should be free to execute the winning plan. He should not be forced to take the historical choices just because of Special Rules. If the game reveals that Napoleon should have led with his left, instead of his right, then that could be a valid historical lesson. The book historian only has to recount what did happen (the best ones also discuss what might have happened, and why it happened). As a game designer, I strive to describe the historical situation at a given moment, facing the commander with free choice. The choice of that moment is one of the biggest decisions faced by a designer.

Scenario design is like throwing darts. For me, if darts aren't hitting the wall, you are good! It doesn't have to be a bulls-eye. If the scenario design was a cake recipe, it could be chocolate cake or it could come out as a lemon tart. A scenario too finely-honed starts to become a straitjacket for the players. I want players to find widely different outcomes each time they play. That keeps it interesting.

TLNB MAP DESIGN

To design a TLNB game map, you need to study the location at the operational and the strategic levels, to see how the game fits with other battles and campaigns.

Kevin Zucker

CLARITY AND PERIOD FEEL

A BOOK SUBTITLED "THE COCKPIT OF EUROPE,"[1] NOTED THAT CENTRAL BELGIUM had been the focus of many campaigns throughout history. If Hitler's Ardennes Offensive had succeeded, the panzers would have had to go through Waterloo on their way to Antwerp. Even in 1814 there was a separate campaign around Antwerp between General Maison and Bernadotte.

One major benefit of publishing in one box several battles from the same campaign, besides the savings on counters, is understanding the influence on the overall outcome of each battle, and then trying to weigh that in terms of VPs. We usually take the historical outcome of the four battles as the baseline result, and then allow you to see how an additional force or a free-setup (via the AtB), or an augmented or depleted force because of losses in prior battles, could have changed the outcome.

Folks probably think this geography is just in the cloud waiting to be downloaded intact. Actually it is hand-made, each hex is crafted. Charlie does the first pass, 95%. I go through with the history books in hand and add the remaining 5%—the mills, chateaux, hilltops and the other trappings of the time. Our source maps for *Napoleon's End* were drawn by hand in 1835, and sometimes we have to erase certain features to get back to 1814 conditions (RR and later roads).

One important objective of the graphic designer is to reduce the amount of fiddling with counters. To increase clarity, at the outset of the TLNB series, we deliberately minimized the number of terrain types. The colors of earth, blue and green are what you see. The different types are easily distinguishable—the similarity of crests and slopes was deliberate—just like they might be on the ground. Red, slightly muted, is reserved for the chateaux.

The antique feel of the maps was influenced by our military history sources. You can tell a complex story with a few colors. With each color requiring a separate plate on the printing press, simplicity was the rule. The period feel is also in the details, including the names of locations that don't have any effect on play; more than mere "decoration," they help tell the story.

DESIGN DECISIONS

Each full-size game map is 10 x 15.36 miles. But within those bounds the designer has a number of decisions to make.

1. Will the map be full or half-size?
2. Will the map stand alone or will it adjoin another map?
3. To include the important roads and rivers, what will be the compass orientation?
4. Will it have long or short hexgrain?

Where the Battlefield(s) are

We try to keep the actual battlefield toward the center so that players cannot use the map edge to anchor their lines. This gets complicated if there was more than one combat on the map.

1 A.R. Hope Moncrieff, *Belgium Past and Present: The Cockpit of Europe* (1920)

Aligning the Main Highways

Many considerations go into the judicious placement of the map edge. The main roads are the most important in this regard, and if possible the map is oriented with the main highway down the middle, other roads leading diagonally toward the corners. We have to consider the location of the supply sources and the roads used to enter and exit. It is better if the player doesn't spend a long time marching reinforcements across the map to come up against the enemy. (For more on this topic see *Wargame Design* Vol. III, Nr. 1.)

Once the map's scope is determined, we need to clip a section of the source map that fits those boundaries. Superimposing the source map under a hexgrid, we can see how the mapedge interrupts roads and rivers. Ideally, the mapedge should be parallel to some large natural obstacle, such as a mountain or river. The final positioning of the mapedge will often be shifted at this stage.

In the next stage, for each hex Charlie will make a choice of one of the above hex and hexside types. The more effectively this is done, the more historically the game will play. Charlie can begin to trace out the rivers (the most abstract), then the roads, trails, and towns. The other features are arranged around the water courses.

TLNB TERRAIN TYPES
HEX • Chateau • Marsh • Town • Woods • Orchard, added later.
HEXSIDE • Bridge • Crest • Ford • River • Slope • Stream • Trestle

There are over 2,000 hexes on a full-size map and every one is hand-placed. Chuck gets to use his experience as a Civil War reinactor, where you learn first-hand about line of sight in all different types of terrain.

In many cases we can retrofit details from maps drawn during the actual year, using specialized maps of the fortresses and cities.

Over the long process of playtesting many changes emerge, such as exit and entry arrows, VP hexes, and terrain tweaks.

Redmond Simonsen laid out several principles for map development.

REDMOND ON MAPS

1. Can the basic **set-up** be printed on the map using unit-pictures or codes?
2. Can the victory conditions be expressed on the map by coding the cities or sites that may be the **objectives**?
3. Would it be useful to code **entry and exit hexes** or reinforcement sites?
4. Are there any seasonal/weather changes that can be displayed on the map without interfering with the basic terrain?
5. Are there any rules, other than victory conditions, that make some terrain feature or site important enough to warrant a **graphic emphasis**?
6. If the game involves the production of units, are there any values or devices that can be built into the map to aid the player?
7. If the sketch map indicates more than one terrain feature in a hex, which takes **precedence** (and can the map be rationalized so that there is only **one feature per hex**)?
8. Are there any superfluous terrain features on the map or are there any redundant features that can be eliminated to clarify the actual, operative terrain analysis?
9. What are the effects of the various features? Is there a **natural hierarchy** that can be expressed graphically?
10. Are there any games in print which use a similar or identical terrain system? How well does that prior system serve the present need?

Our maps achieve some of these criteria (above): Victory hexes, Entry and Exits, Graphic Emphasis (e.g., fortified town walls). Our maps fail Redmond on the set up locations, and superfluous features. The period flavor is enhanced by the inclusion of buildings that have no effect on play. Redmond was a gamer first and not a historian.

REDMOND ON MAP SYMBOLOGY

The graphic designer must make the proper choice of colors and symbology to create a map which will have high utility for the player and yet be pleasing to the eye.
The graphic designer has available to him a range of choices as to how to convey a given type

of terrain or map element. These divide into categories which I'll now list in order of their recognition value (i.e., the ease with which the average person senses the presence and meaning of the graphic element).

1. **Color and tone**
2. **Shape and pattern**
3. **Symbol**
4. **Typography and outline**
5. **Position**

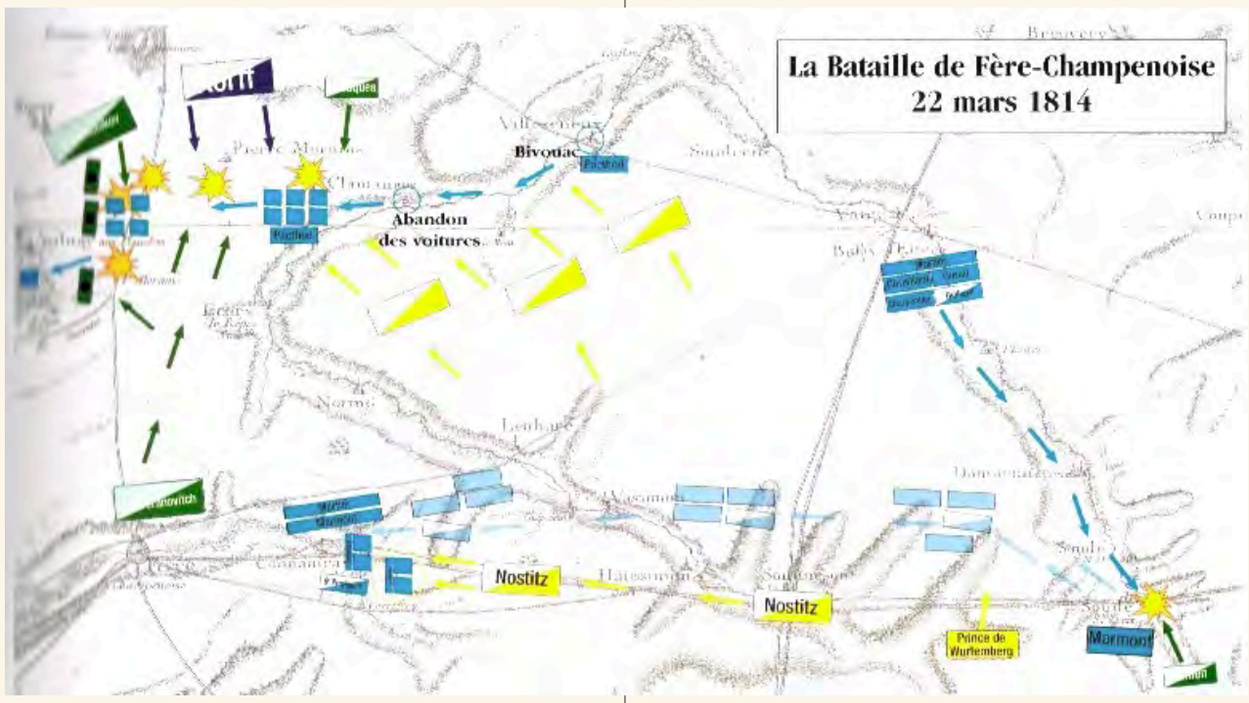
What this means is that those elements most essential to the interpretation of the map should be represented by change of field color— since humans with normal eyesight most easily recognize differences in color.

the patchwork quilt of a multi-colored map can be confusing to the eye and tiresome to look at for long periods of time."

The eye evolved to see the colors of nature, greens and blues, tan, dark brown, black shadows and gray. Since we use these colors for our maps, the eye feels comfortable looking at them for long periods without fatigue. As a bonus, the coloration also keys the terrain type so you don't really need a printed terrain key.

LA FERE-CHAMPENOIS

La Fère Champenois is a battle featured in our next game, *Napoleon's End*. The game map is co-extensive with the battle map (below).[2] Because there were two simultaneous battles, it



"Precedence" (No. 7 above) is a complicated issue. We often allow the woods to conceal any slopes and crests lying beneath them since the woods effect takes precedence.

"Natural Hierarchy," is probably a strength of the maps, since you can see the main roads and objectives easily. Having a hierarchy of terrain means that the important points shine out, not an overall sameness. The maps are not always good at rendering where the mountain is highest.

Redmond goes on to say, "The more colorful a map is the harder it is to read in an overall sense:

wasn't possible to place either battlefield in the center of the map.

This map refused to sit in a full-size map so we had to add a quarter panel on the right extending the map to 40". French Exit hexes on the left. You will actually be exiting onto the Champaubert map (East map) from La Patrie.

We decided to go with a 40" press sheet (instead of our usual full-size 22" x 34"). That way the approach to battle is whole. How does a lon-

2 Hourtoulle, E.-G., 1814 La Campagne de France

ROADS AND TRAILS

At this period, a trail could be anything from a wagon route to a farm track. It might be similar to an unpaved "hiking & biking" trail in current use. "Roads" were wider, two-lane trade routes for the shipment of goods with a raised roadbed. Some of these roads dated to the Roman Empire, and many followed the banks of major rivers. In the 1770's a new category of mail routes came about in Europe to fill the demand for reliable and faster mail service. "In a period of 125 years, the French network extended itself to two and a half times its original size, growing from 10,400 km in 1708 to 27,800 km in 1833"[2] (see inset map below). These roads were laid out by engineers along the ridges and are notably straighter. Below are shown the mail routes in use at the time.

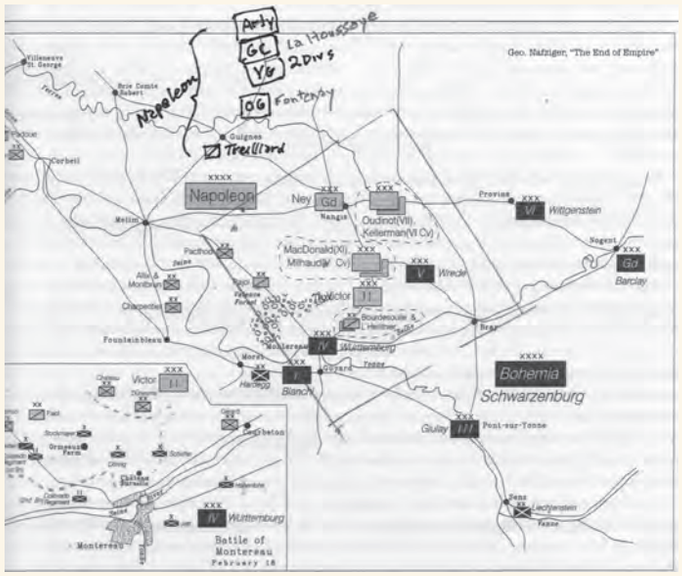
2 Nicolas Verdier, Anne Bretagnolle, Expanding the Network of Postal Routes in France, 1708-1833. https://shs.hal.science/halshs-00144669/document

ger map get folded and still fit in the box?

You can fold the map on the longer side in five parts instead of the usual four, up to 42.5" and the map will be a little bit narrower.

There is only one paper manufacturer that currently has the 40" sheet in stock. We're going to buy the paper this summer to make sure of supply. Another twist: our bindery cannot do the "accordion fold," we have to send it to another bindery with a larger folding machine. Nonetheless, the end cost is lower than doing a make-ready for a separate 8.5" by 22" sheet.

But the road net fits with roads parallel to the map edge and diagonals exiting at the corners. This layout required a 40" sheet. As a bonus, this map will overlap by one hex the East map from



Montereau Battle Layout
Mormant (also Valjouan) 17 Feb., Montereau, 18 Feb

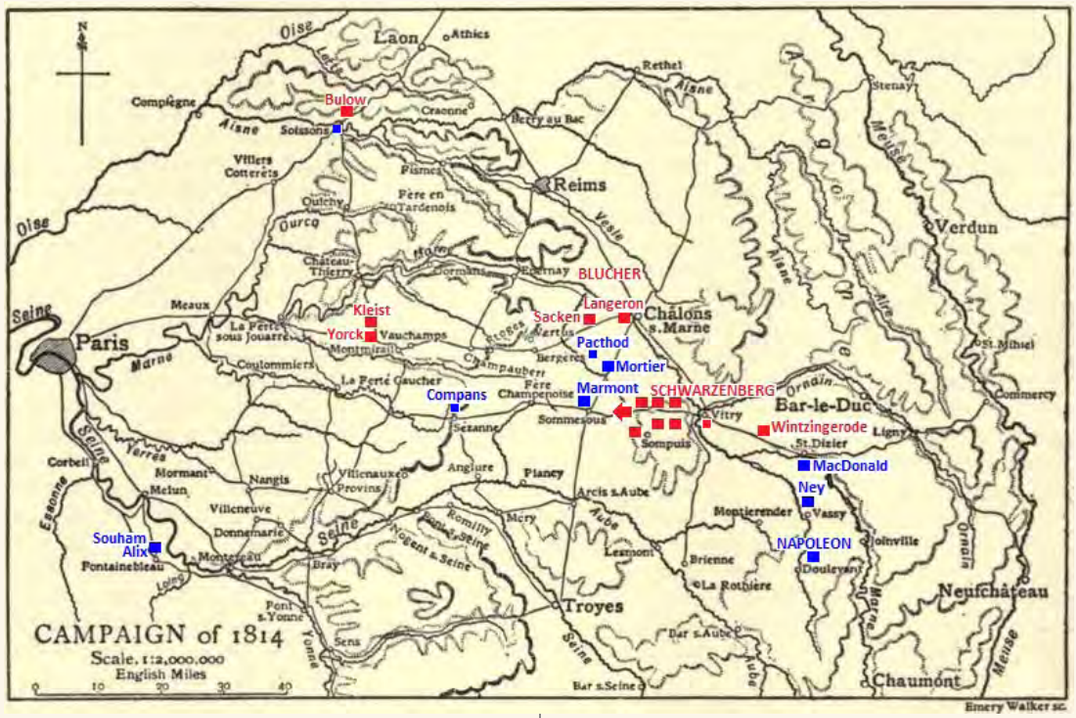
La Patrie en Danger (the Champaubert map).

At bottom is the track of Marmont and Mortier, (lt. blue) repulsed by the Russians and shown withdrawing by stages to the west. At top is Pacthod's division escorting a wagon train (voitures), attacked by Korff and Wassilchikov as they waited for Marmont and Mortier. They will try to exit at Aulnay.

In the Napoleonic era the road net is so optimized that (in settled flat country) the roads either run down the middle of the map or they exit at the corners. (See map above.) Historic roads naturally lay themselves out in straight lines. They do not have to twist and turn to avoid obstacles. Five roads exit directly into the corners while six roads go somewhere toward the middle. Every 45° there is an important road.

Nangis is a hub in the road network. Ney, at Nangis with the Young Guard, has 7 routes to choose from: Provins, to the east, Bray, to the southeast, Montereau to the southwest and Melun to the west. There are three more roads off to the north (possible reinforcement or retreat routes). The possible route missing is a direct road to Fontainebleau, which would have to traverse a large forest (larger than depicted on this sketch.)

Uffindell writes of the unfought battle of Troyes, that had Schwarzenberg accepted battle on the



23rd of February, and lost, negotiations would very possibly have ended in a treaty. Unfortunately, the battle wasn't fought and so it is not a part of the baseline. The numbers would have been stacked against Napoleon at 1:2.

Arcis Mystery

During the night of 20-21 March Napoleon has 21-27,000 men, and Schwarzenberg is on his way to 80,000. Why Didn't Napoleon or one of his scouts notice camp fires of a large army? Such light could be seen at these distances. Tens of thousand of Russian troops were arriving. How could alert sentries have missed that?

It can only be because Radetzky, Schwarzenberg's Chief of staff, was careful to place the army behind a line of ridges, from roughly Vaupoisson on the right to Voue on the lower left.

The LOS of a French lookout post on hex 3421 is entirely blocked by the ridge, except for a space around 3831 in the middle. This is what the histories mean by the phrase, "hidden by reverse slopes." They were actually hidden in a gulley between ridges.

If you want to win you have to do due diligence. Napoleon is a pro. Either he sent one of his aides de camp to 3421 or else he was no longer a general.

3811 is 12 hexes from that hilltop. At more than 2,000 yards, troops moving across the plain appear as a dark shadow trailing dust; beyond 3,000 yards troops become invisible to the naked eye.

However, one could see, and count, their fires out to about 12 hexes (6300 yards). Why did Napoleon walk into a trap? We are told that a staff officer assured him there were only 1,000 Cossacks around, and this fit with his own conception. But it is military standard procedure to place guards and lookouts, "vedettes," toward the known enemy position, especially for the cavalry. In his prime, Napoleon was out in the night counting the fires, at Austerlitz, Jena. It is suggested by Chandler, that the officer's assurance was accepted at face value, and it was only the next day, when Sébastiani crested the ridge, that he saw an entire army lying there unexpectedly. Then and there the Emperor ordered a retreat. Luckily he had finally acquired a captured pontoon bridge. Actually, the moment when the French discover the Coalition army should be the start of the DoB.

There was no rain during the battle. It was mostly cloudy with temps above freezing and muddy (13°C on the 21st). I have not yet found reference to any fog. The horizon, when standing on a level plain, is 10 hexes- the maximum sighting distance of a fire (although the smoke of many fires could be observed beyond that). If you have let's say 60,000 soldiers, that could mean 6,000 fires. It is possible the troops were forbidden to make fires.

What is PLAYABILITY?

Kevin Zucker

Playability is my top goal; everything else depends on it.

THE TERM "PLAYABILITY" IS GENERALLY USED WITHOUT ELABORATION AS though everyone knows what it means. They know it when they see it! However, a designer needs to know how to "bake in" playability; like a cake recipe. You know whether a cake is delicious or not, but how does someone create a new cake recipe? If it is all trial and error, then there is not much one can do to help.

Playability is my top goal; everything else depends on it. Playability is a multi-faceted topic, comprised of at least seven attributes:

- **Satisfaction:** Is the overall experience satisfying or is it frustrating?
- **Learning:** Is it easy to understand the game?
- **Efficiency:** Does the player have an efficient handle to meet the challenges presented by the game?
- **Motivation:** Is the player able to see and guide his forces along a pathway to victory?
- **Immersion:** Does the player believe in the game world? Is the historical detail convincing?
- **Emotion:** The involuntary impulse, feelings and reactions.
- **Socialization:** The degree that the game promotes social interaction.

These attributes are reflected in play in several ways:

Intrinsic Playability:

Game design implementation. One player wrote about *Terrible Swift Sword*: "I've played this more than any other wargame. I have no idea if it is an accurate simulation, and I don't care! This game is amazing." That is one kind of playability—call it sheer gamery—getting swept up in the play of the game. This is a necessity of a good game. It derives from a compelling sequence of play narrative; and then not mucking it up too much with exceptions and interruptions. (A recent example in TLNB would be the addition of the extra steps for Artillery Reaction Fire and CBF. This new step (2A) is definitely an interruption of the flow of the game, but it is balanced by the potential Arty result, making it well worth the effort.)

Mechanical Playability:

Are the game mechanics player-friendly? John Prados uses the term "Player Overhead" for this aspect of playability—how much effort is required to play the game—or a given mechanic. The effort must be balanced by the player's perceived benefit; is it worth the trouble? Not everyone is interested in special HC charges. The game's components entail an inherent level of friction. Set-ups, too much math and too many die-rolls ("Wristage") can make the game a slog. After the rules are learned, how often do the players have to reference the rule book? Having to rely on memory for modifiers reduces playability. Can

the game be easily played with just the charts and tables? Quick Reference Sheets are the most important tool for improving this aspect of playability. Flow charts and checklists are essential for exceptions to the normal rules.

Interactive Playability:

The player interface depends upon Graphic *Systems*. "Given this large burden on the player, the challenge to the graphic designer is clear: make the information the player uses clear, organized, accessible, and pleasing to look at for long periods of time... The tables and charts should be well-integrated and logically formatted; the terrain symbology should be a development of a consistent approach; the rules should be presented in a systematic, accessible format, etc. ... Wrong design choices can conspire in such a subtle manner that the gamer may not be able to pinpoint *why* the game is troublesome but he'll be aware that something is wrong and is preventing him from getting the most out of the game."[1] Too many small, crowded, hard to read counters in stacks covering terrain or objectives, with information constantly hidden, make it hard to play.

Artistic Playability:

The aesthetics of the graphic art. "Properly used, decoration helps the player to relate his activity in the game to the historical activity being simulated. ... Decoration is information—unnecessary information—which if present in overabundance distracts the player from the truly important, game-play information he must have."[2] Artsy fonts, low contrast colors, busy art designed to assist immersion also reduce playability.

Personal Playability:

The vision, perceptions, and feelings the game evokes. At the early stages of a design I like to sit in a certain nearby park and admire a row of 12 great Oaks, and try to summon the image of the next game, using the feeling and intuition; contemplating the overall player experience I want to impart. As you go along, if a given piece of design clutters up that experience, then you either remove that piece or tear it apart and put it back together.

Social Playability:

The intensification of the above when played against an opponent. A long down time (30+ minutes) for the non-moving player is detrimental to a game's enjoyment. The most realistic aspect of the game is the conflict of wills with that opponent sitting across the table from you. At key moments your pulse quickens, you get nervous and make mistakes, and may watch events spiral out of control. That is the historical lesson in a nutshell.

Redmond, as Graphic Systems Designer, seeks to artistically tie-together all the disparate components into a working system. A system is a collection of guiding principles, concepts, rules, and components that interact to function purposefully as a whole.

DISCUSSION

Artistic Playability includes things like the colors chosen, the paper used for maps, and decoration. Colors are used to denote nationality. Colors should harmonize so that units in play present no color clashes.

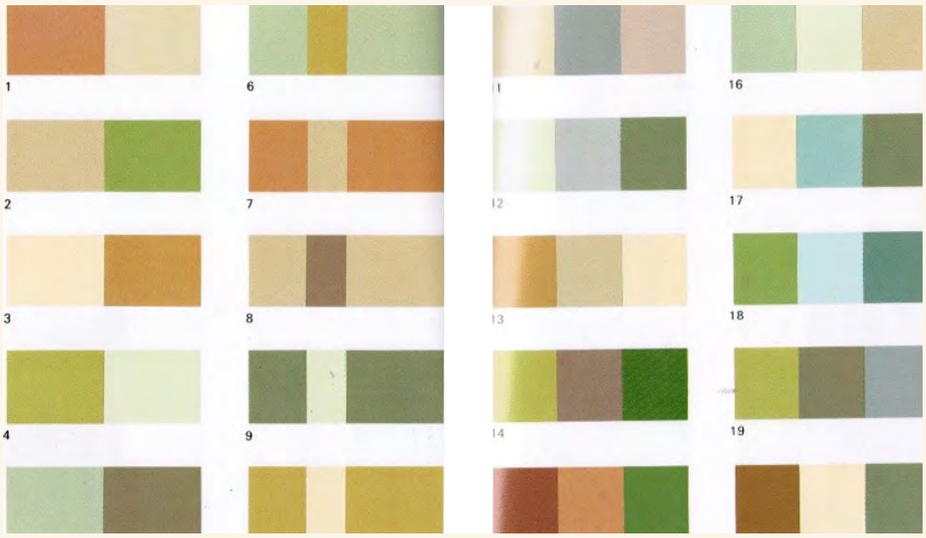
Why is Russia brown? Kevin has given an answer but it is mysterious. My feeling is it was a throwback to his old SPI days. Something about Redmond's color choices and the limited printing options are in his blood. So when he decided on Russia's colors it just felt right. The Russians in Napoleon at Bay are also brown ...

Color choices are tremendously important to a designer or artist, but people don't get that they are contextual. They think "it's supposed to be green! Why'd you make it brown!?" People who don't work with color may not get it. And yes, people also want to be surprised and delighted. That's our job, even if some folks are bothered that our color choices are "wrong."

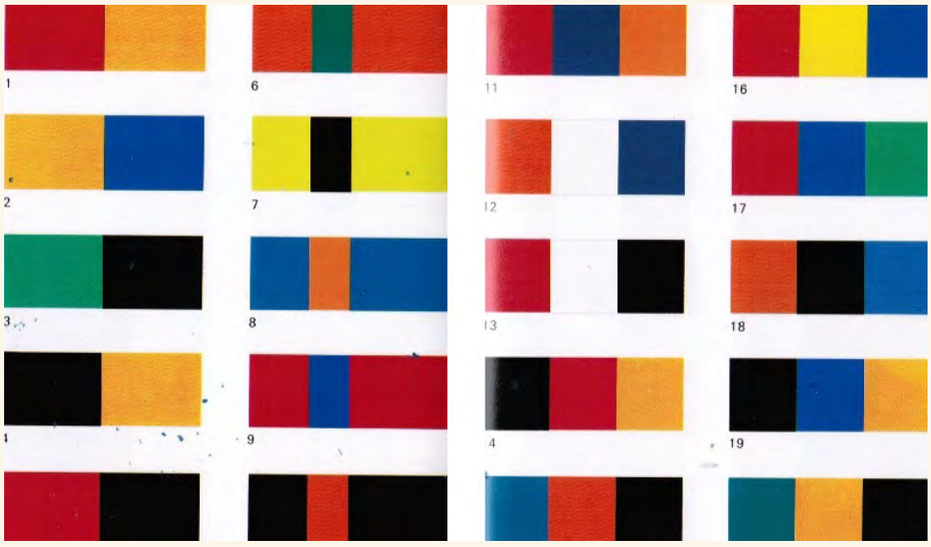
—Christopher Moeller

1 Redmond Simonsen, in *Wargame Design, Strategy & Tactics Staff Study Nr. 2, pp. 46-47.*

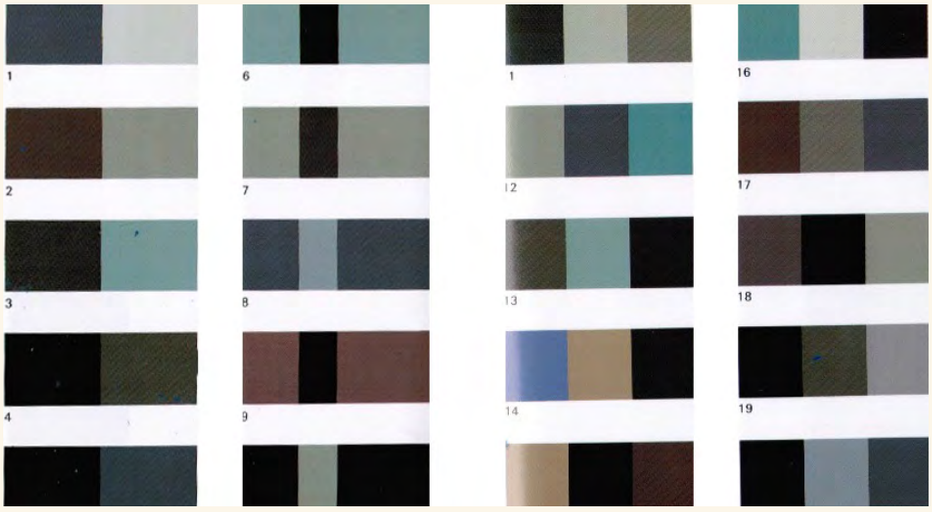
2 Redmond Simonsen, in *Wargame Design, Strategy & Tactics Staff Study Nr. 2, p. 48.*



Arcadian Colors



Dynamic Colors



Resolute Colors

I agree that following uniform colors makes a lot of sense, especially for those immersed in uniform lore. However, most gamers aren't; these are just the cognoscenti who are writing these things. They know too much.

For you and I, for artists and graphic designers, there are powerful subconscious associations connected to different colors. One group of colors, called "Arcadian," reproduces the colors of nature. Those are the colors we use on the maps.

Now, we want a contrasting color scheme for the counters. Primary, strong colors are the easiest to pick out on the map. Red always stands out.

Arcadian Colors: Let's say you are about to paint the Borodino battlefield while the battle is going on. What colors of paint did you bring along? Arcadian colors, plus the colors of armies—metal, leather, muddy uniforms, and of course, blood. Wagons were painted green, to hide in woods.

OSG counters use historical associations, such as metal for Prussia. Bismarck's "Blood and Iron," or panzers of WWII, blood and steel are constantly repeated in German history. For the French, a tint of the actual uniform color subliminally brings associations of the sky or sea. The blue we used for the French line is not as dark as the "Dynamic" blue above, but is reserved for the Imperial Guard. The Dutch use the orange above; Brits and Poles are red. Our Markers are yellow, orange red and gray.

It might interest you to know how we determined the counter colors in our Napoleonic Operational Series of games, since it doesn't correspond to the uniforms exactly. The Russians were supposed to be a mud color, the 'average' color of the earth after it has been churned up by an army. The color we chose was a slightly darker cousin to PMS 469 – PMS 4695.

The counters use Dynamic and Resolute Colors—the Polish are the blood. The Saxons are leather. The Rheinbund Germans are from the forest.

Where the troops marched, one would see, from high above, only an amber dust in the summer or thick mud mixed with ice and snow. The men themselves appear as a dark shadow moving across the earth.

Metaphorically, the game is a struggle between the earth and sky. In the *I-Ching*,[3] an army is associated with ground water in the earth. The army arises out of the earth and returns there. During the French occupation of Moscow, a new Russian army virtually rose out of the earth, with 20,000 Cossacks who wreaked such havoc.

Intrinsic Playability:

John Hill calls it "Design for Effect." I would define it as a high level of abstraction that still produces the desired outcome. But one essential ingredient of Playability is the narrative, so you cannot just make it up! It all has to make sense. All the designer can do to achieve Intrinsic Playability is draw a shape around the design, and cut off everything not inside that line.

Mechanical Playability:

This means ease of handling (Heuristics). You don't want to be flipping pages and scanning tables. The Player aids should be like a triptich, leading the eye to the needed info. OSG's TLNB 4-pager does this. This 4-pager (designed by Brendan Clark) contains most of the info you need to play a turn, along with the Annotated Sequence of Play and the blue Combat Card (with Vohler's Notes to those tables). You can actually play the game with 7 or 8 pages of reference material, plus scenario info. We have provided enough combat tables so that everyone can have one handy. We have standardized the gray card for Turn Record Tracks, and green for weather. French cards are blue and the Coalition vary between tan, ivory, and salmon color. The Reorganization card is always yellow. Weather is on green.

CONCLUSION

If you have fun with the game and don't notice the interface, that is good systems design. If you get lost looking for things among ill-assorted components, that isn't it!

Some mainstream dictionaries do not define 'Playability'; for example, *Webster's Collegiate Dictionary*. That is surprising, because it is an accepted word; but, perhaps understandable, given the fairly lengthy definition it might require, to define the intrinsic qualities of rendering something complex more accessible and easier to understand. It is an art, not a science.

While "Playability" can be defined in terms of the seven attributes listed above, it cannot be measured. There is no easy recipe to combine those attributes and reflect them into a form of general playability. Good design and development involves the assembling and integration of the game components; which, taken as single pieces, can exhibit some degree of playability, but, as a whole, could fail in working together to produce a really playable game. A game after all is a typical non-linear system (with unpredictable behavior), where a slight change in one component could generate high waves of instability elsewhere. Such factors prevent the designer from foreseeing playability at the beginning of the project or measuring it at the end.

Furthermore, playability often comes at the expense of historicity—the ability of a game to produce plausible outcomes. In theory, a good design is one where these two factors are well balanced and optimized.

With all these limitations, can we still confer Playability a value? It is the Holy Grail for designers and players.

3 *I-Ching* or Book of Changes, Wilhelm, Ed., Hexagram 7, The Army